

Statutory Consultation 2022

Draft Need Case

OVERVIEW

Draft Need Case

In the wake of the Covid-19 pandemic, there is a legitimate question about whether any airport needs to expand. But we know that air transport – and the global connectivity that it provides – is critical to the UK’s continued prosperity.

Ensuring a Global Britain is a fundamental part of the government’s Build Back Better strategy. In its consultation on Jet Zero (July 2021), the government confirmed that *“aviation is vital for trade and the distribution of goods, creates jobs, connects friends and family, and – crucially for an island nation – links us to the rest of the world.”* This is one of the key reasons why the government supports airports making best use of their existing runways.

London Luton Airport sits at the centre of the Oxford-Cambridge Arc, which is home to many international businesses, for whom global connectivity is vital. Securing the continued success and global competitiveness of these companies is an essential part of the sub-regional strategies for economic success. With its growth in recent years, the airport has played an increasing role in providing that connectivity through improved connections to more globally important cities.

More locally, London Luton Airport is a major economic driver and employer in an area that has substantial and persistent pockets of deprivation. The growth that we’re planning will create new job opportunities in an area that needs them.

What is the forecast for demand for air travel?

As Covid-19 restrictions ease, demand for air travel nationally is expected to recover to 2019 levels by 2024 and to continue to grow thereafter in line with economic growth. This includes taking account of the cost of carbon and measures to reduce carbon emissions from aviation to net zero by 2050.

Even allowing for a new runway to be built at Heathrow or Gatwick to use its northern runway, projections show that demand to use London Luton Airport will continue to grow in line with national forecasts and reach capacity again by around 2024 as growth in demand continues.

This provides the context for why we are seeking to expand capacity at the airport to 32 million passengers per annum, which we expect would be reached by the early 2040s, taking into account our proposed development phasing.

What are the economic benefits of growth?

Already the airport is a major employer – supporting over 28,000 jobs across the UK in 2019, when its supply chain is included. Locally, in Luton, it supports 11,800 jobs.

Expansion will lead to new jobs. At 32 million passengers per annum, the airport is projected to support over 12,000 new jobs across the UK, including in its supply chain. Over half of these jobs would be in the counties around the airport: Bedfordshire, Buckinghamshire, and Hertfordshire, with 4,800 in Luton alone.

Beyond its role as an employer and direct economic contribution, the expansion of London Luton Airport will also generate economic benefits locally and regionally by providing connectivity benefits making the area more attractive for businesses to locate within, saving time and money for passengers living nearby, and bringing inbound tourism.

The Draft Need Case, which follows, provides greater detail on the strategic and policy need for expansion, forecasts on passenger growth and capacity requirements at London Luton Airport, and the economic benefits of expansion.

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ABBREVIATIONS

Term	Definition
AC	Airports Commission
ACL	Airport Coordination Limited
AIP	Aeronautical Information Publication
ANPS	Airports National Policy Framework
APF	Aviation Policy Framework 2013
ATM	Air Transport Movement
BDTT	Busy Day Timetable
CAA	Civil Aviation Authority
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
CTA	Central Terminal Area
DART	Direct Air to Rail Transit
DCO	Development Consent Order
DfT	Department for Transport
ERUB	Engine Run-up Bay
ETS	Emissions Trading Scheme
FBO	Fixed Base Operation (for handling visiting business aviation aircraft)
FDI	Foreign Direct Investment
GCG	Green Controlled Growth
GDP	Gross Domestic Product

GVA	Gross Value Added
LEP	Local Enterprise Partnership
LLAOL	London Luton Airport Operations Limited
LQ	Location Quotient
m	Million
MARS	Multiple Aircraft Ramp System
MBU	Government policy on airports Making Best Use of their runways
mppa	million passengers per annum
NATS	National Air Traffic Services
NIC	National Infrastructure Commission
NSIP	Nationally Significant Infrastructure Project
OAG	Online Airline Guide – a database of scheduled flights
OBR	Office for Budget Responsibility
OE	Oxford Economics
OECD	Organisation for Economic Co-operation and Development
PATM	Passenger Air Transport Movement
PAX	Passengers
PEIR	Preliminary Environmental Information Report
QC	Quota Count for Aircraft Night Noise
RET	Rapid Exit Taxiway
RWY	Runway operating direction

SAF	Sustainable Aviation Fuel
T1	Terminal 1
T2	Terminal 2
TWY	Taxiway

1 EXECUTIVE SUMMARY

- 1.1.1 This document sets out the need for the expansion of London Luton Airport to handle up to 32 million passengers per annum (mppa) (the Proposed Development) as put forward by Luton Rising (a trading name of London Luton Airport Limited) (the Applicant). It is presented in draft form for the purpose of consultation and will be updated, taking into account feedback received, prior to the submission of the proposed application for development consent.
- 1.1.2 The Proposed Development will increase capacity by more than 10 mppa and, hence, will be a Nationally Significant Infrastructure Project (NSIP) requiring consent through a Development Consent Order (DCO).
- 1.1.3 The document addresses:
- a. the strategic economic case for aviation growth;
 - b. national aviation policy;
 - c. economic context;
 - d. London Luton Airport's current market performance;
 - e. future demand forecasts;
 - f. current airport capacity and future capacity requirements; and
 - g. economic benefits of the development.

1.2 The strategic economic case for aviation growth

- 1.2.1 National, regional and sub-regional economic strategy is strongly focussed on building economic growth around linkages with the global economy. The government's Build Back Better strategy provides explicit direction for the future and identifies as a core pillar the Global Britain policy agenda, which requires enhanced international connectivity. In July 2021, in its consultation on Jet Zero, the government specifically confirmed the importance of aviation in this regard:

“Aviation and the UK go hand in hand. We were pioneers of early flight, and the sector has long been at the heart of our economic success. It is vital for trade and the distribution of goods, creates jobs, connects friends and family, and – crucially for an island nation – links us to the rest of the world. Flight is essential for our Global Britain ambitions of openness as a society and an economy.”

- 1.2.2 The importance of international connectivity is reinforced by the Oxford-Cambridge Arc initiative, which is seeking to build on the world class academic and economic assets located there as a lever to deliver improved productivity and economic growth not just regionally but across the UK. Many of these businesses are highly international and depend on good international connectivity. As the only major airport within the Arc, a growing London Luton Airport will be central to achieving these aspirations through its ability to facilitate trade, investment and tourism.

1.2.3 The airport's role is also vital in the context of the government's 'levelling up' agenda. Despite apparent high levels of prosperity within the Arc, there remain substantial and persistent pockets of deprivation. Luton itself is identified as a highest priority area for the Levelling Up Fund and has recently been awarded £20m from the Fund. The role of the airport in supporting regeneration in many of these areas is already recognised and future growth in line with Proposed Development will substantially increase this role.

1.2.4 It is these economic imperatives that provide the context within which the need for the Proposed Development has to be assessed as one of the principals means by which the competitiveness of the regional economy can be maintained and to support the levelling up agenda through the direct and indirect economic contribution that its growing operation can make.

1.3 National aviation policy

1.3.1 There is clear government policy support for aviation growth and for airports making best use of their runways, as set out by the government in June 2018 (MBU policy) alongside the proposals for a new runway at Heathrow set out in the Airports National Policy Statement (ANPS). These policies remain in force, as confirmed in the government's July 2021 Jet Zero consultation. The ANPS is of relevance in so far as it provides context for airports making best use of their existing runways and also in providing updated guidance on the assessment of effects, including for climate change. This support is intrinsically linked to the economic role that aviation connectivity plays alongside the direct economic contribution of the aviation sector.

1.3.2 Alongside the ANPS, government aviation policy remains as set out in the Aviation Policy Framework 2013 (APF), which made clear that growth is supported "*within a framework which maintains a balance between the benefits of aviation and its costs, particularly its contribution to climate change and noise*".

1.3.3 Although not yet policy, the recent Jet Zero consultation provides further indications as to the government's thinking on the future strategy for aviation. This makes clear that growth, in principle, remains supported and that the focus is on addressing the impacts of aviation rather than constraining economically beneficial growth. The Green Controlled Growth (GCG) approach put forward as part of the Proposed Development is designed to ensure that the impacts of growth can be mitigated and controlled whilst delivering the anticipated economic benefits that growth at the airport can bring.

1.3.4 The APF is expected to be replaced by a new Aviation Strategy in the near future. This was consulted on in Aviation 2050 Green Paper at the end of 2018. The Proposed Development would contribute to several of the government's emerging objectives for aviation as set out in the Green Paper, namely:

- a. help the aviation industry work for its customers;
- b. ensure a safe and secure way to travel;
- c. build a global and connected Britain;
- d. encourage competitive markets;

- e. support growth while tackling environmental impacts; and
- f. shares the benefits with affected communities.

1.3.5 The Proposed Development is making use of the existing runway, consistent with policy as set out in the ANPS and MBU policy documents. It is being designed in a way that is consistent with the overarching principle of balancing the benefits and environmental costs of development. It will deliver an improved customer experience for passengers using the airport, taking full account of safety and security requirements. Through increased capacity, the airport will improve the competitiveness of the market for airlines seeking opportunities for growth in the South East of England and create opportunities for enhanced connectivity to support the broader economic growth of the UK economy. The Proposed Development is, hence, considered to be compliant with UK aviation policy.

1.4 Economic context

1.4.1 The airport is situated at the heart of an internationally focussed region, as has clearly been recognised by the establishment of the Oxford-Cambridge Arc. The area is home to concentrations of economic sectors that are demonstrably reliant on air travel and that offer significant opportunities for future growth. The international nature of the economy within the airport's 'home' region is demonstrated by the high levels of exports from the region and the high and growing proportion of regional GVA that is supported by foreign owned companies. The sub-region and region around the airport contain many businesses with a high dependence on air travel.

1.4.2 More broadly, the Local Enterprise Partnership areas around the airport and the Oxford-Cambridge Arc have a focus on the growth of high value sectors and the development of the international economy. The connectivity of the region is a key strength in this regard and further development of the airport will be important in achieving these aspirations.

1.4.3 At the same time, there are very real pockets of deprivation around the airport, notably in Luton itself, Bedford, Stevenage and Milton Keynes. In this context, the growth of the airport to 32 mppa is of dual economic importance. It is needed to ensure that the areas around the airport continue to have access to a strong and, crucially, growing base of connectivity to support their international economies, by supporting the retention and growth of existing companies and also through attracting new investment. At the same time, growth at the airport represents a significant opportunity to create jobs directly and through its supply chain and so contribute to addressing deprivation, backed by the **Draft Employment and Training Strategy**.

1.5 London Luton Airport's current market performance

1.5.1 The airport has grown rapidly in recent years and there is increasing evidence of its economic importance in terms of providing opportunities for business travel and inbound tourism, specifically to/from Europe. 13% of passengers (some 2.5 million) using the airport in 2019 were travelling for business reasons and 33% of all passengers were foreign resident visitors to the UK. Half of the passengers using the airport in 2019 were visiting friends and relatives in the UK or abroad,

indicating a strong social role for the airport. Business travellers were characterised by being high earners and the airport provides increasing connectivity to a range of globally important international cities.

1.5.2 The airport commands a high market share of the passenger demand in the areas around it, specifically the Three Counties of Bedfordshire, Buckinghamshire and Hertfordshire and also extending into North London along the Thameslink corridor. The leakage of passenger demand from this area to the other London airports is to a large extent dominated by long haul passengers using the range of global air services from Heathrow.

1.5.3 Growth at the airport has the potential to greatly enhance the connectivity that the airport will be able to offer and to increase its wider economic contribution. The Proposed Development will enable the airport to provide some long haul services to points in the USA and Middle East, primarily.

1.6 Future demand forecasts

1.6.1 Projections of the future demand to use the airport have been developed using robust econometric methodologies and, given the inherent uncertainties in forecasting airport demand over a long time period, reflect a reasonable range of potential forecasts. A number of underlying demand growth scenarios have been set out, taking into account economic recovery from the pandemic, carbon costs and other future drivers of the cost of air travel. Demand is expected to reach 2019 traffic levels (18 mppa) again by 2024. Different scenarios for the development of new runways at Heathrow, Gatwick and a combination of the two have also been tested. This provides a range for the demand that London Luton Airport could handle if capacity is expanded.

1.6.2 A further factor has been the anticipated phasing of development, which means that growth would initially be restricted below the demand that the airport could attract on the basis of the 'most likely' scenario. Taking the potential phased delivery of the proposed new infrastructure, specifically Terminal 2, into account, the airport is expected to reach the 32 mppa, for which consent is sought, between 2042 and 2046, with 2043 being the most likely date. This most likely case forms the Core Planning Case and Faster and Slower Growth Cases have also been developed for assessment purposes demonstrating that, ultimately, the airport will reach 32 mppa within a reasonable timeframe.

1.6.3 Detailed outputs have been derived from these forecasts to inform the assessment of the impacts of the Proposed Development, including the future fleet mix, the expected profile of demand over the year and over the day. In the Core Planning Case, these have been based to some degree on conservative principles so as to ensure that the assessments represent a reasonable worst case for the effects of the Proposed Development, with additional sensitivity tests set out to ensure that the assessments are robust to a range of outcomes. Allowance has also been made for the continuation of cargo and business aviation activity at approximately 2019 levels.

1.7 Current airport capacity and future capacity requirements

- 1.7.1 In the light of the growth projections, notwithstanding the impact of Covid-19, restrictions on travel in the short-term, additional airport capacity is urgently needed at the airport in order to keep pace with demand. The requirements for new capacity have been derived from the detailed demand forecasts in terms of runway, apron and terminal capacity. The Proposed Development is aimed at ensuring an overall capacity at the airport of 32 mppa, divided between the two terminals. The Proposed Development comprises initial enhancements to Terminal 1 (T1) to increase its capacity as an interim step (Phase 1) before the construction of Terminal 2 (T2), associated with 28 new aircraft stands and appropriate operational and other support accommodation and facilities to accommodate up to 12 mppa at Phase 2.
- 1.7.2 The runway has been assessed as having a sustainable capacity of at least 50 aircraft movements an hour with the additional taxiway links proposed, which is sufficient to accommodate 32 mppa envisaged under the Proposed Development.
- 1.7.3 Specific parameters have been defined for the requirements of T2 and its associated apron area to meet the expected need for an initial development to accommodate c.7 mppa and for expansion to provide a total capacity of up to 12 mppa. These will require 18 additional aircraft stands to serve T2 at 7 mppa and 28 stands at 12 mppa.
- 1.7.4 The phasing of development has been defined in relation to a feasible construction programme with the aim of responding to the demand as forecast.

1.8 Economic benefits of the development

- 1.8.1 The airport is central to the economy of Luton, the Three Counties and the Six Counties area and is an important connectivity asset for the broader region it serves, including parts of London
- 1.8.2 The future economic strategy for Luton is seeking to secure significant economic growth, including through the development of the London Luton Airport Enterprise Zone. It is seeking to develop higher value-added employment, more job opportunities and to clawback current out-commuting to higher paid jobs. The potential of the aerospace sector and aviation, including the airport, to support these aspirations is well recognised as well as opportunities to attract green technology enterprises to the local area. This is fundamental to the objective to reduce levels of deprivation in the local area and the growth at the airport with the Proposed Development can play a major role both through direct job generation during the construction and operational phases as well as acting as a catalyst to attracting new businesses and making it easier for existing businesses to trade internationally and expand.
- 1.8.3 The airport is already a significant economic driver in terms of its operations, supporting 11,800 jobs in Luton, 16,600 jobs in the Three Counties, 19,900 jobs in the Six Counties and 28,400 jobs in the UK through direct, indirect and induced impacts. The airport's total impact on GDP once indirect and induced effects are included is estimated to be around £0.8 billion in Luton, £1.1 billion in the Three

Counties, £1.3 billion in the Six Counties and £1.8 billion across the UK as a whole.

- 1.8.4 The development of the airport to handle 32 mppa would offer substantial operational employment benefits compared to a Without Development scenario in 2043, with the Core Planning Case supporting an additional:
- a. 6,300 jobs in Luton;
 - b. 8,600 jobs in the Three Counties;
 - c. 10,400 jobs in the Six Counties; and
 - d. 15,000 jobs in the UK.
- 1.8.5 The Core Planning Case will also support additional annual operational GDP of:
- a. £0.6 billion in Luton;
 - b. £0.8 billion in the Three Counties;
 - c. £0.9 billion in the Six Counties; and
 - d. £1.2 billion in the UK.
- 1.8.6 These operational GDP and employment benefits offer substantial socio-economic opportunity to address deprivation and 'level up' areas that surround the airport. The designation of Luton as a Priority 1 area for the Levelling Up Fund and a number of other areas as Priority 2 areas, clearly demonstrates this need for regeneration.
- 1.8.7 The development also has the potential to support wider economic benefits through improved connectivity for business travellers and increased inbound tourism. In the Core Planning Case, business traveller productivity effects could support:
- a. around £10 million in GDP in Luton;
 - b. around £100 million in GDP and 350 jobs in the Three Counties;
 - c. around £140 million in GDP and 640 jobs in the Six Counties; and
 - d. around £480 million in GDP and 3,330 jobs across the UK.
- 1.8.8 Growth in inbound tourism could support:
- a. around £10 million in GDP and 90 jobs in Luton;
 - b. around £65 million in GDP and 890 jobs in the Three Counties;
 - c. around £120 million in GDP and 1,570 jobs in the Six Counties; and
 - d. around £820 million in GDP and 11,550 jobs across the UK.
- 1.8.9 These wider economic impacts strongly support the aspirations of stakeholders across the airport's catchment area to drive the international economy to increase productivity, grow prosperity and, ultimately, improve quality of life for the population in Luton, the Three Counties, Six Counties and across the Oxford-Cambridge Arc.

- 1.8.10 Increased airline competition enabled by additional airport capacity has the potential to deliver lower air fares and wider consumer benefits, in addition to an estimated £487 million of journey time saving benefits for passengers to and from the Three Counties. These impacts will strongly support the economic strategies for the area, particularly in terms of supporting employment growth in some areas and the development of the international economy.

1.9 Summary

- 1.9.1 Overall, there is a strong need for the development. The principle of development to make best use of the airport's existing runway is supported in policy. The area served by the airport is highly international and these businesses need enhanced aviation connectivity in order to remain globally competitive and deliver growth in productivity and output.
- 1.9.2 Notwithstanding Covid-19, there is expected to be strong growth in demand for air travel, with the market recovering to 2019 levels by around 2024. This growth is expected to continue and additional capacity will be required at London Luton Airport shortly thereafter if it is to continue to deliver the aviation connectivity that the area around it requires.
- 1.9.3 Expansion of the airport will deliver tangible economic benefits in terms of jobs and a boost to economic activity in the local area, which will be very valuable in the context of the government's Levelling Up agenda and support other initiatives to grow the economy in Luton and beyond.

2 INTRODUCTION

2.1.1 This document sets out the need for the expansion of London Luton Airport (the Proposed Development) as put forward by Luton Rising (a trading name of London Luton Airport Limited) (the Applicant). It is presented in draft form for the purpose of consultation and will be updated, taking into account feedback received, prior to the submission of the proposed application for development consent.

2.1.2 The document addresses:

- a. the strategic economic case for aviation growth;
- b. national aviation policy;
- c. economic context;
- d. London Luton Airport's current market performance;
- e. future demand forecasts;
- f. current airport capacity and future capacity requirements; and
- g. economic benefits of the development.

2.2 Organisation

2.2.1 London Luton Airport (the Application Site) is wholly owned by Luton Borough Council (LBC) through the company London Luton Airport Limited (trading as Luton Rising), which was incorporated in 1986. In 1998, London Luton Airport Limited entered into a Concession Agreement with London Luton Airport Operations Limited (LLAOL) for the management, operation and development of the airport, which will last in its current form until 2032.

2.2.2 Whilst LLAOL is responsible for the day to day running of the airport, the Applicant takes significant responsibility for the long-term vision and planning of the airport's future to ensure that the benefits to the local and regional area are fully realised. The Proposed Development is being promoted by the Applicant but the current operator, LLAOL, is actively involved with the Applicant in developing the scheme and how it interfaces with the current airport operation. LLAOL remains responsible for operational matters, including the process of airspace change.

2.3 The Proposed Development

2.3.1 The Proposed Development is characterised by retention of the existing runway, expansion of the existing passenger terminal, and the provision of a new passenger terminal on land owned by the Applicant and LBC, to the north east of the runway, to provide an overall passenger capacity of 32 million passengers per annum (mppa), which is the proposed passenger limit associated with the current application.

2.3.2 The Proposed Development builds on the current operational airport with the construction of a new passenger terminal and additional aircraft stands on land

owned by the Applicant located to the north east of the runway. This will take the overall passenger capacity from 18 mppa to 32 mppa.

2.3.3 Key elements of the proposed development include:

- a. Extension and remodelling of the existing passenger terminal (Terminal 1 [T1]) to increase the capacity;
- b. New passenger terminal building and boarding piers (Terminal 2 [T2]);
- c. Earthworks to create an extension to the current airfield platform, material for these earthworks would be generated on site;
- d. Airside facilities including new taxiways and aprons, together with relocated engine run-up bay and fire training facility;
- e. Landside facilities, including buildings which support the operational, energy and servicing needs of the airport;
- f. Enhancement of the existing surface access network, including a new dual carriageway road accessed via a new junction on the existing New Airport Way (A1081) to the new passenger terminal along with the provision of forecourt and car parking facilities;
- g. Extension of the Direct Air to Rail Transit (Luton DART) with a station serving the new passenger terminal;
- h. Landscape and ecological improvements, including the replacement of existing open space; and
- i. Further infrastructure enhancements and initiatives to support our goal of a net zero airport operation by 2040, with interventions to support carbon neutrality being delivered sooner including facilities for greater public transport usage, improved thermal efficiency, electric vehicle charging, on-site energy generation and storage, new aircraft fuel pipeline connection and storage facilities and sustainable surface and foul water management installations.

2.3.4 In addition to the above and to support the initial increase in demand, the existing infrastructure and supporting facilities will be improved in line with the phased growth in capacity of the airport. Further information is provided in the **Works Description Report**.

2.3.5 On 1 December 2021, the local planning authority (Luton Borough Council) resolved to grant permission for the current airport operator (LLAOL) to grow the airport up to 19 mppa, from its previous permitted cap of 18 mppa. Since then, the Secretary of State for Levelling up, Housing and Communities has issued a 'holding direction' which prevents Luton Borough Council from issuing a final decision while the Secretary of State considers whether he should call-in and decide the 19 mppa planning application. All of the assessment work to date has been undertaken using a 'baseline' of 18 mppa. Nonetheless, in anticipation of LLAOL's 19 mppa planning application, the preliminary environmental assessments included sensitivity analysis of the implications of the permitted cap increasing. As a result, the consultation assessments are considered to be

sufficiently representative of the likely significant effects of expansion, whether the baseline is 18 mppa or 19 mppa. Where the change of the baseline does affect an assessment topic, in most cases it means that the 'core' assessments (using an 18 mppa baseline) report a marginally greater change than would be the case with a 19 mppa baseline. Further consideration will be given to updating the assessments after the consultation, alongside any other revisions made as a result of consultation feedback.

2.3.6 The Proposed Development is planned deliver additional capacity to respond to the projected growth in demand in two construction phases related to increasing capacity at the existing terminal (Phase 1), and the construction of the new T2 (Phase 2). However, given the length of time over which the Proposed Development will be constructed, and the step change in passenger numbers from the end of Phase 1 to final full capacity, an interim assessment phase has been considered to understand environmental effects over the time the Proposed Development is constructed while the airport remains in operation. Therefore, for the purposes of assessment, in three assessment phases are considered, as follows:

- a. Phase 1: Expansion of T1 to increase capacity from 18 to around 21.5 mppa. It is currently anticipated that Phase 1 works will commence in 2025 and be complete by mid 2027;
- b. Phase 2a: Construction of the new T2 and associated facilities to increase capacity from around 21.5 mppa to 27 mppa upon opening. It is currently anticipated that Phase 2a works will commence in early 2033 ending 2036 and will enable a step up in capacity in Q1 2037; and
- c. Phase 2b: Expansion of Terminal 2 and associated facilities. It is currently anticipated that Phase 2b works will commence in 2037, and will deliver incremental capacity increases from 27 mppa to 32 mppa. T2 will have capacity for up to 12 mppa. The works will be complete to enable a step up in capacity in 2041.

2.3.7 Further details on the Proposed Development and the anticipated construction phasing are set out in **Chapter 4** of the **Preliminary Environmental Impact Report (PEIR)**.

2.3.8 This **Draft Need Case** document forms part of a suite of consultation documents, including the **PEIR** and **Works Description Report**.

3 THE STRATEGIC ECONOMIC CASE FOR AVIATION GROWTH

3.1 Introduction

3.1.1 This section articulates the economic strategy and policy context in which the airport will operate in the future and in which the Proposed Development will come forward. In essence, this section examines why aviation connectivity and airport growth matters in terms of the future economic aspirations of the UK and the areas and regions around the airport. It considers both the importance of air connectivity and airport growth generally but also the specific role that a vibrant and growing airport can play.

3.2 Why aviation connectivity and airport growth matters?

3.2.1 The importance of airports to the UK economy has been long established. This is recognised in aviation policy as set out in **Section 4**. They are recognised as both significant centres of employment in their own right, with attendant supply chain effects (referred to as indirect effects) and income expenditure effects (referred to as induced effects). Moreover, they are recognised as catalysts of economic activity in the wider economy, which is also vitally important in the context of the potential expansion of the airport. These considerations provide a framework within which to articulate the strategic economic case for growth.

3.3 National economic policy

3.3.1 The fundamental need for aviation growth to support growth in the UK's economy in the future is established by the UK government's national economy policy. This has been articulated most recently in *Build Back Better: Our Plan for Growth*, which was published by HM Treasury in March 2021. This document sets out the key economic policy themes put forward by the government in recent times, notably its vision for a Global Britain, the importance of 'levelling up', and the importance of infrastructure in economic growth. These themes are explored further below.

3.3.2 The government's commitment to a Global Britain and the importance of this policy to future UK prosperity is re-emphasised in *Build Back Better*:

"The UK's prosperity is built on our integration into the global economic and financial system. An open economy, which permits the free flow of ideas, goods, services and data based on adherence to a mutually agreed set of rules and principles, will drive long-term prosperity and innovation. It provides UK consumers, businesses, producers, workers and investors with access to cheaper, better quality goods and services, offering greater choice, creating jobs and freeing up resources for innovation and investment at home. In 2019-20, new inward investment projects supported over 56,000 jobs across the UK.

The UK's success as a trading nation will depend on its ability to use its comparative strengths to anticipate evolving demand at both a country and sector level. Trends such as continued rapid growth in emerging economies, the expansion of the global middle class, as well as the growing demand and increasing tradability of more sophisticated sectors of the global economy all

provide potential opportunities for UK businesses. Openness to international markets ensures UK access to multiple diverse sources of supply for the goods and services we need, improving the resilience of our supply chains and benefitting prosperity.”ⁱ

- 3.3.3 Build Back Better clearly articulates the importance of the UK’s ability to interact with the global economy as a trading nation. Growing air connectivity to enable these interactions will be vital if this vision is to be achieved. Furthermore, Build Back Better specifically highlights the importance of inward investment and trade for future economic prosperity:

“Inward investment brings economic benefits to the UK – in 2019-20 inward investment created over 56,000 jobs across the UK, of which over three quarters were outside London – and it can also play a role in supporting the UK Government’s key priorities, such as levelling up and net zero. The UK is open for investment and continues to encourage and support investors from around the world. The Government is committed to ensuring that the UK continues to be one of the top destinations in the world for investment.”ⁱⁱ

“We will make use of the full range of policy tools available to us as an independent trading nation to improve our openness to trade and investment, supporting our key growth sectors, on the basis of free and fair competition. Exporting will play a key role in developing our pioneering sectors and technologies to become world-leading, driving growth and creating jobs.”ⁱⁱⁱ

- 3.3.4 Build Back Better also highlights the importance of world class infrastructure, such as that which will be brought forward through the Proposed Development, in supporting the government’s aspirations around economic growth:

“High quality infrastructure is crucial for economic growth, boosting productivity and competitiveness.”^{iv}

*“The government is committed to **transforming the UK’s infrastructure** and increased investment is also a central part of economic recovery.”^v*

- 3.3.5 It also highlights how infrastructure is a:

“. . . key factor in determining where firms choose to locate and grow, and people’s ability to access resources. It unlocks development of housing. It can also support and enable our businesses to integrate into the international economy and trade goods and services across the world.”^{vi}

- 3.3.6 Build Back Better also provides more detail in relation to the government’s levelling up agenda. It emphasises the government’s desire to boost economic prosperity in areas that are behind London and the South East.

“The last few decades have seen increased prosperity in London and the South East, but without commensurate improvements in the rest of the UK. The primary objective of this government is to change that, ensuring no region is left behind as we achieve greater economic prosperity.”^{vii}

“We will tackle geographical disparities in key services and outcomes across the UK: improving health, education, skills, increasing jobs and growth, building

stronger and safer communities and improving infrastructure and connectivity. We will focus on boosting regional productivity where it is lagging to improve job opportunities and wages^{viii}

- 3.3.7 Build Back Better goes on to highlight the government's vision for globally competitive cities across the UK, spreading the benefits of engagement with the international economy more effectively and driving prosperity away from London and the South East:

“Cities are a fundamental driver of productivity growth. They play a critical role in the success of the wider region – successful regions benefit from strong cities to anchor growth. Our long-term vision is therefore for every region and nation of the UK to have at least one globally competitive city at its heart, helping to drive prosperity and increasing opportunity for all those who live nearby.”^{ix}

- 3.3.8 Luton and a number of the areas around the airport are very much part of this drive to 'level up'. The Levelling Up Fund Prospectus published alongside Build Back Better provides a classification of each local authority in Great Britain in terms of its priority level of levelling up. There are six local authorities around the airport that are classified as either Priority 1 (most in need) or Priority 2 (in need), notably Luton itself (Priority 1), North Hertfordshire (Priority 2) and Bedford (Priority 2). This provides an important context for the Proposed Development in terms not just of its economic role but the potential broader social contribution to helping to overcome deprivation. This is discussed further later in this section and in **Section 5**.

- 3.3.9 In October 2021, Luton was awarded £20m from the Levelling Up Fund to support regeneration of the town centre. This confirms the priority accorded to investment in Luton in support of initiatives to overcome deprivation.

3.4 Regional and sub-regional economic context

- 3.4.1 This focus on the international economy and the importance of engagement with the global economy is a core theme within the regional and sub-regional strategies for the areas that surround the airport.

The Oxford-Cambridge Arc

- 3.4.2 The concept of an economically significant arc linking Oxford to Milton Keynes to Cambridge was formalised in the 2016 Budget when the government asked the newly formed National Infrastructure Commission (NIC) to investigate how to ensure that the contribution of the area, known as the Oxford-Cambridge Arc (the Arc), to driving up productivity and delivering economic growth to benefit the whole of the UK could be enhanced through the provision of appropriate infrastructure^x.
- 3.4.3 The Arc is recognised as a globally significant area encompassing Oxford, Milton Keynes and Cambridge, with very significant international businesses. The NIC, in its 2017 report on the Arc^{xi}, stated:

“The success of the Cambridge-Milton Keynes-Oxford arc should be a national priority. The arc competes with locations across the globe, attracting talent and

bringing investment into the UK. Its towns and cities are amongst the most economically productive outside London and make a vital contribution, both to national income and to national tax revenues.

If the UK is to succeed in the global economy, it must invest in the success of the arc. This matters, not just for those who live and work in the arc, but for all parts of the UK.

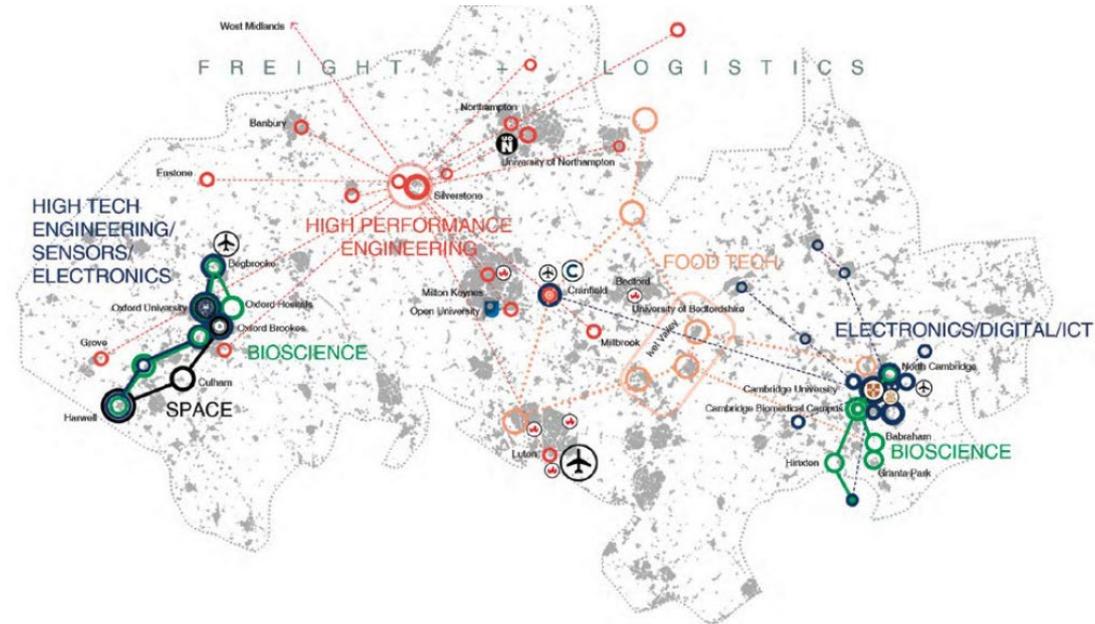
The economic importance of the arc – and its position at the heart of the UK’s knowledge economy – is a reflection of its concentration of world leading research facilities, internationally significant business clusters, track record in innovation and entrepreneurship, and the skills of its workforce.

The arc’s higher education institutions and scientific research facilities are fundamental to its success. Oxford and Cambridge Universities rank consistently amongst the top four in the world, and Cranfield University is a global leader in engineering disciplines. The arc’s teaching hospitals – including the John Radcliffe, and Churchill, in Oxford and Addenbrooke’s in Cambridge – drive internationally significant clinical and medical developments, while the Harwell Campus and the Culham Science Centre house some of the world’s most important facilities for applied scientific research.

The arc also has internationally significant business clusters operating in knowledge-intensive sectors. These include corporate head offices and companies operating at the leading edge of scientific research; life sciences; pharmaceuticals; high-tech manufacturing; performance technology and motorsport sectors. Nine of the UK’s top 100 (and two of the top ten) high growth tech firms are located in the arc, despite the area accounting for just 5.1% of the UK’s population.”

- 3.4.4 The NIC identified the key business clusters geographically within the Arc^{xii} as illustrated in **Inset 3.1** below. The position of the airport as the only one within the Arc is clearly shown.

Inset 3.1: Major Business Clusters in the Oxford-Milton Keynes-Cambridge Arc



Source: National Infrastructure Commission

3.4.5 The importance of the Arc is, ultimately, founded on its potential as an internationally focused area of economic activity, as recognised by the leaders of the local authorities in the area and the local enterprise partnerships:

“The Oxford-Cambridge Arc has unrivalled assets of international standing and significance. With the commitment of Government to long-term investment in the area, the Arc will fulfil its true potential to deliver transformational economic growth that will benefit the whole of the UK.”^{xiii}

3.4.6 The Arc is already home to a range of key sectors that will drive future economic growth and that have a strong global focus^{xiv}:

- a. life sciences – the Arc is home to *“two globally renowned life science clusters around Oxford and Cambridge.”*
- b. space - the Arc supports the largest space cluster in Europe. Its assets are seen as essential if the UK is to remain at the forefront of global competition in this growing, global market;
- c. aviation – the Arc’s specialisms in electric and hydrogen propulsion, autonomy and airspace management technology are becoming increasingly important drivers of competitiveness in the aviation market;
- d. digital and creative - the Arc is already on the map as a major centre for application and testing in emerging technologies, such as artificial intelligence, robotics, cybersecurity and advanced quantum computing, which complement our strong foundations in creative, digital and ICT;
- e. advanced manufacturing - the Arc’s advanced manufacturing cluster is known for high-performance technology and motorsport engineering;

- f. future transport - the Arc's expertise in future green mobility options is built upon specialist expertise in the design and manufacture of innovative propulsion systems that incorporate low carbon engineering; and
- g. future energy - energy is central to the green Arc vision for carbon neutrality by 2050 and the UK's Clean Growth Grand Challenge.

3.4.7 If these sectors are to thrive in a globally competitive market, and so deliver enhanced economic performance to the benefit of the wider region and to the whole of the UK, this will require improved global connectivity directly to the Arc. London Luton Airport is the only major airport located within the Arc and, as such, the airport has a central role to play in providing the connectivity that will be required in the future to sustain these activities and deliver the envisaged productivity improvements.

3.4.8 Indeed, the importance of infrastructure to the success of the Arc is also recognised. Enhancements to infrastructure and connectivity are seen as critical for the economic success of the Arc and its ability to attract foreign direct investment:

".. without a joined-up approach to planning for housing, jobs and infrastructure, the arc risks being left behind by its international competitors, damaging the UK's future competitiveness."^{xv}

3.4.9 Although there is a focus on the international competitiveness of the Arc, the need for 'levelling up' within it has also been recognised. As well as enhancing international connectivity, future growth at the airport clearly has the potential to directly address this issue in relation to Luton, Bedford and other neighbouring areas, where deprivation levels are higher, through the provision of employment opportunities at the airport, alongside its wider role as an enabler of economic growth in the wider economy.

3.4.10 The principle of the Arc as a driver of economic growth underpins a number of regional and sub-regional strategies.

Other Policy Linkages to the Oxford-Cambridge Arc

3.4.11 In the context of the overall strategic framework offered by the Arc and the airport's position as the only one located within the Arc, it is also important to note the extent to which other sub-regional strategies and policies seek to work within this overall context, with an emphasis of the strength and importance of international businesses as economic assets within the area.

3.4.12 The Central Bedfordshire Pre-submission Local Plan 2015-2035 of January 2018 aims:

"To identify further opportunities for Strategic Growth in a Partial Plan Review to link with further work on the Cambridge-Milton Keynes-Oxford Arc, EastWest Rail, the Expressway, the expansion of Luton Airport and A1 upgrades through Central Bedfordshire as set out below and the area marked on the Key Diagram."^{xvi}

3.4.13 The Local Industrial Strategy for Buckinghamshire highlights the importance of its location as part of the Arc:

“A key driver of this strategy is to exploit Buckinghamshire’s position at the centre of the Arc, to mobilise its economic assets to drive growth locally and nationally.”^{xvii}

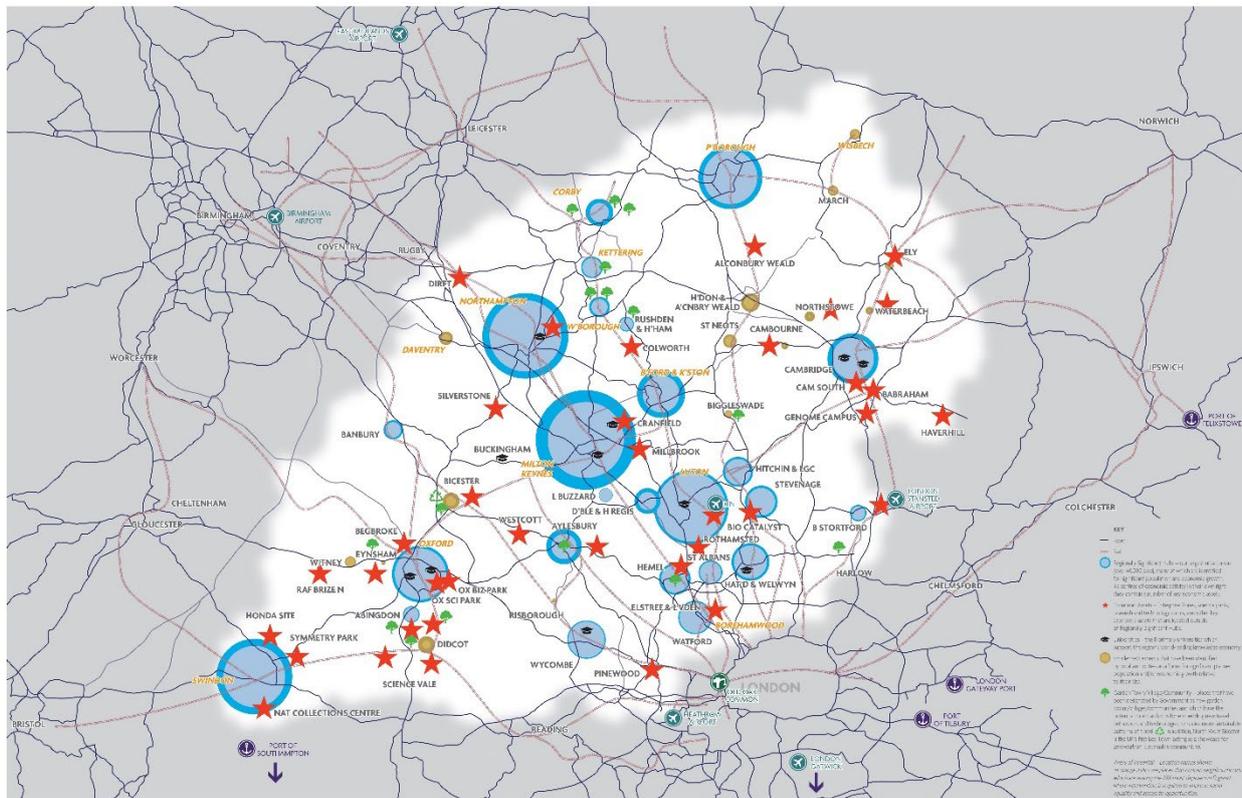
3.4.14 Cambridgeshire is keen to further solidify its position as a world-renowned centre of excellence in the context of the Arc:

“Working with partners across the Arc, Cambridgeshire and Peterborough will... Seek to grow its role as a global research and innovation hub, acting as a UK magnet for international talent, R&D, Foreign Direct Investment and research collaborations. The LEPs and MCA will work with the Department for International Trade, the Arc Universities Group and others to channel foreign investment in the assets and projects that will make the biggest impact on Arc-wide and UK growth.”^{xviii}

3.4.15 In the context of this focus on the Arc in providing a cohesive strategy for future economic growth across the area, the importance of the airport and its role as a provider of international connectivity is heightened. It identifies the airport as very much a core asset for the Arc and for the sub-regional economies within it.

3.4.16 The central position of the airport within this growth area is well illustrated by England’s Economic Heartland, the sub-national transport body for the area. On its website, it illustrates the strategic assets as shown in **Inset 3.2**, which demonstrates how London Luton Airport sits at the heart of the opportunities.

Inset 3.2: England’s Economic Heartland – Places of strategic importance



Source: England’s Economic Heartland

Specific local policy context for the airport in Luton

- 3.4.17 The Application Site is located within the LBC area and the importance of the airport both as a direct provider of employment and prosperity and as a strategic asset for the area is well recognised within the local policy framework. The policy framework also strongly recognises the potential role that further growth at the airport can play in driving economic growth and addressing deprivation in the area, in line with the ‘levelling up’ agenda.
- 3.4.18 The Luton Local Plan 2011-2031 (adopted Nov 2017) notes that:
“There is, however, a significant economic growth multiplier for Luton and the wider sub-region, provided by the busy and growing London Luton Airport, which provides a range of aviation-related skilled engineering and technical employment and also lower skilled work related to aviation and business services. There will be a need to ensure that aviation and other related growth arising from the proximity to the airport or related business clusters are not held back by land and infrastructure constraints.”^{xix}
- 3.4.19 In relation to the future, the Local Plan cites the value of the airport in driving future jobs growth at a range of skill levels:
“London Luton Airport will be improved to provide more jobs related to aviation industries and other associated business clusters and maintain London Luton Airport’s key role as a sub-regional economic driver bringing wealth and job creation (including high skilled jobs) to the town and neighbouring local authorities.”^{xx}
- 3.4.20 The role of the airport as an anchor for the Luton economy, helping to secure the town’s position as a sub-regional centre is reflected in Strategic Objective 1 of the Local Plan:
“To retain and enhance Luton’s important sub-regional role as a place for economic growth and opportunity, including the safeguarding of London Luton Airport’s existing operations and to support the airport’s sustainable growth over the plan period based on its strategic importance.”^{xxi}
- 3.4.21 The importance of the airport within the local economy is also recognised within the assessment of key strengths and assets, alongside the town’s strategic location and surface connectivity:
*“Outstanding connectivity by road, rail and air – less than 30 minutes from London by rail, close to the M1 and 10 miles from the M25
An excellent strategic location – close to the centre of the Oxford to Cambridge Arc
Home to the fifth largest airport in the UK – supporting jobs, the local economy and services for residents
A strong local economy – worth £7.5 bn at the beginning of 2020.”^{xxii}*
- 3.4.22 The policy context for expansion of the airport is also clear in relation to the challenges facing the town’s economy linked to current high levels of deprivation,

which have been made more acute by the Covid-19 pandemic. The Luton 2020-2040 Strategic Vision recognises the importance of supporting both its key existing sectors, such as aviation, and new and emerging ones as part of the recovery process:

“Covid-19 has further highlighted the significant challenges we face in relation to deprivation, health inequalities and the economic impact of the pandemic.”

“The Covid-19 pandemic has highlighted the challenges our economy faces when crucial sectors that support many jobs are badly affected. Through this target outcome we will seek to support our existing key sectors such as aviation and manufacturing, while also working to grow new and emerging sectors of our economy such as the green economy and digital and creative industries.”^{xxiii}

3.4.23 The Luton Inclusive Growth Commission^{xxiv} also highlighted poverty and inequality as being among the most important issues in Luton. The Luton 2020-2040 Inclusive Economy Strategy again notes that the airport is a major asset to Luton and its local economy and that securing the airport’s recovery and growth in line with the Proposed Development will help to support further economic growth, as well as 16,000 new jobs for local people^{xxv}.

3.4.24 Looking to the future, the Luton 2020-2040 Inclusive Economy Strategy acknowledges the need to diversify the economy by supporting and growing key sectors including the green economy, digital, creative industries, manufacturing and aviation, and that:

“London Luton Airport is a key asset to our town that will have a key role to play in achieving our carbon neutral ambition. London Luton Airport Limited has set out its own ambition to become the most sustainable airport in the UK. This will require the support and collective efforts of the entire aviation industry in Luton over the next five years.”^{xxvi}

3.4.25 The airport’s ability to provide ‘locally based’ international connectivity to support trade from these sectors and attract further inward investment will be important in supporting this diversification of the economy.

3.4.26 The Luton Investment Framework sets out “a compelling and credible 20-year plan for major transformation to take place in Luton in order to achieve strong and sustainable growth in the town”^{xxvii} and articulates the town’s aspirations in terms of national and international status:

“We are ambitious about putting Luton on the national and international stage...”^{xxviii}

3.4.27 The role of the airport in achieving this aspiration is clear, given its role as the major international gateway to the town and surrounding areas.

3.4.28 The airport and the connectivity it provides are also central to the success of a number of major developments that will come forward in Luton. The London Luton Airport Enterprise Zone, around 395 acres in size, consists of three linked sites surrounding the Airport:

“The airport-related employment site will create thousands of jobs and attract aerospace, engineering and advanced manufacturing businesses, specialist support services for airline/airport operations and associated leisure, hotel and catering businesses.”^{xxxix}

“New Century Park: will deliver up to 4,000 new jobs on 70-acre commercial development east of the airport.”^{xxx}

Bartlett Square: will bring 2,000 new jobs with the commercial development comprising around 240,000 square foot of office development and a 170-bedroom hotel.”^{xxxi}

3.4.29 The Luton Investment Framework notes that the airport is a key site, aspiring to:

“create thousands of jobs and attract aerospace, engineering and advanced manufacturing businesses, specialist support services for airline/airport operations and associated leisure, hotel and catering businesses.”^{xxxii}

Other sub-regional and local strategies

3.4.30 Within the overarching strategic framework established by national policy and the pan-regional Oxford-Cambridge Arc initiative, there are a wide range of sub-regional and local strategies that articulate the needs and aspirations of the areas that surround the airport. There are a number of key themes that emerge from these strategies that are important in considering the potential future contribution of an expanded airport:

- a. accessing international markets, supporting globally focussed companies and securing Foreign Direct Investment (FDI);
- b. accessibility and the role of infrastructure in supporting growth;
- c. a focus on high value added sectors, including a focus on ‘green’ growth sectors;
- d. the need for job creation across a range of skill levels;
- e. addressing the pockets of deprivation that exist across the areas around the airport;
- f. building on the environmental and tourism assets in the areas around the airport; and
- g. linking effectively to the opportunities provided by the Arc.

Links to the global economy and growth sectors

3.4.31 The importance of the international element within the local economy is a common theme across the strategies for many of the areas that surround the airport, recognising the importance of international trade in enabling growth, the role of globally focussed businesses in driving productivity and providing high value jobs, and the benefits of securing further inward investment.

3.4.32 The South East Midlands Local Enterprise Partnership (SEMLEP) Economic Strategy (2017) identifies two ‘Growing Business’ priorities that are particularly relevant:

“• To deliver increased levels of private sector investment, including Foreign Direct Investment into the area, and grow jobs by 10% by 2025.”

• To deliver greater trading activity between companies in our area and elsewhere, with a special emphasis on emerging global markets, but also working to retain good European links.”^{xxxiii}

3.4.33 SEMLEP also emphasises the importance of the international economy in the context of the Arc, stating that it will:

“Work with the Department for International Trade to encourage greater trade and inward investment, building on existing engagement at LEP level and including the development of an Oxford-Cambridge Arc Internationalisation Delivery Plan.”^{xxxiv}

3.4.34 These themes around the importance of links to the global economy are reinforced by ‘local’ policies. Stakeholders in Hertfordshire specifically recognise the importance of the international economy:

“As a hub for scientific research, Hertfordshire differs from other locations insofar as its strengths are vested primarily in a dynamic group of world-leading, research-intensive, businesses – such as GSK, Airbus, MBDA, Roche, Eisai and Johnson Matthey. These are complemented by commercially-focused research organisations of international significance . . .”^{xxxv}

“The District hosts a number of internationally important businesses in the environmental technologies, insurance and electronics, as well as companies in pharmaceutical technologies, advanced engineering.”^{xxxvi}

3.4.35 Buckinghamshire Local Enterprise Partnership (LEP) also focusses on key international sectors and the importance of connectivity to the economy:

“Buckinghamshire has four internationally significant economic assets. They are the Westcott Space Cluster; Silverstone Park and Tech Cluster; Pinewood Studios and creative businesses; and Stoke Mandeville and MedTech businesses.”^{xxxvii}

“Economic resilience will be developed by not having a reliance on single international partners/suppliers. A stronger inward Investment package for the whole of Buckinghamshire is needed to support this ambition”^{xxxviii}

“Transport plays an essential part in every aspect of our daily lives, from supporting the UK economy through the movement of people and goods, getting people to work and food to the supermarkets.”^{xxxix}

3.4.36 This focus is reinforced by the Buckinghamshire LEP’s Strategic Economic Plan, which states that:

“we should be striving to significantly grow our GVA per capita, and in order to do this, we will need to attract high-value, globally orientated firms to Buckinghamshire and stimulate the vibrancy of the local economy.”^{xl}

3.4.37 The airport’s role in providing the connectivity that is required to achieve these aspirations is specifically recognised:

“Nearby airports at Heathrow and Luton provide significant aviation related employment opportunities for Buckinghamshire. They also link us with important international business and leisure opportunities. Good connections with these airports, appropriate infrastructure and related facilities are vital for Buckinghamshire to thrive.”^{xli}

- 3.4.38 The more recent Buckinghamshire Local Industrial Strategy also highlights the importance of not standing still in terms of engagement with international markets and the importance of future growth:

“More needs to be done to support scale-up so that more businesses achieve their potential. This includes the better use of data to target growing businesses; enhanced leadership and access to talent; access to and take-up of finance; improved access to markets through international trade and government procurement and better supply chain support.”^{xlii}

- 3.4.39 The Central Bedfordshire Economic Strategy ‘Building Local Prosperity’, January 2021, again highlights the importance of major international companies in driving key sectors:

“Our innovation assets, including the Barclays Eagle Lab, Millbrook Proving Ground, Nissan Technical Centre (Europe), Collins Aerospace and Cranfield University, which underpin our strengths in the automotive, manufacturing and aerospace sectors, have helped to attract leading international companies.”^{xliii}

- 3.4.40 The Oxfordshire Local Enterprise Partnership (OxLEP) explains how Oxfordshire’s assets including its universities and clusters of advanced industry have positioned the region firmly on the global stage:

“Oxfordshire has one of the highest concentrations of innovation assets in the world with universities, and science, technology and business parks at the forefront of global innovation in transformative technologies and sectors such as Fusion Technology, Autonomous Vehicles, Quantum Computing, Cryogenics, Space, Life Sciences, and Digital Health. Together, they provide a rich and economically critical network of employment, R&D and creative nodes which offer significant opportunities to scale-up, develop new products and services, so enabling the UK to compete on the international stage in exciting new markets.”^{xliv}

- 3.4.41 The Cambridgeshire & Peterborough Combined Authority set out the region’s position as a global centre for innovation and knowledge-based sectors such as life sciences and advanced manufacturing:

“The Cambridgeshire and Peterborough economy is thriving, contributing £22bn to the UK. The economy has outperformed the UK in overall growth since 2009, and growth in employment has significantly outpaced official figures. The area is an internationally recognised centre for artificial intelligence, life sciences, food production and advanced manufacturing. Cambridge is a global leader in innovation and the commercialisation of new ideas.”^{xlv}

- 3.4.42 The airport is already seen as important domestic and short-haul connector for the international economies around the Airport. Growth of the airport in line with the Proposed Development will enable it to grow this role further, ensuring that the connectivity available to the areas around the airport keeps pace with

competitor regions elsewhere where air connectivity is also growing or is planned to grow.

Building on environmental and tourism assets

- 3.4.43 The potential to build on the natural assets in the areas around the airport to support tourism growth in the future is highlighted by a number of stakeholders. The Central Bedfordshire Economic Strategy ‘Building Local Prosperity’, January 2021, sets out that:

“Central Bedfordshire is extremely well connected to regional areas of opportunity and has a number of world class environmental and tourism assets, providing our residents with a high quality of life”^{xlvi}

- 3.4.44 While Dacorum Borough Council (Shaping the Future of Dacorum – Our Growth and Infrastructure Strategy to 2050 (2019)) states that:

“Attracting more visitors means more revenue for local businesses; we want to draw in both domestic and international tourism by further improving the quality and variety of attractions available – this includes the retail and leisure facilities in Dacorum’s town centres.”^{xlvii}

- 3.4.45 An expanded airport has a clear role to play in supporting aspirations around tourism growth as it would enable access to a broader range of international markets, enabling increased visitor numbers.

Support for the airport as driver of prosperity

- 3.4.46 The airport’s role as both a direct provider of employment and prosperity and as an enabler of the international economy in the regions around the airport is specifically recognised in a range of strategy and policy documents.

- 3.4.47 The SEMLEP Industrial Strategy of July 2019 identifies the airport as an important asset:

“The airport employs over 9,400 staff and is a major economic driver for the region. Its route network serves more than 140 destinations in Europe, Africa, and Asia, with 11 airlines flying from the airport, including easyJet, Wizz Air, Ryanair and TUI. A £160m transformation programme is nearing completion which will increase capacity to 18 million passengers per year by 2020. The airport has also published a vision for sustainable growth for 2020-2050, which includes an environmental strategy to address the air quality and noise implications of the expansion through high-tech solutions. LLA is well on its way to achieving its ambition of becoming the airport of choice for north London and England’s Economic Heartland.”^{xlviii}

- 3.4.48 While stakeholders in Hertfordshire have identified the benefits of the airport’s growth plans and general support for the Airport:

“There are many important developments outside the County which could impact future economic growth, particularly in areas adjacent to or with very good connections to Hertfordshire settlements. Some of these include: Plans for growth at both Stansted and Luton airports . . .”^{xlix}

“Local people also benefit from having access to jobs that come directly, and indirectly, from the airport and the connectivity it provides.”ⁱ

“. . . the Council is keen to see the economic benefits of the growth of the airport being shared with those it impacts, including the residents of Stevenage.”ⁱⁱ

- 3.4.49 The airport is clearly recognised as an important economic driver with significant potential for the future.

Addressing pockets of deprivation and ‘Levelling Up’

- 3.4.50 As described above, the role the airport plays in supporting the Luton economy as a provider of jobs and prosperity is vital in the context of addressing deprivation in the town. However, the need to combat deprivation and ‘level up’ under-performing areas is not purely an issue for Luton itself. A range of stakeholders highlight the existence of pockets of deprivation and the need to address these:

“Hertfordshire ranks low down on the deprivation scale overall but there are some lower super output areas within Hertfordshire’s districts that fall into the most deprived 10% nationally.”ⁱⁱⁱ

“Although the county is relatively affluent and has low levels of unemployment compared to the national average, deprivation does exist across Buckinghamshire, with 3.6% of residents living in the 30% most deprived areas in the country.”ⁱⁱⁱ

“While many of areas of Oxfordshire enjoy prosperity, there are pockets within communities that are struggling, falling in the bottom 10-20 per cent of the most deprived areas in the country...”^{iv}

“Peterborough and Cambridge, the two most urban districts, as well as Fenland, have some areas where over 25% of households are in poverty, although the numbers and proportions are rather more acute in Peterborough.”^v

- 3.4.51 The airport is already a significant direct provider of jobs in a number of these areas and its influence through supply chains and as general regional economic driver is significant. Growth in line with the Proposed Development will enable the airport to increase the role it plays in addressing deprivation across a broad geographic area, which is particularly important in the context of the government’s levelling up agenda.

The airport and the London economy

- 3.4.52 The airport also serves London and has a role to play in supporting the city-wide development strategies for London including the Local Industrial Strategy and Mayoral strategies. London First and London Chamber of Commerce publications have highlighted the importance of airports and international connectivity. The London Plan identifies that:

“London’s major airports provide essential connectivity for passengers and freight, support vital trade, inward investment and tourism, generate prosperity, and provide and support significant numbers of jobs.”^{vi}

3.4.53 They are crucial to London’s continuing international competitiveness and world-city status and by extension London’s ability to act as an economic driver for the rest of the UK.

3.4.54 The Mayor of London supports the role of the airports serving London in enhancing the city’s spatial growth, particularly within Opportunity Areas well connected to the airports by public transport and which can accommodate significant numbers of new homes and jobs^{lvii}.

3.4.55 The London Plan goes on to state its support for airports making best use of their existing runways:

“It is important, in the first instance, to make best use of existing airport capacity, which fast, frequent, sustainable surface access can support.”^{lviii}

3.4.56 Specifically, in relation to the main London airports, it makes clear the potential for significant economic benefits from further growth where this can be achieved in a sustainable manner and notes the airport’s plans to extend its terminal capacity:

“The Mayor will therefore strongly oppose any expansion of Heathrow Airport that would result in additional environmental harm or negative public health impacts. Air quality gains secured by the Mayor or noise reductions resulting from new technology must be used to improve public health, not to support expansion. The Mayor also believes that expansion at Gatwick could deliver significant benefits to London and the UK more quickly, at less cost, and with significantly fewer adverse environmental impacts. Stansted Airport will, in due course, be able to make better use of its single runway following the raising of its flight cap, alongside appropriate environmental mitigation. London City Airport is working to upgrade its passenger facilities and enhance operational efficiency in conjunction with the introduction of additional environmental mitigation measures and what amounts to a reduction of its maximum permitted number of movements. Luton and Southend airports are also undertaking substantial upgrades of their terminal facilities.”^{lix}

3.4.57 Air connectivity is a vital asset for London, the South East and the UK. For the global city of an island nation, it holds a particular economic and social importance. The airport’s future contribution to delivering enhanced air connectivity needs to be seen in this light.

3.5 How airports deliver economic growth

3.5.1 As demonstrated above, the airport has a specific role to play within the context of its local and sub-regional area and the priorities for growth, including the Arc and the need for levelling up within Luton particularly. These needs can only be met if the airport is allowed to expand to deliver the enhanced air connectivity to support this growth. The airport is the only major airport located within the Arc and is, as a consequence, ideally placed to develop and deliver the international connectivity it needs moving forward. The airport is also well located to support the levelling up of the areas of deprivation in the centre of the Arc, building on its existing role as a key employer for Luton and the Three Counties.

3.5.2 The ways in which the expansion of the airport will support economic growth within the local and sub-regional area are explained below

Airports as centres of employment

3.5.3 Airports are the geographic centres for the air transport industry. They are where the service is ultimately delivered to its end users, passengers or cargo customers. However, airports are now about much more than simply loading passengers or cargo on to an aeroplane. They are centres for the delivery of a wide range of ancillary goods and services that either directly support the delivery of air services or service the broader demand for goods and services from passengers passing through the airport. As such, they are often major centres for employment and economic activity within the regions that they serve and are diverse economies in their own right, offering employment opportunities in a wide range of sectors and at different skill levels.

3.5.4 This concentration of activity at and immediately around an airport is known as its direct economic impact. However, an airport's economic footprint does not stop there. Organisations at airports have supply chains that enable them to provide the goods and services that they offer. Purchases in this supply chain within the region around airports support further employment and prosperity (indirect effects). Expenditure of the wages and salaries earned by those employed by the direct and indirect impacts injects further consumer expenditure in to the economy, which in turn supports more economic activity and jobs in the region. At the local or regional level, these effects can often be significant particularly in areas of relative deprivation or in need of 'levelling up'.

Why aviation connectivity matters for the wider economy

3.5.5 The ways in which air connectivity provided by airports impacts on economic performance in the wider economy are summarised below. This overall effect is sometimes referred to as the wider economic impact or catalytic impact of airports. While this effect is multifaceted, this link can be explained in terms of the effect through a number of channels of impact:

- a. Foreign Direct Investment;
- b. Trade;
- c. Labour market effects;
- d. Agglomeration; and
- e. Tourism.

3.5.6 At the outset, it is important to note that the UK is a highly global economy. Hence, air connectivity is more important to all parts of the UK than is necessarily the case in other countries of the world. It is also an island and, consequently, connectivity, by air or sea, has been central to its prosperity for centuries. The importance of air connectivity to the area around the airport must be seen in this context as global connectivity is a vital component of the current and future economic performance. Connectivity must also be considered as a dynamic element in underpinning growth, i.e. the level of connectivity available to businesses in a region has to keep pace with that available to competitor regions.

This is important in the context of the need for the airport to be able to grow its connectivity in the future to ensure that regions around the airport can maintain their competitive position and continue to be attractive to businesses, investors and tourists alike.

3.5.7 Broadly, the channels through which air connectivity delivers benefit to the wider economy in the region around any airport are summarised below.

Foreign Direct Investment (FDI)

3.5.8 A range of wide previous research has established the existence of a linkage between air transport and the attraction or retention of inward FDI. Whether the investment is inward or outward, strong connectivity is needed between the head office and the branch locations to ensure that operations are efficiently managed. Hence, the benefits of improved connectivity made possible by the Proposed Development will ultimately flow through to the attractiveness of the area around an airport for business investment more generally and the ability of local businesses to grow and invest within and beyond the local area.

Trade

3.5.9 The importance of air travel and air connectivity in increasing levels of trade is again well established. In relation to trade in goods, air cargo is a quick and efficient means of transporting goods around the world, which makes economic sense in relation to the transport of some goods, primarily those that are high-value, low weight or time critical. Passenger connectivity is also important in terms of trade. In relation to the trade in goods, companies will still need staff to travel, even post-Covid-19, to meet potential customers, to secure deals and to provide after sales care. This relates to both exports and imports. Trade in services is also heavily reliant on air passenger connectivity. Air connectivity is exceptionally effective at reducing the perceived distance between markets.

3.5.10 Hence, air service connectivity is important in facilitating trade in both goods and services. Whilst this is bi-directional, encouraging imports as well as exports, ultimately enabling bi-directional international trade facilitates economic growth through enabling countries or regions within countries to develop comparative advantage. As a consequence, better connected regions will be further up the productivity curve and better able to avail themselves of trading opportunities than parts of the UK that are less well connected.

Labour market effects

3.5.11 An area that is increasingly being identified as one of the channels of impact through which air connectivity operates is its effect on the labour market through its ability to influence individuals' decisions around where and how much labour to supply. This effect can, in broad terms, be divided in to two parts:

- a. air connectivity is important for the UK in being able to attract talented individuals to live and work in the country on a permanent basis as air connectivity is needed to support the quality of life of this group through the ability to visit family and friends in their countries of origin; and

- b. air connectivity is also essential in supporting the lifestyle choice of an increasing number of high value added individuals who use air services to commute for short periods or even weekly while living overseas. These individuals often provide specialist or high value services that are part of what enables the UK's competitive advantage.

3.5.12 These factors are important in ensuring that the regions around the airport are able to attract and retain the skilled workers required to support broader economic development.

Agglomeration

3.5.13 Agglomeration effects are productivity benefits that can be achieved by firms located close to each other, perhaps through knowledge spill overs between firms, improved access to suppliers or to larger labour markets. They relate to the concentration of economic activity in an area. In other words, the more firms located within an area the greater the likely agglomeration effects. In the context of air connectivity, there are two potential agglomeration impacts:

- a. as a direct impact from the way in which air services can increase effective density across large areas by reducing travel times and increasing the ease with which agglomeration effects may occur across national borders. This is essentially the boost in productivity within firms as air services make the world smaller, facilitating innovation and cooperation and widening markets for both goods and labour; and
- b. as an indirect impact relating to the potential impact of air services in terms of influencing FDI decisions, which in turn result in clustering of firms in locations around major airports, again resulting in an increase in effective density and greater agglomeration.

Tourism

3.5.14 Air services make the UK easier and faster to get to for potential visitors travelling either for business or leisure purposes. Hence, the availability of air services influences the decisions that visitors make. The importance of air services for attracting inbound tourism holds true at a regional and sub-regional level as if a region is not easy to reach directly, visitors from overseas are far less likely to visit, focussing instead on the well-known visitor attractions in central London or Scotland. If a city or sub-region or region is not easily accessible, by air or by another mode, then it is either unlikely ever to reach consideration in the first instance or, ultimately, to be chosen as a preferred option for a visit.

3.5.15 The importance of outbound tourism in supporting economic prosperity in the UK is also noted. The ability to travel and experience other countries and other cultures is an extremely important part of life for many people, while for others the ability to visit friends and relatives in other parts of the world is vitally important. As made clear by the government as recently as its consultation on Jet Zero in July 2021^x, they want to ensure that:

“hardworking families to continue to enjoy their annual holiday abroad; we want Britons to continue to have access to affordable flights, allowing them to enjoy holidays, visit friends and family overseas and to travel for business”.

- 3.5.16 In this context, access to air travel is a key component in making cities and regions ‘liveable’ places for people. Hence, access to an airport with a good range of services is an increasingly important factor in attracting people to live and work in an area, particularly in the context of what is an increasingly global workforce. Ultimately, this will support population growth and additional economic activity in an area, provide prosperity and create the conditions that are needed for economic growth. Outbound tourism provides both a very real socio-economic welfare benefit to individuals and also helps to support long run economic prosperity in the economy in terms of GDP and employment, as an essential part of making cities and regions attractive places to live and work.
- 3.5.17 It is important also to recognise that outbound tourism supports economic activity in the UK directly, both at the airport and in firms that deliver holidays.
- 3.5.18 The economic effects of outbound tourism are considered further in **Section 9**.

3.6 Summary

- 3.6.1 National, regional and sub-regional economic strategy is strongly focussed on building economic growth around linkages with the global economy. Build Back Better provides explicit direction for the future and identifies as a core pillar the Global Britain policy agenda, which requires enhanced international connectivity. This is reinforced by the Oxford-Cambridge Arc, which is seeking to build on the world class academic and economic assets that are housed within the Arc. As the only major airport within the Arc, a growing London Luton Airport will be central to achieving these aspirations through its ability to facilitate trade, investment and tourism.
- 3.6.2 The airport’s role is also vital in the context of the ‘levelling up’ agenda. Stakeholders in the airport’s surrounding areas have identified that, despite apparent high levels of prosperity, there remain substantial and persistent pockets of deprivation. Luton itself is identified as a highest priority area for the Levelling Up Fund and has recently been awarded £20m from the Fund. The role of the airport in supporting regeneration in many of these areas is already recognised and future growth in line with Proposed Development, alongside the proposed Employment and Training Strategy, will substantially increase this role.
- 3.6.3 It is these economic imperatives that provide the context within which the need for the Proposed Development has to be assessed.

4 NATIONAL AVIATION POLICY

4.1 Introduction

4.1.1 This section sets out the Aviation Policy context for the Proposed Development. Alongside the economic policies in the preceding section, national policies on aviation and the development of airports articulate the basis of the need for the development.

4.2 Overall planning policy context

Basis for determining the proposed application

4.2.1 As a Nationally Significant Infrastructure Project (NSIP), the proposed application for development consent will be determined under the Planning Act 2008, which requires that, in deciding applications for development consent, regard must be had, inter alia, to any National Policy Statement (NPS) which has ‘effect’ in relation to development of the description to which the application relates^{lxix} (a “*relevant national policy statement*”).

4.2.2 On 26 June 2018, the government designated the Airports National Policy Statement (ANPS). Paragraph 1.40 of the ANPS makes it clear that it only has ‘effect’ in relation to the delivery of additional airport capacity through the provision of a Northwest Runway at Heathrow Airport as well as proposals for new terminal capacity located between the new Northwest Runway and the existing Northern Runway and the reconfiguration of terminal facilities in the area between the existing runways at the airport. Hence, this application will need to be considered under section 105 of the Planning Act 2008, applicable where no national policy statement is in effect.

4.2.3 Whilst the National Planning Policy Framework (NPPF), updated in 2021 and Local Development Plans will also be relevant considerations, this section concentrates on the aviation policy context within which the proposals have been developed. The government recognises that aviation is very important to the economy and, in principle, supports the growth of the sector so long as its environmental impact is managed. This chapter summarises the government’s aviation policy context for the airport making best use of its existing runway. A Planning Statement will accompany the proposed application for development consent when submitted.

4.3 Government aviation policy

4.3.1 As noted above, the ANPS does not have effect in relation to an application for development consent for expansion of airport capacity other than for the proposed new Northwest runway at Heathrow Airport^{lxxii}. Nonetheless, the ANPS goes onto indicate^{lxxiii} that:

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

4.3.2 The policies of the ANPS are considered further later in this section, but it is made clear at paragraph 1.38 that for other airport capacity proposals the relevant policy remains the Airports Policy Framework of 2013 (APF)^{lxiv} until replaced by subsequent policy statements.

4.3.3 Hence, the starting point for considering the aviation policy context for the Proposed Development remains the APF.

Aviation Policy Framework 2013

4.3.4 Government policy related to the growth of aviation in the UK is set down within the APF, which articulates the strategy for supporting the growth and realising the benefits of aviation. This replaces the Future of Air Transport White Paper of 2003, which had supported the development of London Luton Airport up to the capacity of a single runway, then assumed to be equivalent to 30 mppa and 240,000 annual aircraft movements^{lxv}. Hence, support for the airport increasing its capacity within the limits of a single runway has been a feature of government aviation policy for some time.

4.3.5 Until such time as it is replaced, the APF remains the overarching policy for aviation, as confirmed in the ANPS, albeit the government has been consulting on a new Aviation Strategy over the period since 2017 as discussed further below.

4.3.6 The APF does not set out any site-specific policies or recommendations for development at individual airports but sets out the policies which apply to the sector as a whole:

"It sets out the Government's objectives and principles to guide plans and decisions at the local and regional level"^{lxvi}

4.3.7 In the APF, the economic contribution of aviation is highlighted:

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

4.3.8 The government then sets out a key objective as:

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

and:

“In the short to medium-term, a key priority is to work with the aviation industry and other stakeholders to make better use of existing runway capacity at all UK airports.”^{lxxix}

4.3.9 The APF also notes the economic value of business and general aviation^{lxxx}. As explained later in this document, business aviation is an important component of the traffic using the airport, which is one of the busiest airports in terms of business aviation movements in the UK, enhancing its economic role particularly serving north and central London.

4.3.10 Within the context of seeking to make *“best use of existing airport capacity”*, the APF notes that individual proposals for airport expansion should be considered on their merits, having regard to both economic and environmental considerations.^{lxxxi} Whilst the APF does not differentiate between runways at airports in the South East of England and those elsewhere in the UK, the position in relation to the need for additional runway capacity serving London and the South East is deferred to the work of the Airports Commission (AC), which was established shortly before the publication of the APF. Nonetheless, the APF provides the general policy context for UK aviation which remains of relevance until replaced by a new Aviation Strategy.

4.3.11 It is an important principle of national aviation policy that the costs, particularly environmental costs of airport development, should be balanced against the benefits of growth. This is set out at paragraph 5 of the APF, which supported the principle of growth in aviation capacity provided that the costs are balanced by the benefits:

“The Government’s primary objective is to achieve long-term economic growth. The aviation sector is a major contributor to the economy and we support its growth within a framework which maintains a balance between the benefits of aviation and its costs, particularly its contribution to climate change and noise”^{lxxxii}

4.3.12 The APF set out clear objectives in terms of managing aviation’s environmental impacts and these, along with the policies set out in the ANPS, have informed the assessment of the environmental impact of the Proposed Development within the **PEIR**. Specifically, in relation to aviation noise, the APF sets out a requirement for the benefits of new technologies and quieter aircraft being shared between airports and the communities around them:

“The Government’s overall policy on aviation noise is to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise, as part of a policy of sharing benefits of noise reduction with industry”^{lxxxiii}

4.3.13 This document provides an initial outline of the benefits of the Proposed Development, which need to be considered alongside the environmental impacts as set out in the **PEIR**. Issues relating to climate change and noise are further considered in the **PEIR** and the fleet assumptions upon which they are based are outlined in **Section 7** of this report.

Airports Commission (AC)

4.3.14 The AC was set up to identify a long-term solution to maintaining the UK’s global hub status and produced its final report at the end of June 2015. This recognised

the need for an additional runway in the South East of England by 2030 and recommended that this should be a new Northwest Runway at Heathrow. However, it also noted that there would be a need for other airports to make more intensive use of their existing infrastructure alongside this development. Clearly the timing of need has been impacted by the effects of the Covid-19 pandemic and this has been taken into account in preparing the forecasts underpinning the development as explained in **Section 7**.

4.3.15 At an early stage of the process, the AC considered a full range of options for increasing runway capacity to serve London and maintain the UK's global hub role. Whilst options were put forward for additional runways at the airport, these were not promoted by the Applicant or LLAOL and not taken forward into the AC's final consideration.

4.3.16 In its final report, the AC also stressed the importance of air connectivity to the economy:

“Good aviation connectivity is vital for the UK economy. It promotes trade and inward investment, and is especially crucial for a global city like London. The service sector, whether the City, the media industry or universities, depends heavily on prompt face-to-face contact. There is strong evidence that good transport links, and especially aviation connectivity, make an important contribution to enhancing productivity, which is an important national challenge.”^{1xxiv}

and noted that:

“The London economy as a whole is driven by sectors which are heavily dependent on aviation, from financial and creative services to high value manufacturing. Rapid and direct access to the strongest possible aviation links will play an important role in maintaining London's status as a global business centre.”^{1xxv}

4.3.17 In the light of the timescale over which a new runway could be brought into operation, the AC highlighted the opportunity for other airports in the meantime:

“The capacity constraints at Heathrow and Gatwick present an opportunity for other UK airports in the coming decade. This is particularly true for the largest airports, which benefit already from high passenger numbers and large route networks, as well as the airports whose passenger catchments overlap most fully with those of Heathrow and Gatwick.”^{1xxvi}

and noted that

“The other airports in the London system are developing business strategies to make best use of their capacity, and the government, and other stakeholders, could support them in doing so.”^{1xxvii}

4.3.18 In relation to London Luton Airport specifically, the AC noted in its Interim Report^{1xxviii}:

“The maximum permitted use of existing capacity at some airports, including Stansted and Luton, is constrained by planning restrictions and also by the

availability of non-runway infrastructure such as terminal and stands able to handle higher than current numbers of passengers or air traffic movements”.

- 4.3.19 The Proposed Development is designed to overcome these identified constraints at the airport making best use of its existing runway over the coming years, particularly having regard to the delayed timetable for the provision of an additional runway at Heathrow.

The Future of UK Aviation – Call for Evidence

- 4.3.20 In July 2017, the government published a call for evidence consultation document – ‘*Beyond the horizon: The future of UK Aviation*’ to seek views on the approach it was proposing to take on a number of aviation issues to inform a new Aviation Strategy to replace the APF. The consultation document noted, at paragraph 1.3, that the aim of the Aviation Strategy is:

“To achieve a safe, secure and sustainable aviation sector that meets the needs of consumers and of a global, outward-looking Britain”.

- 4.3.21 The call for evidence document set out that the government agreed with the AC’s recommendation that there is a requirement for more intensive use of existing airport capacity and was minded to be supportive of all airports who wish to make best use of their existing runways including those in the South East of England, subject to environmental issues being addressed. The call for evidence document sought views on the specific policy proposal regarding airports making best use of their existing runways.

Airports National Policy Statement

- 4.3.22 As noted above, in June 2018, the government published the ANPS, which is specifically applicable to the development of the proposed new Northwest runway at Heathrow. The ANPS sets out the government’s rationale for selecting the development of a third runway at Heathrow as the principal means of addressing the long-term shortage of hub airport capacity in the UK, confirming the recommendation of the AC.

- 4.3.23 Whilst the ANPS is not directly applicable to the Proposed Development at the airport, the government made clear that it is an important and relevant consideration to any application for airport development, particularly in the South East of England as noted at paragraph 4.3.1 above.

- 4.3.24 In particular, the ANPS makes clear that its specific relevance is in relation to the expressed preference for new runway capacity to be provided through the Northwest Runway proposal at Heathrow^{lxxix} to meet the need for additional runway capacity.

- 4.3.25 Nonetheless, the ANPS also makes clear that, alongside the provision of an additional runway at Heathrow, the government supports other airports, including those in the South East of England, making best use of their existing runways:

“the Government has confirmed that it is supportive of airports beyond Heathrow making best use of their existing runways. However, we recognise that the development of airports can have positive and negative impacts, including on

noise levels. We consider that any proposals should be judged on their individual merits by the relevant planning authority, taking careful account of all relevant considerations, particularly economic and environmental impacts.^{lxxx}

4.3.26 ANPS goes on to state that:

“the Government accepts that it may well be possible for existing airports to demonstrate sufficient need for their proposals, additional to (or different from) the need which is met by the provision of a Northwest Runway at Heathrow.”^{lxxxii}

Hence, this document is provided to set out the need for the development in line with the recommendations of the ANPS.

4.3.27 It should be noted that, in the case of the Proposed Development, it is the Secretary of State who will need to consider the application on its merits as the Proposed development comprises an NSIP and would not fall to be considered by the local planning authority.

4.3.28 The ANPS also sets out Assessment Principles (Section 4) and expectations in terms of the Assessment of Impacts (Section 5). Whilst these are framed in terms of the specific requirements in respect of a third runway at Heathrow, these principles have informed and guided the assessments made in the **PEIR** where relevant and are referenced accordingly within the **PEIR**. Of specific relevance is the guidance given to the Examining Authority at paragraph 4.4. of the ANPS:

“In considering any proposed development, and in particular when weighing its adverse impacts against its benefits, the Examining Authority and the Secretary of State will take into account:

- Its potential benefits, including the facilitation of economic development (including job creation) and environmental improvement, and any long-term or wider benefits; and*
- Its potential adverse impacts (including any longer term and cumulative adverse impacts) as well as any measures to avoid, reduce or compensate for any adverse impacts.”*

4.3.29 In relation to climate change, the ANPS makes clear that:

“Any increase in carbon emissions alone is not a reason to refuse development consent, unless the increase in carbon emissions resulting from the project is so significant that it would have a material impact on the ability of Government to meet its carbon reduction targets, including carbon budgets.”^{lxxxiii}

4.3.30 The ANPS was subsequently subject to Judicial Review and, in December 2020, the Supreme Court finally rejected the last of the challenges and upheld the lawfulness of the ANPS. The government has subsequently responded to requests to review the ANPS under section 6 of the Planning Act 2008 and concluded that no such review is necessary at the current time^{lxxxiii}. Hence, the ANPS remains important and relevant to any decision on the expansion of London Luton Airport.

Beyond the horizon: The future of UK Aviation : Making Best Use of existing runways (MBU)

4.3.31 To support the principle outlined in the ANPS that airports other than Heathrow should seek to make best use of their existing runways, this policy document sets out the specific responses to its earlier call for evidence relating to the ‘best use’ principle and confirmed that the government believes that there is a case for airports making best of their existing runways across the whole of the UK. Paragraph 1.29 of the policy statement concludes:

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

4.3.32 In making clear the support for airports making best use of their existing runways, the policy statement set out a number of relevant considerations, including the implications for the UK’s carbon commitments and local environmental impacts. In particular, at paragraph 1.11, the government made clear that:

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

4.3.33 Paragraph 1.12 makes clear that the government would use the anticipated new Aviation Strategy to address the carbon implications of aviation growth, and this was subsequently addressed in the Jet Zero Consultation of July 2021^{lxxxv}, discussed further below. It remains the case that ensuring that aviation meets the net zero target is a matter for national government, rather than something to be considered at each airport in isolation. As referenced in paragraph 4.3.29 above, the ANPS (paragraph 5.82) makes clear that an increase in carbon emissions alone is not a reason to refuse development consent. This is because constraint at one airport may simply result in growth being displaced elsewhere, even outside of the UK. This policy position in relation to the treatment of airport specific carbon emissions from aircraft has been confirmed by the recent decision in respect of the planning application for the expansion of Stansted Airport to 43 mppa where the Planning Inspectorate concluded that:

“Carbon emissions are predominantly a matter for national Government and the effects of airport expansion have been considered, tested and found to be acceptable in MBU.”^{lxxxvi}

4.3.34 Paragraph 1.26 indicates that, as part of any planning application, airports will, nonetheless, need to demonstrate how they will mitigate against local environmental issues, taking account of relevant national policies, including any new environmental policies emerging from the anticipated new Aviation Strategy.

Paragraph 1.22 also makes clear the airports will need to demonstrate the economic benefits of making ‘best use’ and how these benefits will be shared with communities around the airport.

- 4.3.35 Paragraph 1.27 states that applications to increase caps by 10 mppa or more are considered as nationally significant infrastructure projects (NSIPs) and would be considered under the Planning Act 2008 on a case-by-case basis by the Secretary of State, as is the case with the Proposed Development.

Towards a New Aviation Strategy consultation

- 4.3.36 As part of the development of its new Aviation Strategy, the government published a Green Paper Aviation 2050 – the future of UK aviation^{lxxxvii} for public consultation in December 2018 outlining its proposals for a new aviation strategy. This builds on the earlier 2017 ‘*Call for Evidence*’. Whilst it was expected that a new Aviation Strategy White Paper would be published in 2019, the final strategy has not been published. The core objectives underpinning Aviation 2050 were:

- a. help the aviation industry work for its customers;
- b. ensure a safe and secure way to travel;
- c. build a global and connected Britain;
- d. encourage competitive markets;
- e. support growth while tackling environmental impacts; and
- f. develop innovation, technology and skills^{lxxxviii}.

- 4.3.37 In this regard, it is notable that the government has a core objective of making sure that the industry works for its customers. This is an important principle in terms of ensuring that airports provide convenient access to air services and good quality customer service.

- 4.3.38 The Green Paper was built around 8 key themes, as set out at paragraph 1.35:

“• **build a global and connected Britain** – further expanding and liberalising our connectivity to new and existing global markets, promoting our successful aviation and aerospace industries, and leading by example on the global stage on open trade, the environment and security

• **ensure that aviation can grow sustainably** – moving beyond an artificial ‘choice’ between growth and environmental protection by building a new partnership that actively supports sustainable growth with actions taken to mitigate environmental impacts

• **support regional growth and connectivity** – ensuring aviation enables all regions of the UK to prosper and grow, providing jobs and economic opportunities and a meaningful contribution to the life of communities up and down the country

• **enhance the passenger experience** – ensuring all passengers have the best possible experience of UK aviation, working with industry to promote the existing and widespread best practice, but also driving up standards and enforcement in areas where improvement is needed

- **ensure a safe and secure way to travel** – maintaining and further building the UK’s position as one of the safest and most secure aviation systems in the world, and work closely with international partners to support improvements in both safety and security overseas, in order to protect the interests of UK citizens around the world
- **support General Aviation (GA)** – ensuring that government has appropriate and proportionate policies to build on the success of GA
- **encourage innovation and new technology** – to be at the forefront of research and development, and exploiting the possibilities of new aviation technologies”

4.3.39 As in the APF, the Green Paper noted that the government starts from the position that that the aviation sector is at the heart of the economy:

“Aviation has long been at the heart of the United Kingdom’s economic success”

and

“A thriving aviation sector is tangible evidence of economic confidence, growing tourism, increased trade, and business investment.”^{xix}

4.3.40 This provides the context for why government supports the growth of aviation as part of its sustainable development strategy. In Aviation 2050, the government made clear that it supports the continued growth of aviation:

“The UK has the largest aviation network in Europe and the third largest in the world. Aviation directly contributes at least £22 billion to the economy and supports around half a million jobs. The government supports the growth of aviation and the benefits this would deliver, provided that growth takes place in a sustainable way, with actions to mitigate the environmental impacts.”^{xc}

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

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

4.3.42 The Green Paper elaborated the reasons for this support:

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

Aviation is also an increasingly important facilitator of our modern lifestyles and the means by which many of the goods that we buy online are flown in to the

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

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

4.3.43 The Green Paper, in its Executive Summary, also set out support for the local economic contribution that airports make to the regions within which they are located.

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

- markets are functioning effectively for consumers and local communities*
- airports are delivering the connectivity that regions need to maximise their potential*
- the industry continues to provide high quality training and employment opportunities*
- barriers to the air freight industry are reduced*

The government recognises the importance of rebalancing the UK economy through economic growth of the regions and ensuring that the UK remains competitive after we leave the European Union. Airports have a crucial role to play as hubs for growth within and beyond the region in which they are situated. The government is committed to working with the industry to develop appropriate and practical policies that support the industry's ambitions.”

4.3.44 This is particularly relevant for the airport within the context of the growth aspirations of the SEMLEP region and the Oxford-Cambridge Arc, as explained further in **Section 3**.

4.3.45 Support for airports making best use of their existing runways is reiterated in the Aviation 2050 consultation document, confirming the earlier ‘best use’ policy statement:

“The government has also expressed support for other airports making best use of their existing runway capacity, subject to economic and environmental issues being addressed.”^{”xciii}

4.3.46 The government also confirms that airports seeking to make best use of their existing runways must ensure that environmental and economic issues are addressed. The government is clear that, whilst supporting *“continued growth in aviation over the next 30 years, it also believes that the UK must be more ambitious on environmental protection to ensure that growth is sustainable.”*^{”xciv}

These principles underpin the Proposed Development proposals and are set out in the Applicant's Sustainability Strategy^{xcv} and enshrined in the **Green Controlled Growth (GCG)** proposals^{xcvi}.

4.3.47 The Green Paper addressed the need to tackle climate change and recognised the steps that the sector is already taking to reduce emissions of greenhouse gases and the overarching requirement for action at the international level^{xcvii}. As discussed below, there has been further consultation in respect of the government's policy position in relation to aviation and climate change.

4.3.48 In Aviation 2050, the government also emphasised the importance of airports engaging with the communities around them and indicates clearly that it expects airports to set up community funds proportionate to the growth of the airport so as to ensure that the benefits are shared with communities affected:

"The government believes all major airports should establish and maintain community funds, to invest sufficiently in these so that they are able to make a difference in the communities impacted and to raise the profile of these funds. The levels of investment should be proportionate to the growth at the airport. Community funds are complementary measures to ensure communities get a fair deal and do not substitute for noise reduction."

4.3.49 The Applicant is responding to this by setting up the Community First fund, including a Near Neighbour Fund, to support local communities impacted by growth at the airport^{xcviii}. This is over and above the Applicant's existing and ongoing commitment to supporting the local voluntary and community sector through its Community Funding Programme.

4.3.50 In the context of existing cargo operations at the airport, Aviation 2050 supported growth in air cargo (freight), albeit it is recognised that the main contribution will be delivered by increased global bellyhold¹ capacity at Heathrow:

"The government supports continued growth of the air freight sector particularly making best use of existing capacity at airports, to continue to facilitate global trade for UK businesses and consumers".^{xcix}

4.3.51 Aviation 2050 placed particular emphasis on the importance of general aviation (GA), including the business aviation sector (BA) for which the airport is the pre-eminent airport serving north and central London today. It noted the importance of maintaining a network of GA airfields, as set out in the NPPF 2018^c. The scale of business aviation activity at the airport would suggest that it would be in a strong position within any network based on the criteria identified^{ci}.

4.3.52 Aviation 2050 also emphasised the importance of airspace modernisation, both to deliver more capacity to accommodate growth and to improve environmental compatibility particularly in terms of the effect of noise and emissions^{cii}.

4.4 The Jet Zero consultation

4.4.1 Although the anticipated new Aviation Strategy has not been published, in July 2021, the Department for Transport published a further consultation document on

¹ Bellyhold freight is that carried in the holds of passenger aircraft.

its strategy for net zero aviation, referred to as the Jet Zero Consultation^{ciii}. It is notable that this consultation confirms that that the ANPS and MBU policy continue to have full effect:

“Beyond the horizon: The future of UK Aviation: Making Best Use of existing runways (2018) and Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England (2018) are the most up-to-date policy on planning for airport development. They continue to have full effect, for example, as a material consideration in decision-taking on applications for planning permission. The government is clear that expansion of any airport must meet its climate change obligations to be able to proceed”^{civ}

4.4.2 Ahead of this consultation, the government has already taken steps to include international aviation and shipping within the Sixth Carbon Budget² over the period 2033 to 2037 to ensure that carbon emissions are controlled within the required trajectory to achieve net zero carbon emissions across the UK economy by 2050.

4.4.3 The Jet Zero Consultation makes clear the importance of aviation to the UK economy:

“Aviation and the UK go hand in hand. We were pioneers of early flight, and the sector has long been at the heart of our economic success. It is vital for trade and the distribution of goods, creates jobs, connects friends and family, and – crucially for an island nation – links us to the rest of the world. Flight is essential for our Global Britain ambitions of openness as a society and an economy.”^{cv}

4.4.4 The Foreword to the Jet Zero Consultation sets out the government’s objectives for its strategy going forward:

“It is a strategy that will deliver the requirement to decarbonise aviation, and the benefits of doing so, whilst allowing the sector to thrive, and hardworking families to continue to enjoy their annual holiday abroad; we want Britons to continue to have access to affordable flights, allowing them to enjoy holidays, visit friends and family overseas and to travel for business.

Decarbonising, whilst retaining the connectivity we cherish and preserving our aviation sector means we must act quickly to revolutionise the technologies needed across the aviation industry: develop cleaner aircraft, produce and use more sustainable fuels, and make our airspace and airports more efficient”^{cvi}

4.4.5 This sets the context for the policies contained in the consultation in terms of how the aviation sector can make its contribution to tackling climate change in line with the government’s net zero by 2050 commitment. The consultation sets out a number of potential pathways for achieving net zero by 2050 in terms of sustainable aviation fuels (SAFs), zero carbon aircraft and offsetting/removals.

4.4.6 Whilst the target is for international aviation to and from the UK to attain net zero by 2050, the government is consulting on an earlier target date being applicable to domestic flights, along with the effect of operations at airports themselves on

² A carbon budget places a restriction on the total amount of greenhouse gases the UK can emit over a 5-year period. The Sixth Carbon Budget covers the period 2033-2037.

the ground. Mechanisms such as the UK's own Emissions Trading Scheme (ETS) and the international aviation carbon off-setting programme (CORSIA) are seen as key enablers in the short-term pending the development and implementation of new technologies to deliver lower carbon or zero carbon flight. It is recognised that there may be residual emissions by 2050 that will require carbon removal as a final component of the strategy.

4.4.7 The Jet Zero Consultation makes clear that the government believes that *“the sector can achieve Jet Zero without the Government needing to intervene directly to limit aviation growth.”*^{cvii} Nonetheless, it is clear that the government expects that users will pay for the necessary costs of carbon/abatement of carbon. For this reason, the expected cost of carbon has been included as a key variable in the development of the demand forecasts for the Proposed Development, as explained in **Section 7**.

4.4.8 It is envisaged that, following this consultation, the government will issue its final strategy for the future of aviation and any changes to strategy will be taken into account in the proposed application for development consent if published before submission.

4.5 Aviation policy conclusions

4.5.1 There is clear policy support for aviation growth and for airports making best use of their runways. The MBU policy makes clear that decisions should be taken having regard to *“all relevant considerations, particularly economic and environmental impacts and proposed mitigations”*^{cviii}. This is consistent with policy set out in the APF that growth is supported *“within a framework which maintains a balance between the benefits of aviation and its costs, particularly its contribution to climate change and noise”*.^{cix}

4.5.2 The Proposed Development would contribute to several of the government's emerging objectives for aviation as set out in the Green Paper, namely:

- a. help the aviation industry work for its customers;
- b. ensure a safe and secure way to travel;
- c. build a global and connected Britain;
- d. encourage competitive markets;
- e. support growth while tackling environmental impacts; and
- f. shares the benefits with affected communities.

4.5.3 The Proposed Development is making use of the existing runway, consistent with policy as set out in the ANPS and MBU policy documents. It is being designed in a way that is consistent with the overarching principle of balancing the benefits and environmental costs of development. It will deliver an improved customer experience for passengers using the airport, taking full account of safety and security requirements. Through increased capacity, the airport will improve the competitiveness of the market for airlines seeking opportunities for growth in the South East of England and create opportunities for enhanced connectivity to

support the broader economic growth of the UK economy. It is, hence, considered to be compliant with UK aviation policy.

- 4.5.4 The current key aviation policy documents for the Proposed Development are the Aviation Policy Framework of 2013 and the MBU Policy; although these policy documents may both be replaced by the forthcoming Aviation Strategy. Both of these documents outline strong support for the economic role of aviation and the benefits of airports making best use of runways. This policy support forms an important framework for proposed application for development consent.
- 4.5.5 The ANPS is of relevance in so far as it provides context for airports making best use of their existing runways and also in providing updated guidance on the assessment of effects, including for climate change.
- 4.5.6 Although not yet policy, the recent Jet Zero consultation, referred to in this section, provides further indications as to the government's thinking on the future strategy for aviation. This makes clear that growth, in principle, remains supported and that the focus is on addressing the impacts of aviation rather than constraining economically beneficial growth. The GCG approach put forward as part of the Proposed Development is designed to ensure that the impacts of growth can be mitigated and controlled whilst delivering the anticipated economic benefits set out later in this document.

5 ECONOMIC CONTEXT

5.1 Introduction

5.1.1 This section sets out the economic characteristics of the main sub-regional catchment area served by the airport and the need for air connectivity that this economic activity generates. The focus is on the drivers of demand for business related air travel. This section sets out the context for why the enhancements to air connectivity that growth at the airport can deliver through the Proposed Development matter.

5.1.2 The analysis focuses on a number of key geographies:

- a. the town of Luton, where the airport is located;
- b. the Three Counties area, which represents the sub-region around the airport and its primary labour catchment area. This area includes Bedfordshire, Hertfordshire and Buckinghamshire and, within it, Luton; and
- c. the Six Counties area, which represents the broader functional economic area around the Airport, including key parts of the Oxford-Cambridge Arc. This area includes the Three Counties and also Oxfordshire, Cambridgeshire and Essex.

5.1.3 Where possible given data availability, the analysis presented has focussed on these three areas. However, some contextual data, particularly that on the international economy, is only available at regional level, and, hence, data for the East of England is used on occasion.

5.1.4 The analysis considers a range of issues that are pertinent to the airport's current role as an economic driver but, significantly in the context of the Proposed Development, it considers why growth at the airport in the future will be important. The section considers:

- a. the presence of key sectors that require air travel or are sensitive to the presence of air services;
- b. patterns of international trade and FDI;
- c. the tourism economy;
- d. evidence on areas of deprivation around the airport; and
- e. the extent of business travel from the key geographies.

5.2 Air intensive and air sensitive sectors

5.2.1 One way to consider the importance of air connectivity for the areas around the airport, is to examine the presence of economic sectors that are either drivers of air transport demand, in that they spend significant amounts on air transport, or that are likely to be sensitive to the presence of air transport connections because they spend an unusually high proportion of their transport budgets on air transport. The concept of air intensive and air sensitive sectors was first

introduced in the lead up to the Future of Air Transport White Paper in 2003, drawing on work by Oxford Economic Forecasting^{cx}.

5.2.2 Using data from the Office for National Statistics Input-Output tables^{cx}ⁱ, the top 15 highest spending sectors on air transport (Air Intensive Sectors) and the top 15 sectors with the highest proportion of spending on air transport in their overall travel budgets (Air Sensitive Sectors) have been identified. It should be noted that there is considerable crossover between the two groups. It should also be noted that the analysis is, ultimately, limited by the sectoral definitions within the Input-Output tables and, therefore, it is not always easy to pick out sector clusters. For instance, advanced technology or pharmaceuticals, two sectors known as high value clusters in the South East and East of England, are not specifically identified within the Input-Output tables and, hence, this requires some interpretation of the data to identify the local implications having regard to the nature of the economic activities present.

5.2.3 In **Table 5.1**, data on the extent of employment in these sectors in Luton, the Three Counties and the Six Counties has been set out. This analysis identifies that a significant proportion of employment in each area is in these sectors that are heavily reliant on air accessibility, 27% in Luton, 31% across the Three Counties and 28% in the Six Counties. In volume terms, these sectors employed around 25,400 people in Luton, over 423,650 people in the Three Counties and 797,000 in the Six Counties in 2019. This highlights the current dependence of the regional and sub-regional economy on convenient access to air services. As has been described above, these types of sectors, which are typically internationally focussed and high value added, are also commonly cited by stakeholders as core future drivers for the economy. Their presence is, therefore, likely to increase over time, driving the 'need' for air connectivity to support the economy. Growth at the airport potentially has a key role to play in this context given the airport's location at the heart of the geographic areas described.

Table 5.1: Employment in Air Intensive and Air Sensitive Sectors

Sectors	Luton		Three Counties		Six Counties	
	Employment	% of Total Employment	Employment	% of Total Employment	Employment	% of Total Employment
Air Intensive and Air Sensitive	10,000	11%	219,150	16%	417,700	15%
Air Intensive Only	5,550	6%	79,850	6%	166,050	6%
Air Sensitive Only	9,850	11%	124,650	9%	213,450	8%
Total	25,400	27%	423,650	31%	797,200	28%

Source: York Aviation analysis of ONS Business Register and Employment Survey

5.2.4 The analysis has also considered whether there is evidence of the clustering of air intensive or air sensitive sectors within Luton, the Three Counties or the Six Counties using location quotients (LQ)³. LQs measure the relative concentration of particular activities within an area. A value of greater than 1 suggests that there is a relative concentration of activity in the relevant area which is an indicator of the potential reliance of the local economy on air accessibility, with higher values indicating greater concentration of activity and local reliance. **Table 5.2** shows the air intensive and air sensitive sectors with a location quotient above 1 in each study area. Some of these sectors have also been defined below.⁴

³ A location quotient is a way of quantifying how concentrated a particular industry is in an area as compared to a benchmark. It can reveal what makes a particular region 'unique' in comparison to the national average. In this case, a comparison has been made between different areas of Luton, Three Counties and Six Counties and Great Britain excluding London. It is calculated as the proportion of total employment in a given sector in the area being considered, divided by the proportion that sector makes up of total national employment. A result in excess of 1 suggests a level of concentration.

⁴ Other Professional, Scientific and Technical Activities: This section is comprised of activities such as Specialised Design Activities, Photography & Film processing, Quantity Surveying, Environmental Consultant and various other relevant activities, see ONS Explanatory Notes for more information.

Table 5.2: Air Intensive and Air Sensitive clusters

Luton	
Sector	LQ
Accounting, Book-keeping and Auditing activities; Tax Consultancy	1.1
Three Counties	
Sector	LQ
Activities Of Head Offices; Management Consultancy Activities	1.6
Accounting, bookkeeping and auditing activities; tax consultancy	1.4
Other Professional, Scientific And Technical Activities	1.4
Wholesale And Retail Trade And Repair Of Motor Vehicles And Motorcycles	1.3
Motion Picture, Video & TV Programme Production, Sound Recording & Music Publishing Activities & Programming And Broadcasting Activities	1.1
Sports Activities And Amusement And Recreation Activities	1.1
Six Counties	
Sector	LQ
Other Professional, Scientific And Technical Activities	1.3
Wholesale And Retail Trade And Repair Of Motor Vehicles And Motorcycles	1.2
Activities Of Head Offices; Management Consultancy Activities	1.2

Source: York Aviation analysis of UK Input-Output Tables and Business Register and Employment Survey.

- 5.2.5 Evidence on the concentration of air intensive and air sensitive sectors within Luton itself is limited, with only accounting and related activities having a LQ of greater than 1. This may to some degree reflect the economic challenges facing Luton, but suggests that there should be opportunities moving forward to lever the connectivity of the airport as it grows.
- 5.2.6 Within the Three Counties, other air intensive and air sensitive sectors such as activities of head offices; management consultancy activities and other professional, scientific and technical activities are prominent with location quotients of 1.4 and above. There are also other air sensitive sectors such as motion picture, video & tv programme production and sporting activities that are heavy users of air services, which are concentrated in the area but, to a lesser extent, in the Three Counties. This pattern is consistent with the economic policy and strategy position of stakeholders within the Three Counties area, which is focussed on attracting such high-value added, internationally focussed sectors.
- 5.2.7 The picture within Six Counties is very similar to that of Three Counties, with a primary focus on other professional & scientific activities, motor vehicle trade and head office activities. The data above suggests that within Luton and more importantly, within the Three Counties, there are a number of sectors that are relatively more reliant on air accessibility or, potentially, even strategically located to take advantage of the connectivity offered by the airport. These users could significantly benefit from an airport with improved connectivity, especially in cases where the airport's future connectivity would not just contribute towards enterprise growth but also facilitating new business creation to which the existing connectivity would not have done so. Again, this is reflective of the aims and objectives of key stakeholders across the Six Counties area and, indeed, reflects

the aspirations of the Oxford-Cambridge Arc in terms of the focus on international, high value added key sectors.

- 5.2.8 At all three geographic levels there is clear evidence of strong representation of activities that rely on air transport access more than the average. This highlights the importance of ensuring that air connectivity is enhanced to provide the conditions for these activities to thrive and grow, supporting broader economic growth in the area around the airport.

5.3 High value added employment clusters

- 5.3.1 Another way to consider the airport's potential influence on key clusters is to examine the presence of high value added employment sectors in the areas around the airport. These sectors are often identified by stakeholders as important drivers for the economy but also core parts of the international economy. This analysis focuses on a number of science and technology related sectors and on high technology manufacturing activities. In both cases, the Office for National Statistics has, in recent years, developed statistical definitions of these sectors to enable better understanding of the role they play in the economy.

- 5.3.2 **Table 5.3** sets out the presence of these key science and technology activities in the three study areas using LQs.

- a. In Luton, there are concentrations of aerospace transport and aerospace engineering, alongside clusters of activity in precision engineering, pharmaceutical manufacturing & computer and electronic manufacturing;
- b. Within the Three Counties there is a strong presence in defence technologies, other research & development, computer & electronic manufacturing and pharmaceutical manufacturing. All of these sectors have LQs of 2.0 or above; and
- c. Within the Six Counties, which includes the majority of the Oxford-Cambridge Arc, there is a significant concentration of biotechnology research, research & development, defence technologies and other knowledge intensive services.

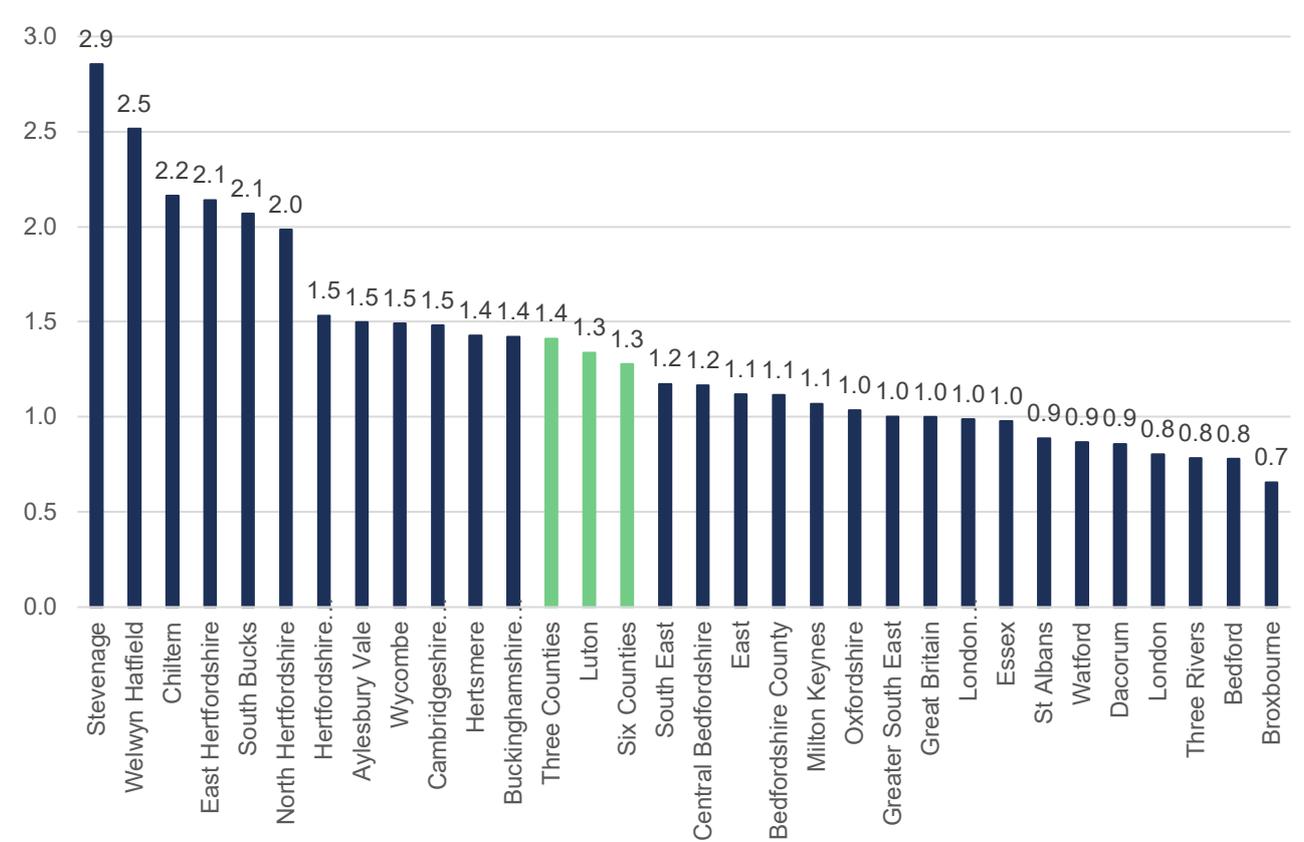
Table 5.3: Science and Tech clusters in Luton, Three Counties and Six Counties in 2019

Luton	
Sector	LQ
Aerospace transport	15.4
Precision engineering	5.9
Aerospace engineering	2.8
Automotive production (inc. vehicles, trailers, railroad, shipbuilding)	2.4
Pharmaceutical manufacture	2.1
Computer & Electronic manufacturing (inc. peripherals)	2.0
Healthcare services	1.2
Total Science & Technology	1.2
Three Counties	
Sector	LQ
Defence technologies	4.8
Computer & Electronic manufacturing (inc. peripherals)	2.1
Other research and development	2.1
Pharmaceutical manufacture	2.0
Biotechnology research	1.9
Other knowledge intensive services	1.6
Precision engineering	1.3
Digital & Computer Services	1.2
Aerospace engineering	1.2
Six Counties	
Sector	LQ
Biotechnology research	4.6
Other research and development	3.5
Defence technologies	2.5
Other knowledge intensive services	2.0
Computer & Electronic manufacturing (inc. peripherals)	1.8
Higher education	1.6
Medical (exc. Pharmaceutical), optical & precision equipment manufacture	1.3
Publishing, Marketing & Graphic Design	1.3
Pharmaceutical manufacture	1.3
Digital & Computer Services	1.2

Source: York Aviation analysis of ONS Definition of Science & Technology & BRES data

- 5.3.3 This, again, suggests that there is a significant base of high value added firms with a need for international connectivity in the areas around the airport. These firms will drive demand for business travel now and in the future. The airport already plays an important role in servicing this demand and its future growth will enable it to play an even greater role.
- 5.3.4 **Inset 5.1** shows the LQs for the high technology manufacturing sectors in the areas around the airport.

Inset 5.1: Employment LQ by High Tech Manufacturing clusters



Source: York Aviation Analysis of ONS Definition of Science & Technology & BRES data

5.3.5 As can be seen, a number of districts, namely Stevenage, Welwyn Hatfield, Chiltern, East Hertfordshire and South Bucks have, in most cases, over double the rate of employment in High Tech Manufacturing compared to the national average. Luton, the Three Counties and the Six Counties, have above average employment in High Tech Manufacturing clusters, which is higher even than that seen in Cambridgeshire and Oxfordshire. This again, suggests a higher than average reliance on air transport in key activity clusters within the airport’s sub-regional catchment area.

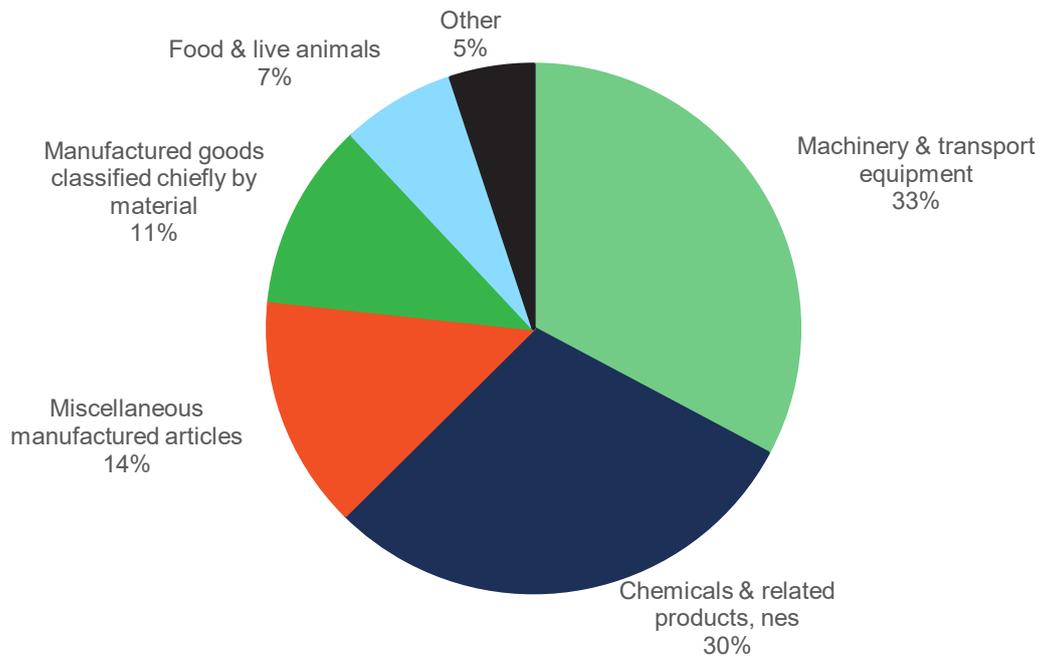
5.4 Trade

5.4.1 London and the East of England account for 36% of the UK’s export of goods and services. This suggests that the underlying economies are likely to be dependent on air connectivity to a high degree given the need to service these. 30% of Gross Value Added (GVA) in the East of England derives from exports, reflecting that the region, much like most of the UK, has a strong international focus, which drives an ever-growing need for international connectivity. This applies to the passenger connectivity required in order to achieve these sales as well as to air cargo connectivity.

5.4.2 **Insets 5.2** and **5.3**, respectively, illustrate the exports by sector for goods and services for the East of England. This highlights a high dependence on exports in professional, scientific and technical activities, finance and insurance activities,

and information and communication activities as well as chemical and related products and machinery and transport equipment. Within these sectors, it is worth noting the importance of the key tech, pharmaceutical and life sciences clusters, which have a strong presence in the region, and that are identified as key drivers of future growth highlighting the expected increasing dependence on exports and internationalisation of the regional economy.

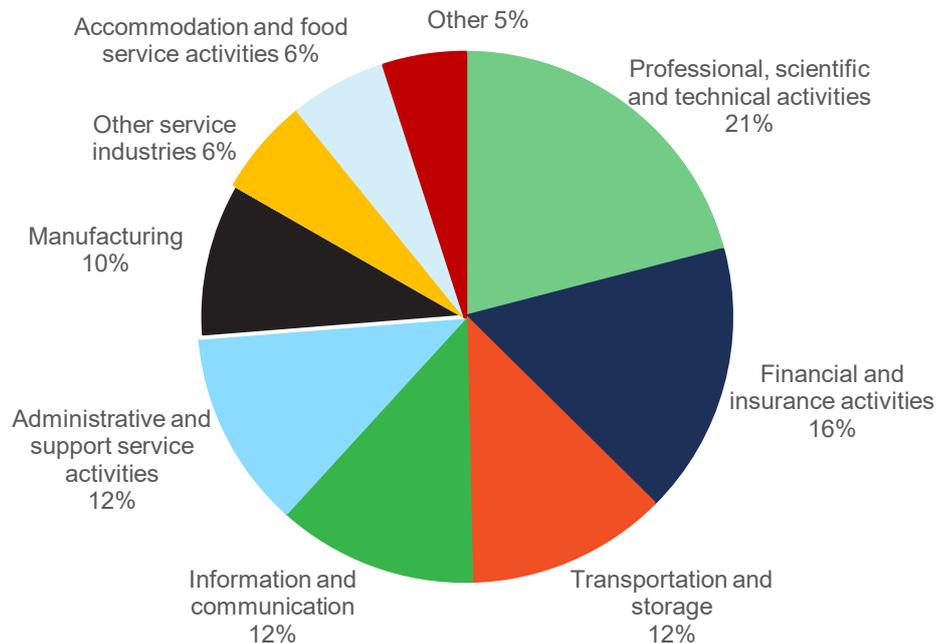
Inset 5.2: Exports in goods by sector for the East of England in 2019



Source: UK Regional Trade Statistics 2019, Trade in goods by value and volume⁵

⁵ nes: not elsewhere specified

Inset 5.3: Exports in services by sector for the East of England in 2018



Source: UK Trade; International Trade in Services; UK Trade in services by industry, country and service type: 2018

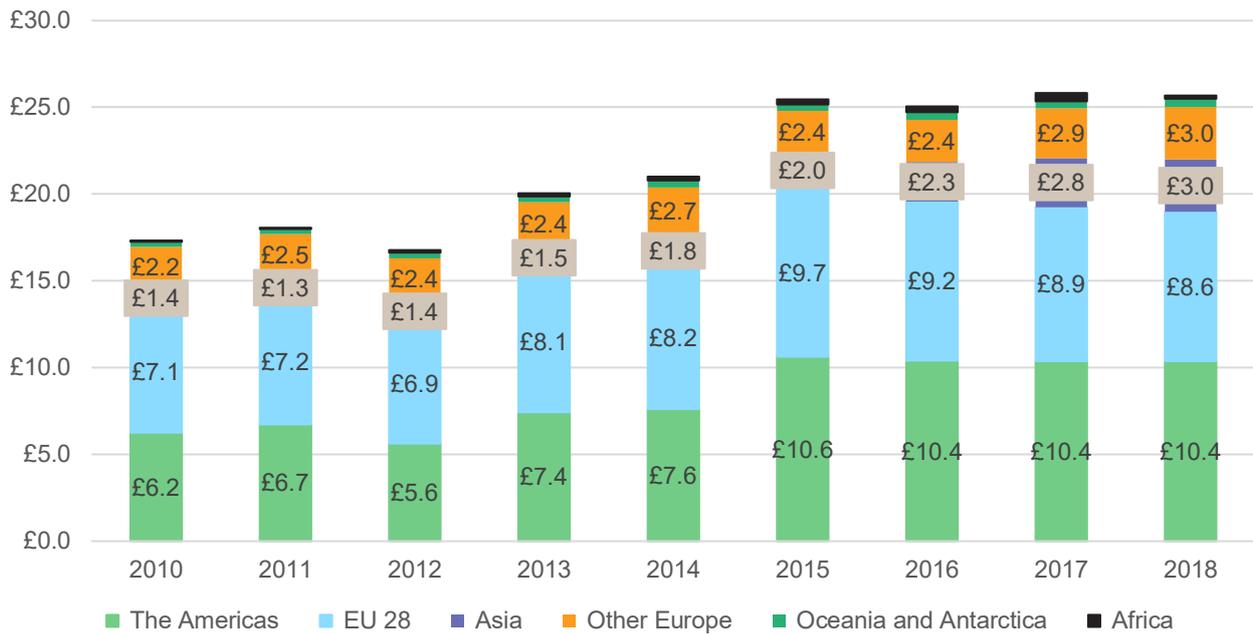
5.4.3 The high reliance on services activities, which accounts for around 77% of regional GVA in the East of England compared to an average of 75% for regions outside of London, suggests a proportionately higher reliance on air transport than the average, as these sectors make more intensive use of air transport than other sectors of the economy. This is reinforced by the significant level of financial and insurance activity contributing to exports, given the strong propensity of this sector to fly. Again, this picture of international activity fits with known strengths of the East of England economy and with the sectors that are expected to drive the economy forward in the future, requiring improved air connectivity through growth, to which the expansion of the airport to 32 mppa can make a major contribution.

5.5 Foreign Direct Investment

5.5.1 Statistics from the Department for International Trade^{cxii} show that the East of England attracted around 260 FDI projects between 2017/18 and 2019/20. In overall terms, the East of England's FDI stock, as represented by the number of foreign owned companies based in the region and the GVA supported by those companies, is significant.

5.5.2 According to the Annual Business Survey, there were around 9,264 foreign owned companies in the region in 2018 (around 3% of the total), supporting around £25.7 billion in GVA (around 24% of the total). This demonstrates the importance of foreign owned companies and FDI in supporting the regional economy. While the number of companies is relatively small in percentage terms, these companies account for nearly a quarter of regional GVA. The growing importance of foreign owned companies within the East of England can be seen in **Inset 5.4**.

Inset 5.4: GVA of Foreign owned companies in the East of England by world region of ownership (£ billions)

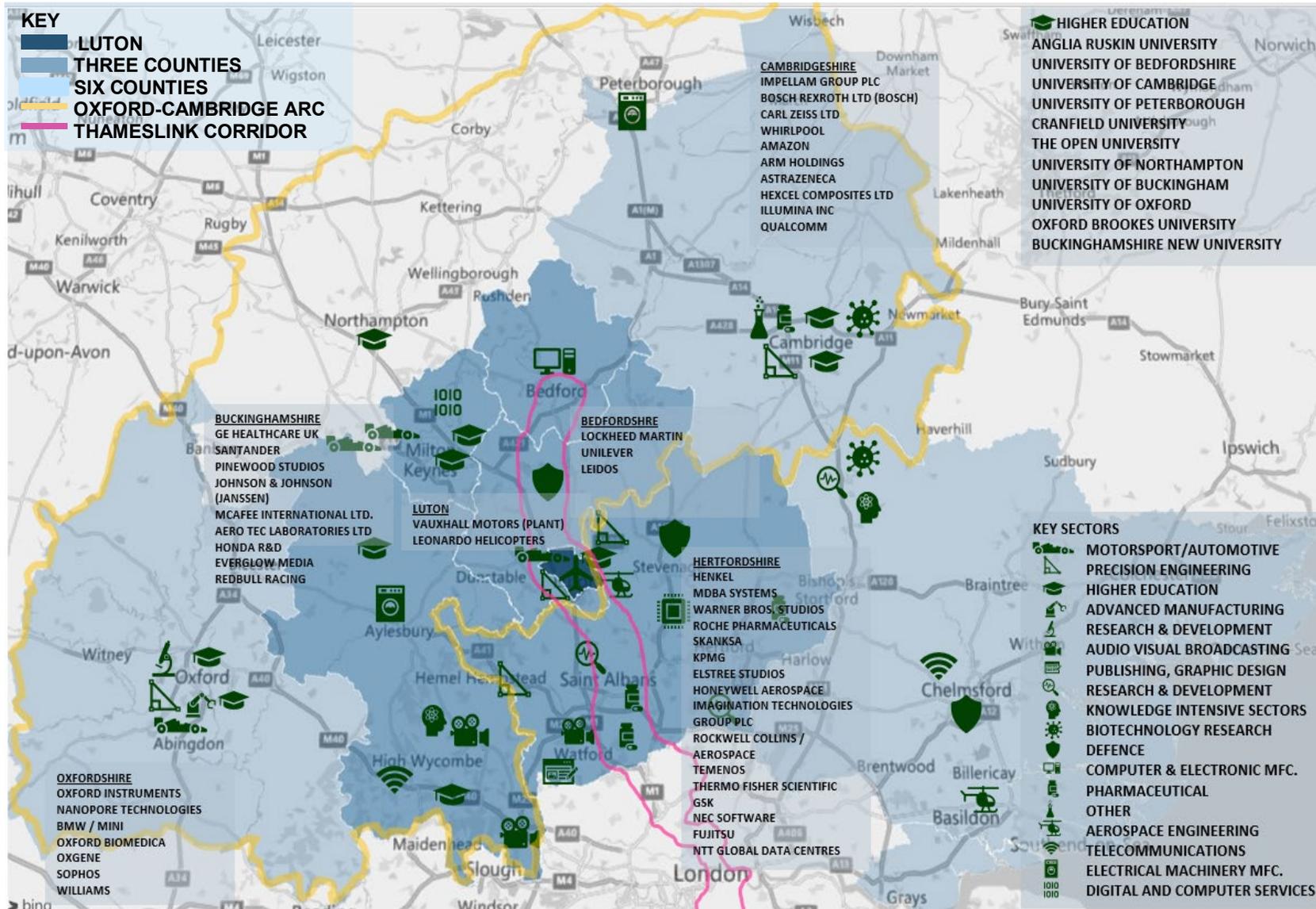


Source: ONS (2020). Annual Business Survey - UK Non-Financial Business Economy Foreign Owned Businesses

5.5.3 In the context of the role played by the airport, and also by Stansted Airport, in supporting inward investors to the East of England region, it is important to note that the EU is the second largest grouping in terms of the GVA supported by foreign owned companies. Overall, Europe, in its entirety, is the largest source of FDI. This is a close match to the connectivity provided by the airport currently and serving European markets is expected to remain the airport’s core role in the future. In the context of Brexit, it should be noted that the EU’s proximity and the fundamental size of the EU economy and the extent of the UK’s economic links with the EU means that this position is not likely to change significantly in the future. However, with growth in the future, the airport is also expected to provide connectivity to a range of long haul destinations notably to the Middle East hubs and the eastern seaboard of the USA. This would enable it to better support current and future investors from parts of Asia and the Americas.

5.5.4 **Inset 5.5** illustrates some of the key assets in the international economy around the airport. It shows the presence of a range of major companies, many of which are multinationals, alongside the Higher Education Institutions in the region, many of which are key drivers for innovation and economic growth. It demonstrates the presence of a wide range of high-value added sectors and clusters around the airport, including precision engineering, pharmaceuticals, research and development, aerospace and defence, bio-technology, advanced computing and electronics, and the creative industries. Some of the key firms located in the area can be identified, including North American businesses such as Johnson & Johnson, Sophos, McAfee, Lockheed Martin, Warner Brothers Studio and more, combined with European firms, such as Carl Zeiss, Bosch, Skanska and Santander, and UK firms, such as AstraZeneca, Vauxhall and Unilever.

Inset 5.5: Map of key international assets in the areas around the airport



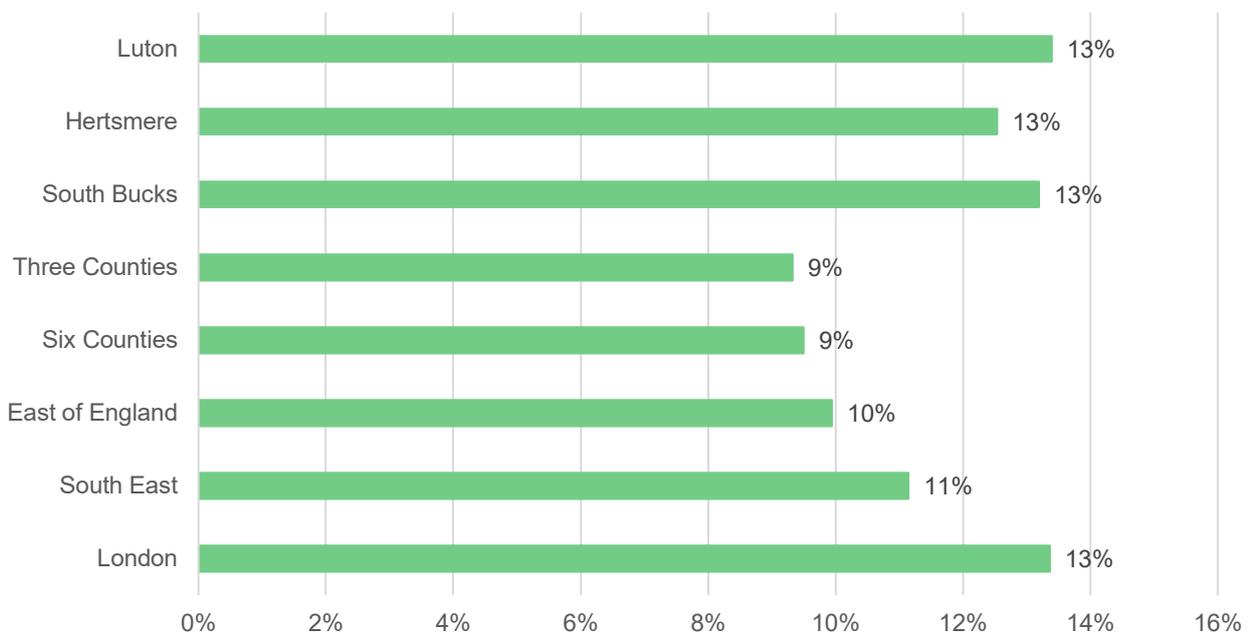
Source: York Aviation analysis of ONS definition of Tourism & BRES Data

5.5.5 The airport already plays an important role in supporting these key sectors and clusters through the provision of short-haul connectivity and growth in the future will help to ensure that these existing companies can continue to operate efficiently, with connectivity to meet their growing needs, and that the region remains an attractive and competitive proposition for new investors.

5.6 Tourism

5.6.1 The importance of the tourism sector as an employer is outlined in **Inset 5.6**. As can be seen, Luton in Bedfordshire, Hertsmere in Hertfordshire and South Bucks in Buckinghamshire, have the highest dependency on tourism in the Three Counties, with around one in eight employees employed in the sector, in comparison to around one in eleven in the Three Counties and Six Counties and around one in ten in the East of England.

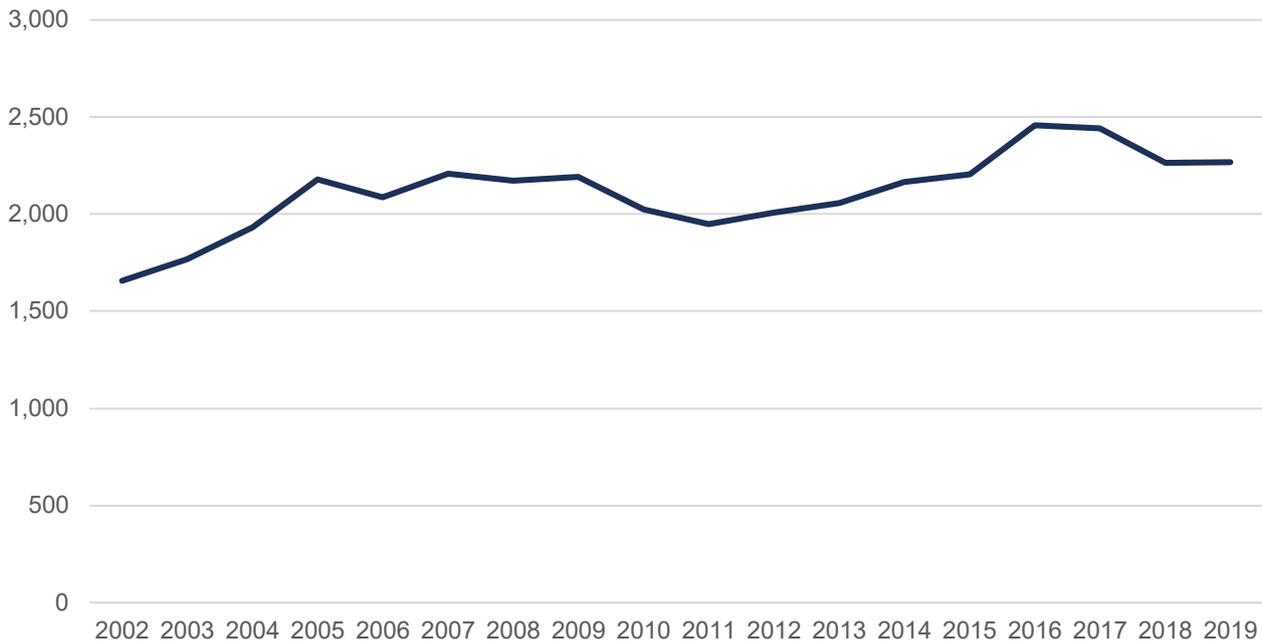
Inset 5.6: Percentage of employment in the Tourism sector (2019)



Source: York Aviation analysis of ONS definition of Tourism & BRES Data

5.6.2 International tourism in the East of England has been growing over time. As can be seen in **Inset 5.7**, the long run trend in international visitors has been steady with an upward trajectory, growing from around 1.95 million in 2011 to close to 2.3 million visitors in 2019.

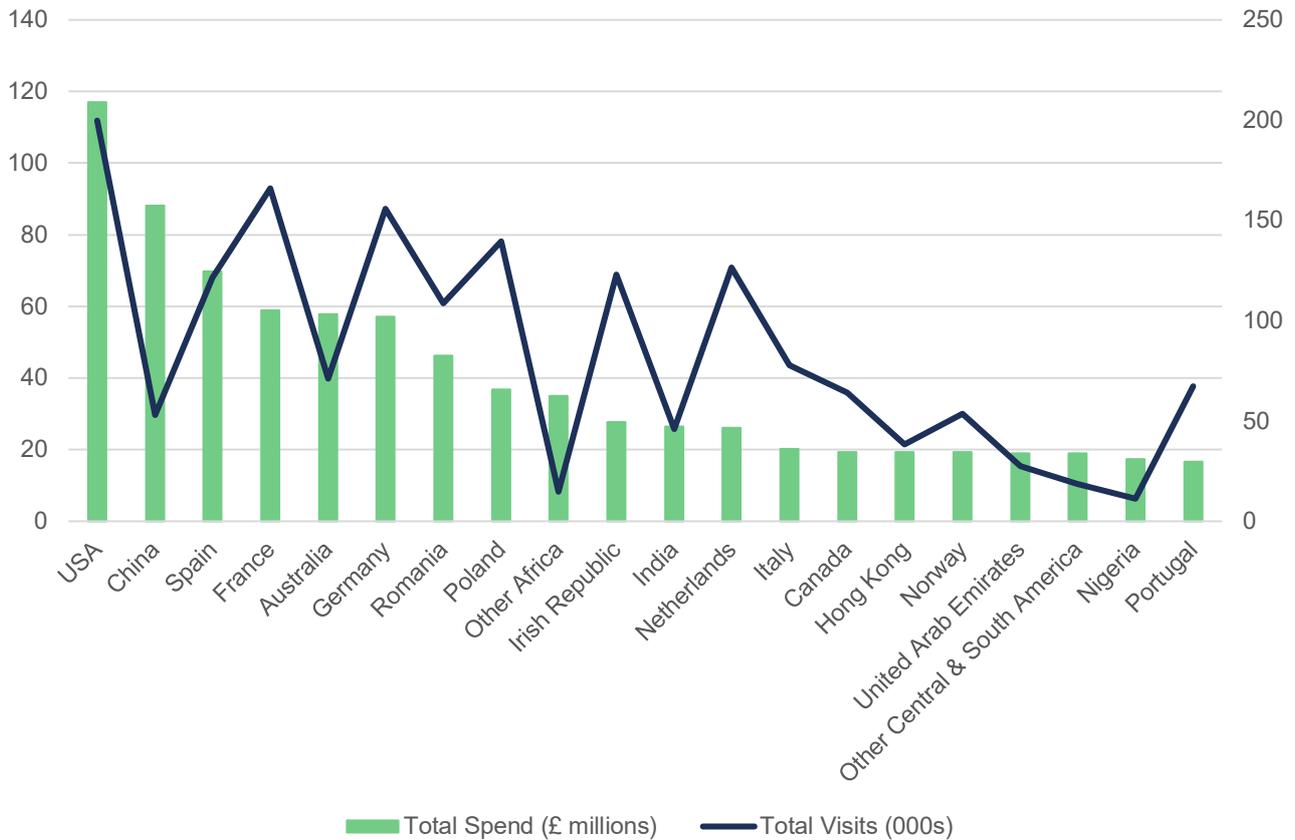
Inset 5.7: International visitors to the East of England (000s)



Source: Visit Britain: Nation, Region and County data

5.6.3 **Inset 5.8** shows the key international markets for the East of England tourism sector in 2019. This shows a number of European short haul markets, namely Spain, France, Germany and Ireland in Western Europe and Romania and Poland in emerging Europe. It is worth noting that these destinations are already served from the airport, which means that it is well placed to attract key inbound visitors from these markets. With growth in the network in the future, it has the potential to increase its role and bring in more visitors.

Inset 5.8: Top 20 Markets for inbound visitors to East of England in 2019 (000s)



Source: Visit Britain Tourism Statistics (2019)

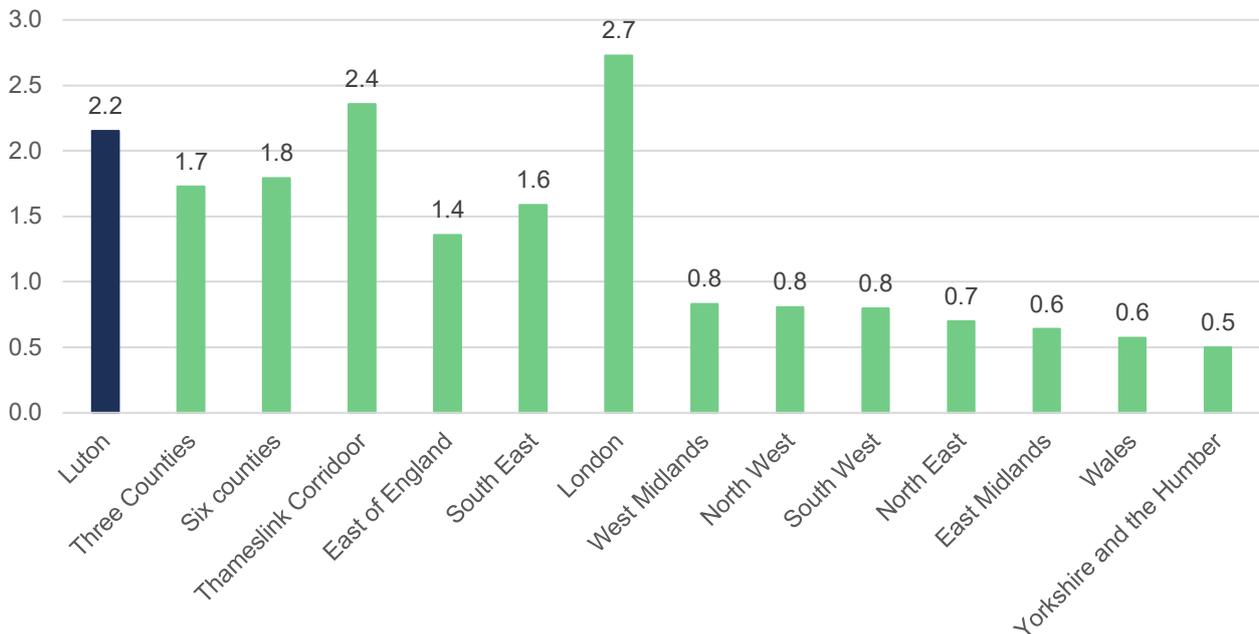
5.6.4 Air connectivity is central to attracting visitors from these markets. In 2019, over 75% of international visitors to the East of England Region arrived by air, demonstrating clearly the importance of air access and the potential opportunity offered by future expansion.

5.6.5 To the extent that future growth enables a greater focus on the key long haul markets, there are potentially clear benefits in accessing key tourism markets for the East of England, such as the USA and China, albeit via convenient hub airports, which could be expected to increase tourist visits to the region materially.

5.7 Propensity to fly for business

5.7.1 The extent of the underlying economy of the area around the airport and its reliance on air service access, coupled with its fundamental ‘internationality’, is also reflected in the propensity of the employment base to use air services. **Inset 5.9** shows the number of business flights per head of employment to/from the study areas and a number of comparator areas.

Inset 5.9: Business flights per person employed in 2019



Source: York Aviation Analysis of CAA Passenger Survey 2019 and Business Register and Employment Survey

5.7.2 The results suggest that Luton itself has an above average propensity to fly for business compared to most regions in the UK. This highlights the important role that the airport plays in supporting the local economy. It also identifies that the larger study areas of Three Counties and Six Counties also have a relatively high propensity to fly for business. This strongly demonstrates that there is a need for air connectivity for business travel in Luton and its surrounding areas, where the airport currently draws the majority of its passengers from.

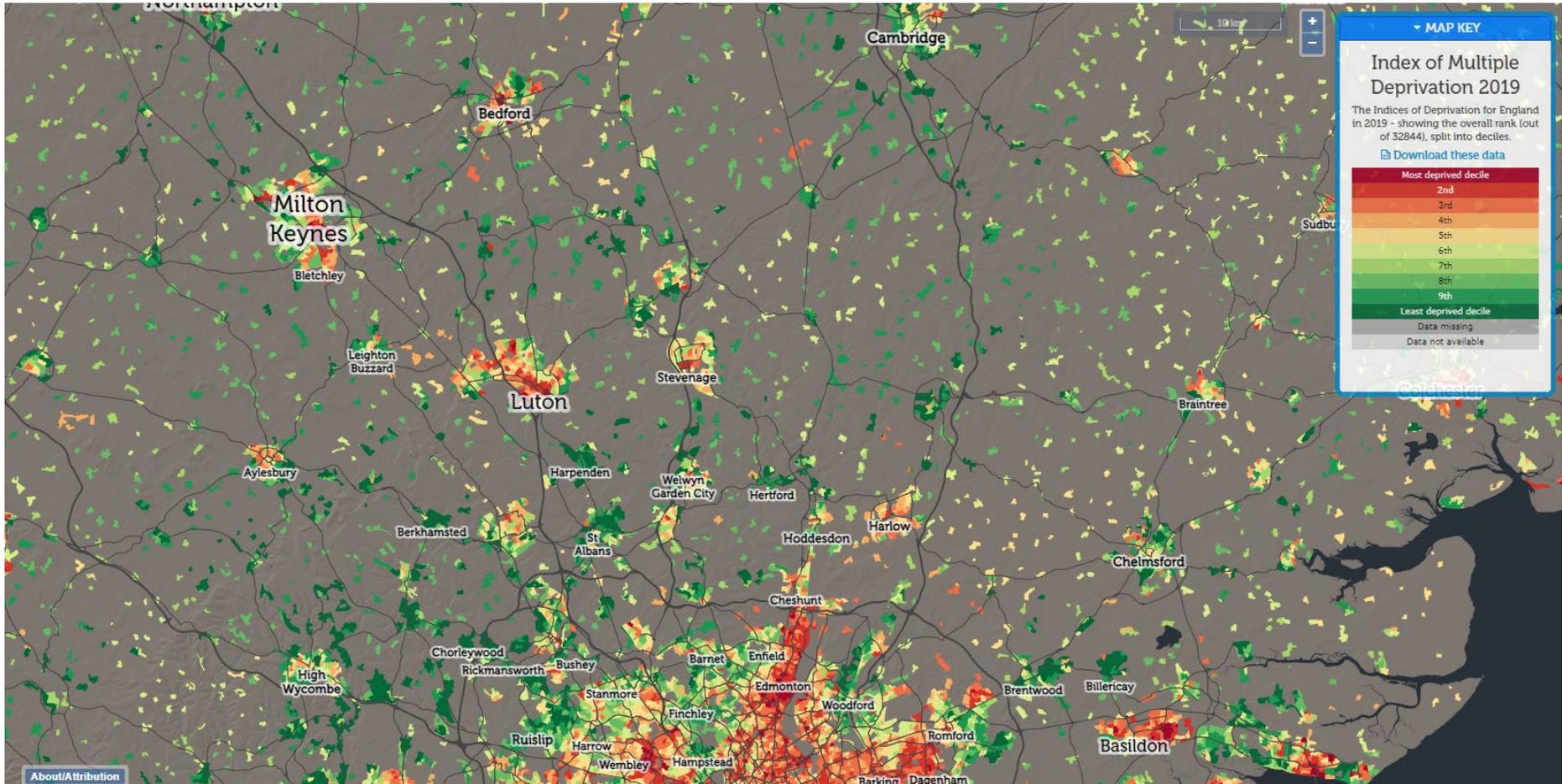
5.7.3 Looking forward, and bearing in mind the expected focus of economic growth in the area in the future, it is clear that this existing need for connectivity will grow and that the airport has an important role to play in enabling this demand. Conversely, it should also be recognised that if the airport cannot grow and the region around the airport falls behind in terms of its connectivity offer, then it is likely that some of the businesses that support this demand currently will move away or refocus their growth to areas that can support their needs.

5.8 Deprivation

5.8.1 The airport's role within its catchment area is not just confined to the provision of air connectivity to passengers. It also plays an important part in tackling deprivation in Luton and across the Three Counties by providing sustainable employment and economic prosperity.

5.8.2 **Inset 5.10** shows a map of the Index of Multiple Deprivation for the areas around the airport. It reinforces the messages from economic policy review that, while the broad region around the airport is relatively affluent, there are still pockets of severe deprivation.

Inset 5.10: Deprivation Index across the sub-region



Source: CDRC Maps for IMD

- 5.8.3 A number of these areas of deprivation are close to the airport, notably in Luton itself, Bedford, Stevenage and Milton Keynes, and the airport already plays a role in addressing the issues in these areas. Over a quarter of the Lower Super Output Areas (LSOAs) in Luton, around 14% in Bedford and 12% in Milton Keynes are amongst the 20% most deprived LSOAs in the country. Future growth at the airport will significantly increase the role it can play in addressing deprivation in these areas, both as a source of direct employment, but also as a general economic driver for the area. This is being addressed through the development of an **Employment and Training Strategy**^{cxiii} which will be targeted at ensuring that residents in areas of deprivation are able to access the higher value jobs that the Proposed Development will create.
- 5.8.4 This pattern also highlights the need to ‘level up’ these areas of deprivation within the overall region around the airport. While the Oxford-Cambridge Arc, for instance, has the potential to be an internationally significant economic region, it is vital for its overall success that its less deprived areas are able to share in its success.
- 5.8.5 Overall, the key message is clear: Luton has one of the highest levels of deprivation in the East of England and higher than the majority of the rest of the region. This suggests a need for the development of the airport to directly contribute towards ‘levelling up’ the economic prosperity in Luton and help facilitate indirect contributions through its business and leisure users.

5.9 Summary

- 5.9.1 The airport is situated at the heart of an internationally focussed region, as has clearly been recognised by the establishment of the Oxford-Cambridge Arc. The area is home to concentrations of economic sectors that are demonstrably reliant on air travel and that offer significant opportunities for future growth. The international nature of the economy within the airport’s ‘home’ region is further reflected in the high levels of exports from the region and the high and growing proportion of regional GVA that is supported by foreign owned companies.
- 5.9.2 At the same time, there are very real pockets of deprivation around the airport, notably in Luton itself, Bedford, Stevenage and Milton Keynes. In this context, the growth of the airport to 32 mppa is of dual economic importance. It is needed to ensure that the areas around the airport continue to have access to a strong and, crucially, growing base of connectivity to support their international economies, both by retaining existing companies but also through attracting new investment. At the same time, growth at the airport represents a significant opportunity to create jobs and address deprivation, backed by the **Employment and Training Strategy**.

6 LONDON LUTON AIRPORT'S CURRENT MARKET PERFORMANCE

6.1 Introduction

6.1.1 As set out in the previous section, the airport has been one of the UK's fastest growing airports over the last decade and had reached the passenger capacity limit of its existing planning permission prior to the onset of the Covid-19 pandemic. This section provides some background on the current performance and operations at the airport. The following sections will then set out the current growth forecasts for the airport, explain how this growth will be accommodated by the Proposed Development and then set out the economic benefits of expansion.

6.1.2 In the light of the Covid-19 pandemic and the implications that travel restrictions had on the use of air travel, 2019 is adopted as the base year for all assessments as 2020 and 2021 are unrepresentative of the expected future operational characteristics as travel restrictions are eased. 2019 forms the baseline for the environmental and other assessments supporting the application for development consent.

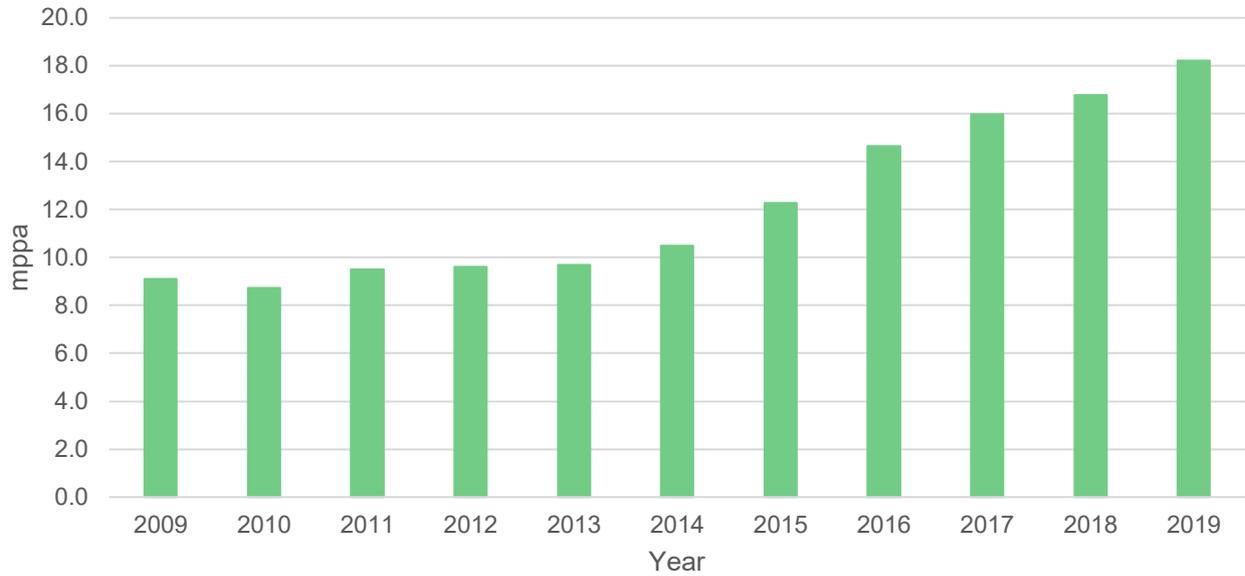
6.2 Current and recent passenger and aircraft movement growth

Passengers

6.2.1 In 2019, passenger throughput was recorded by the CAA at nearly 18.2 mppa^{cxiv}, an increase of nearly 8.6% over the previous year. This number exceeded the planning cap of 18 mppa, as infants are excluded from the calculation of the cap but included within the CAA data. For forecasting purposes for the application, the CAA recorded data has been adopted as the baseline.

6.2.2 Over the last 10 years, the airport has seen significant growth in passenger numbers. Following the economic downturn in 2008, there was a decline in passenger numbers, common to all UK airports. However, the airport returned to growth in 2010 and has seen continual growth since that time. The airport was, in 2019, the UK's fifth largest by passenger traffic. Since 2009, passenger throughput has increased by 99.8%, representing a compound annual growth rate (CAGR) of over 7%. This growth is even more significant when compared to the post-recession low point in 2010, with 2019 passenger throughput representing a 109% increase in passengers since that time. Significant growth occurred from 2013 onwards, representing a CAGR of 11.1% over the five-year period to 2019, as shown in **Inset 6.1**.

Inset 6.1: London Luton Airport passenger traffic

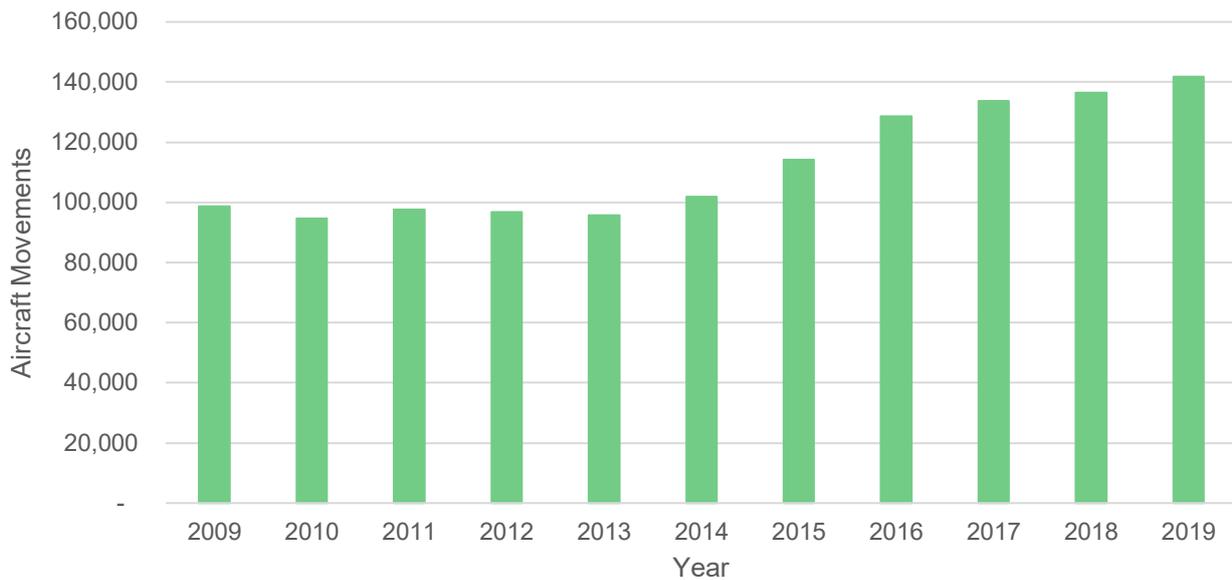


Source: CAA Airport Statistics

Aircraft movements

6.2.3 Throughout the same 10-year period, from 2009 to 2019, aircraft movements have also grown, although at a slower rate than overall passengers. **Inset 6.2** below shows some reduction in movements following the economic downturn in 2008, followed by a relatively flat period to 2013 where a noticeable recovery begins in line with passenger growth. The decline in aircraft movements associated with the recession included not only commercial passenger flights, but also business aviation, and that the recovery of the latter category also started in 2010, mirroring the general trends in aviation demand growth seen across the UK. The total aircraft movement figures shown in **Inset 6.2** consist primarily of commercial passenger aircraft movements but also include business aviation, cargo and a small number of aircraft maintenance related movements.

Inset 6.2: Aircraft movements at London Luton Airport



Source: CAA Airport Statistics

6.2.4 In 2019, total aircraft movements were 43.7% higher than in 2008, at nearly 142,000. The slower growth in aircraft movements compared to passenger volumes can be attributed mainly to the increase in passengers per aircraft movement, driven by higher load factors⁶ and larger average aircraft size. The growth in passengers per aircraft movement has been greater than expected at the time of the planning permission (12/01400/FUL) for Project Curium⁷ when the total number of aircraft movements at 17.8 mppa was expected to reach 157,000 a year^{cxv} by 2028. However, because of the increase in the number of passengers carried by each aircraft, the overall growth in passengers has been achieved with a lower number of aircraft movements with clear environmental benefits.

Business aviation aircraft movements

6.2.5 Business aviation is the use of general aviation aircraft for company business and also includes private aircraft and air taxis. Overall, there has been a reduction in business aviation aircraft movements over the last 10 years, with an initial 31% fall from the pre-recession peak of activity of 36,000 annual aircraft movements in 2007. Business aviation movements have regained ground slowly since the recession but remained below this peak in 2019 at 28,100 annual aircraft movements.

6.2.6 The decline in business aviation movements, which remain below the numbers expected as part of Project Curium, relates partly to the effect of faster growth of commercial passenger operations restricting the availability of slots at peak periods and apron areas for the parking of such aircraft. More recently, in order

⁶ The load factor is the proportion of seats sold on each flight.

⁷ Project Curium was the project carried out by LLAOL to increase capacity at the airport to 18 mppa and which gained planning consent in 2014.

to limit the impact of the airport’s operation at night, further scheduling restrictions have been placed on such operations in the night period. The effect of this has been some reduction in the number of such movements, which in 2019 made up 28,106 of the aircraft movements shown in **Inset 6.2** above.

Cargo aircraft movements

- 6.2.7 Cargo aircraft movements initially fell by 41% following the recession from a peak of 2,885 cargo aircraft movements in 2007. Cargo movements have since had a flatter profile of growth compared to passenger aircraft movements from 2009 onwards, and have now returned to 2007 levels with 2,800 such movements in 2019, including empty positioning flights.
- 6.2.8 In general, across the UK, the market for pure cargo flights has been declining but many of the cargo operations at the airport are by DHL, which operates an integrated cargo solution specialising in express parcels, often associated with e-commerce. Such operations continue to grow within the UK, principally at East Midlands Airport. In the cargo sector, the airport fulfils a complementary role to Heathrow, with the focus on inbound deliveries of high value and urgent goods to London and the wider South East.
- 6.2.9 During the Covid-19 pandemic, an increased proportion of cargo was carried by dedicated cargo aircraft as the availability of bellyhold capacity was reduced as passenger services were largely suspended in response to international travel restrictions and decreased passenger demand. The increased reliance on cargo aircraft has been short-term and in direct response to the transient market conditions brought by the pandemic and, therefore, it is appropriate to use 2019 as the baseline for future cargo aircraft movement forecasts at the airport.
- 6.2.10 **Table 6.1** below shows the breakdown of the recorded number of aircraft movements by type of operation between 2017 and 2019.

Table 6.1: Aircraft movement categories

	2017	2018	2019
Passenger	103,492	105,351	110,545
Cargo ⁸	1,924	2,300	2,826
Business Aviation	30,047	29,027	28,106
Other	58	79	4
Grand Total	135,521	136,757	141,481

Source: LLAOL

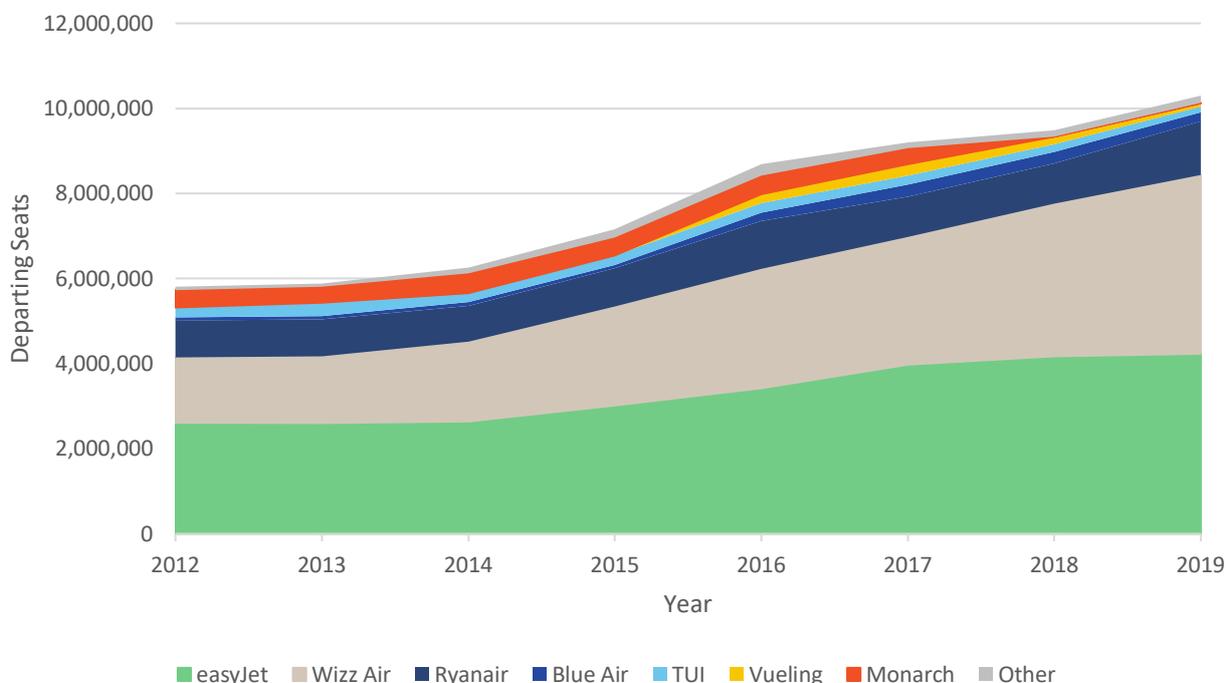
Routes and airlines

- 6.2.11 Airline services at the airport are dominated by low fares airlines and, in 2019, three low fares carriers, easyJet, Wizz Air and Ryanair, accounted for over 94% of all available seats, up from 86% in 2012. EasyJet has historically been the

⁸ This includes empty positioning flights.

largest operator at the airport but, in 2019, Wizz Air matched easyJet’s total seats available throughout the year. Wizz Air has made the airport its principal UK base. This growth in dominance by the three big low fare airlines can be seen in **Inset 6.3** below.

Inset 6.3: Departing seats by airline 2012-2019 from the airport



Source: OAG^{cxvi}

6.2.12 The demise of Monarch Airlines in 2017 further bolstered the share of the three dominant carriers. Wizz Air’s acquisition of Monarch’s runway slots has helped the former’s recent growth. TUI is the largest charter airline at the airport but, since 2012, has seen a reduction both in its share of available seats (from 4% in 2012 to 1.3% in 2019) and also in the actual number of seats available. Other airlines at the airport in 2019 included low fares airlines such as Blue Air and Vueling, as well as El Al of Israel and a handful of other airlines that provided limited seat capacity.

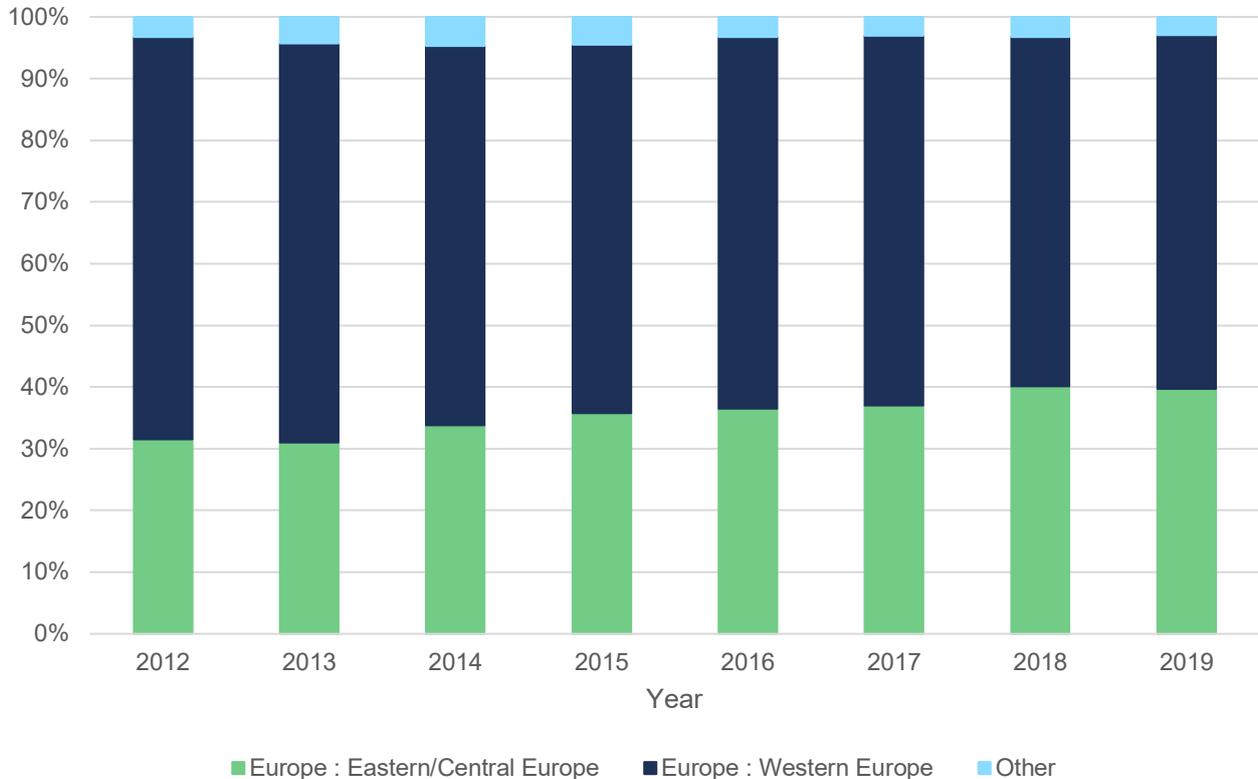
6.2.13 The business models of the predominantly low fare airlines, focusing on short haul services currently, is reflected in the route network. In 2019, over 97% of seat capacity was on short haul routes to Europe (including domestic services⁹) and North Africa. This represents a small decline in the short haul share since 2012 due to some growth in capacity to Tel Aviv (as Wizz Air entered this market) but, on the whole, the geographic balance in the network has changed little although specific destinations may have changed. However, the growth of Wizz Air and Blue Air at the airport means that the short haul¹⁰ network is now more

⁹ Services within the United Kingdom.

¹⁰ Short haul refers to flights principally to destinations in Europe, including UK domestic flights.

balanced between Western and Eastern/Central Europe, as can be seen in **Inset 6.4**.

Inset 6.4: Geographic composition of seat capacity available at the airport



Source: OAG

6.2.14 This growth in the European network has also seen the total number of destinations served grow from 100 in 2012 to 159 in 2019.

6.2.15 In 2019, around 7% of passengers were using domestic services, mainly operated by easyJet. There are currently seven key domestic destinations including the Channel Islands and Isle of Man. In 2018, Belfast was the largest by passenger numbers, followed by Edinburgh and Glasgow respectively.

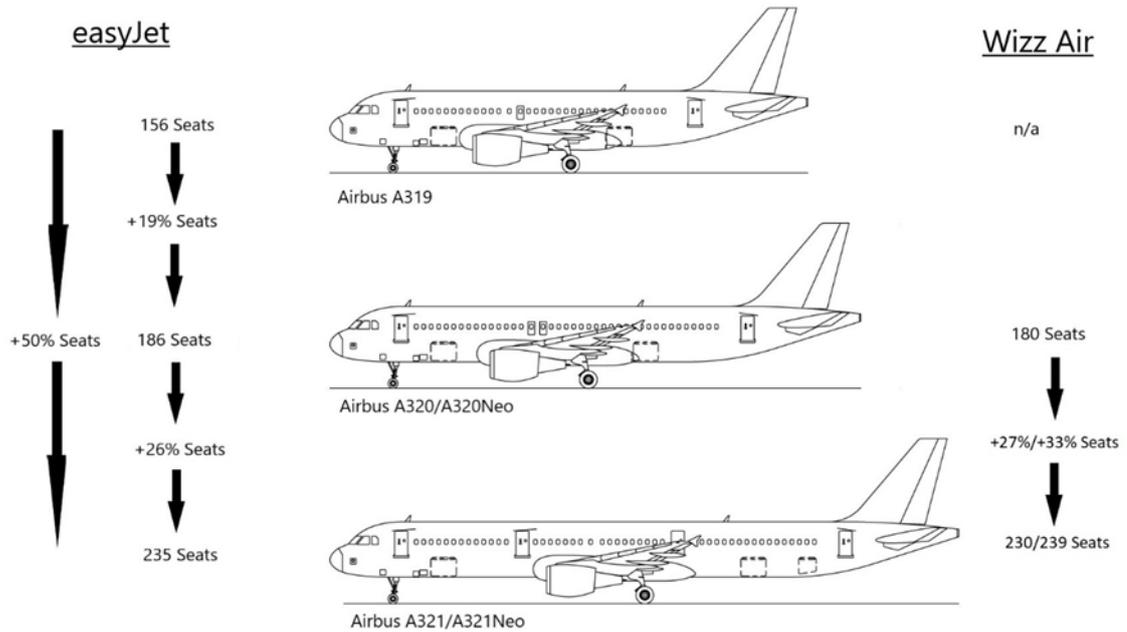
Growth in aircraft size and load factors

6.2.16 The average number of passengers per movement has seen a rapid increase in recent years, climbing from 138 passengers per aircraft on average in 2012 to 165 in 2019. This means that recent passenger growth has not been matched by the same rate of growth in the number of aircraft movements. This has been the result of two key drivers combined:

- a. the average number of seats available on each flight has been increasing at the airport; and
- b. airlines have been selling a higher proportion of the seats available on each flight (known as the load factor).

6.2.17 The average number of seats available on each flight has been increasing as airlines have been replacing their older aircraft with larger versions of the same aircraft families. The two largest carriers at the airport, easyJet and Wizz Air, have both been upgrading their Airbus A320 family aircraft to larger versions. These are essentially stretched variants of the same basic aircraft with more seats on board. The scale of seat increase in each case is shown in **Inset 6.5**. This trend is expected to continue as airlines upgrade their current fleets over the next decade.

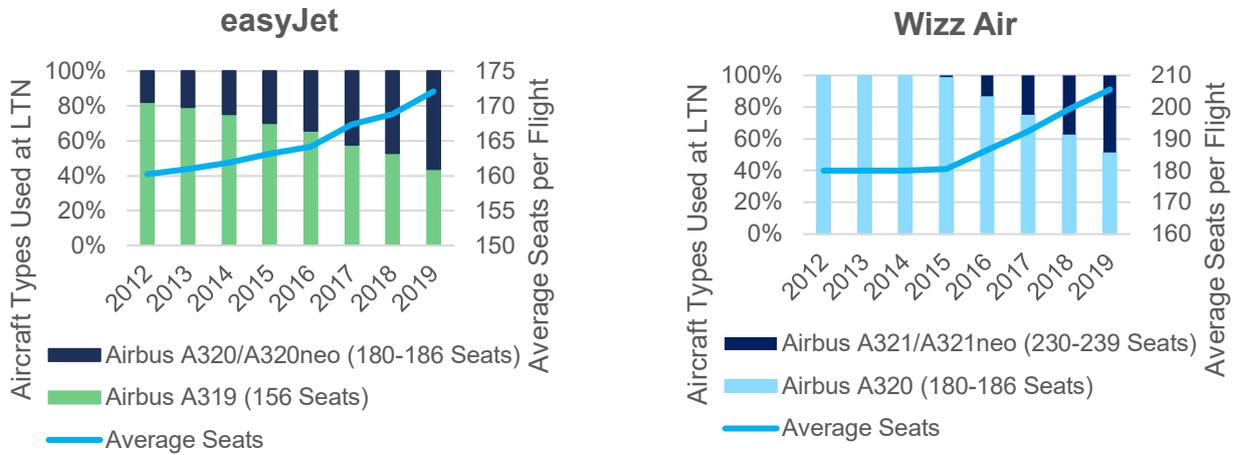
Inset 6.5: Relative increase in seats per aircraft for easyJet and Wizz Air



Source: OAG/York Aviation

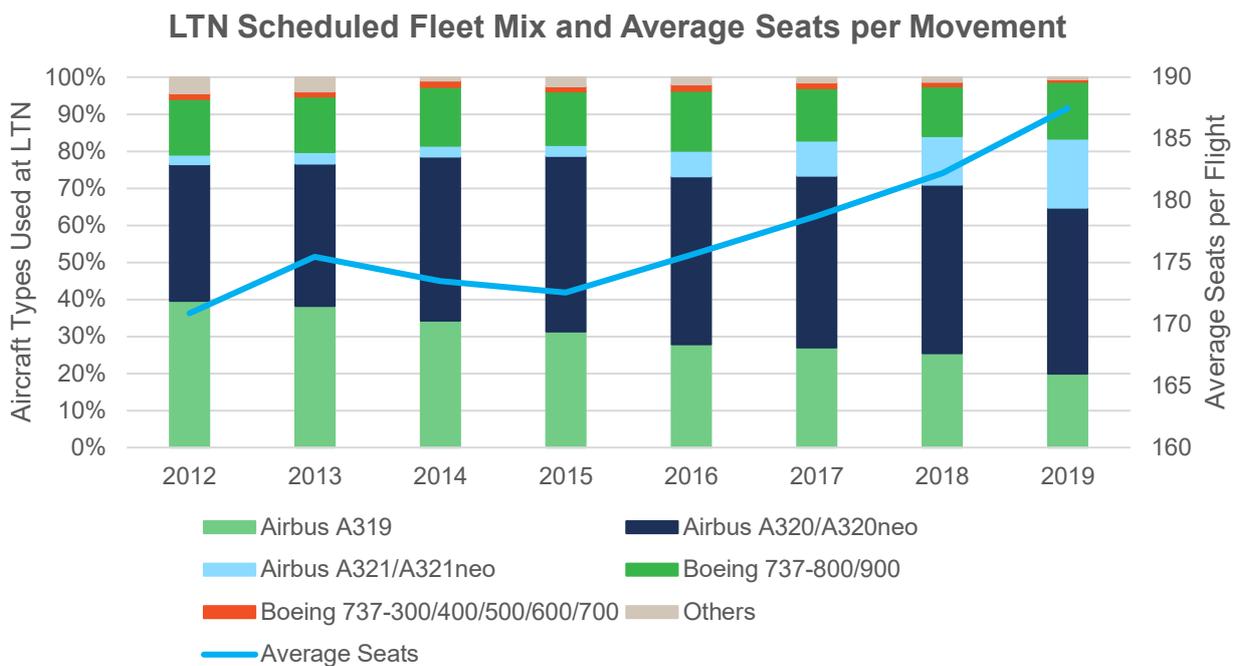
6.2.18 **Inset 6.6** goes on to illustrate the balance of aircraft types scheduled to operate at the airport for each of these two key carriers since 2012 and the subsequent average seats per movement. As the two largest carriers, easyJet and Wizz Air have played a significant role in underpinning average aircraft size growth across the airport as a whole. **Inset 6.7** shows the fleet mix and resultant average seats per flight for the airport as a whole from 2012 to present.

Inset 6.6: Fleet breakdown and average seats per aircraft movement for easyJet and Wizz Air at the airport



Source: OAG / York Aviation

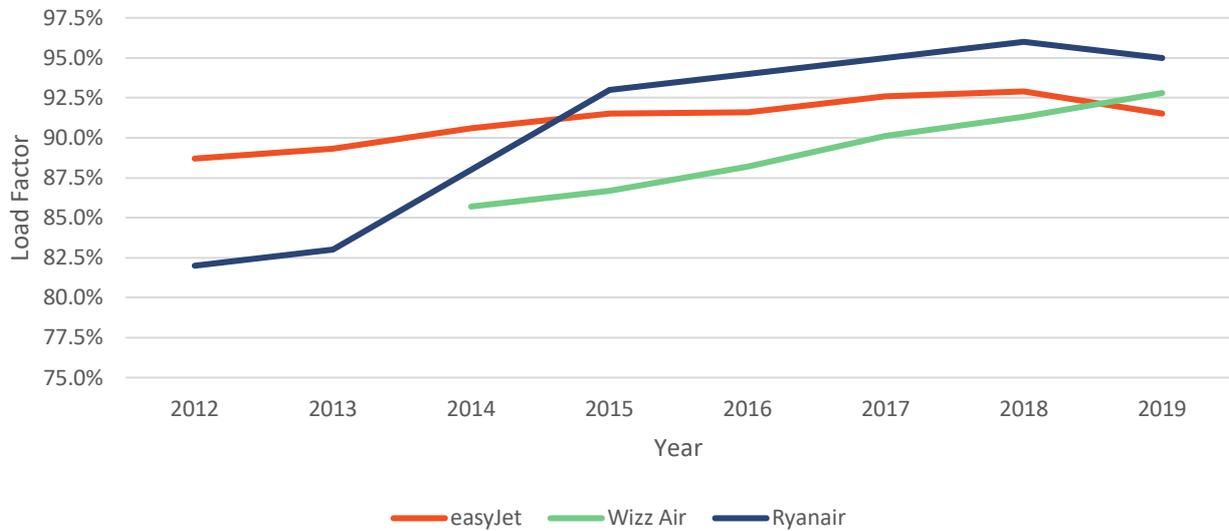
Inset 6.7: Scheduled fleet mix and average seats per aircraft movement at the airport



Source: OAG/York Aviation

6.2.20 Combined with this upward shift in aircraft capacity, the main airline operators have also been increasing the proportion of seats sold on each flight (the load factor). Whilst low fares airlines, such as easyJet, historically aimed to sell in the region of 85% of all seats, that figure has increased rapidly in recent years to over 90% across their networks. **Inset 6.8** shows the average load factors for the airport’s three largest carriers across their whole networks over time and illustrates the clear upward trend.

Inset 6.8: Network-wide average load factors for key airlines



Source: Airline Annual Reports

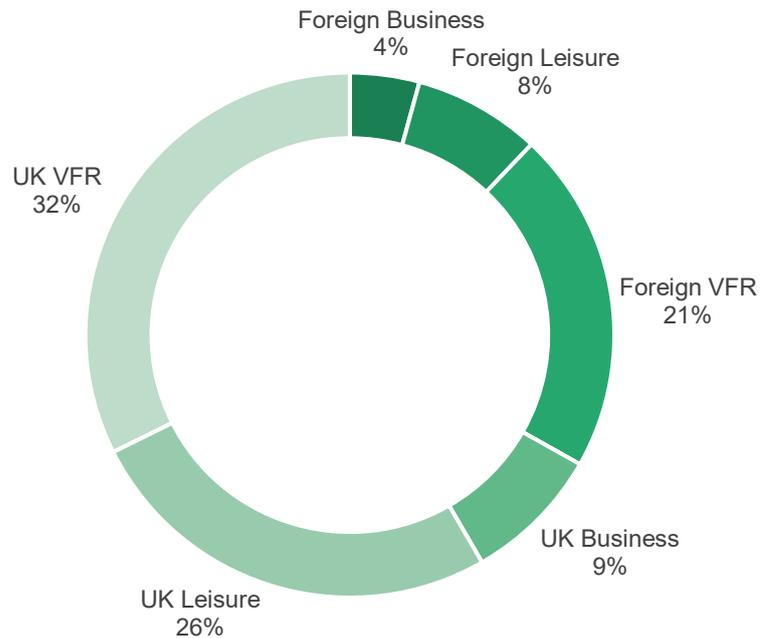
6.2.21 The general trend towards higher load factors by these carriers has applied equally at the airport, where it is estimated that the average load factor across all airlines climbed from 81% in 2012 to 86% in 2019.

Passenger characteristics

6.2.22 The CAA carry out surveys of passengers at the main UK airports, including the airport, to ascertain their characteristics¹¹. The split of business and leisure between UK resident and foreign resident passengers at the airport is shown below in **Inset 6.9**. Leisure passengers have been split into pure leisure passengers and those visiting friends and relatives (VFR). It is notable those UK resident passengers travelling for purely leisure reasons accounted for only 26% of the total passengers using the airport.

¹¹ The Civil Aviation Authority undertake surveys of departing passengers at the main UK airports, including LTN, throughout each year. This sample survey data is used to define the characteristics of passengers using each airport and is weighted to reflect the number of passengers using each airport on an annual basis.

Inset 6.9: Business and leisure split between UK and Foreign resident passengers 2019



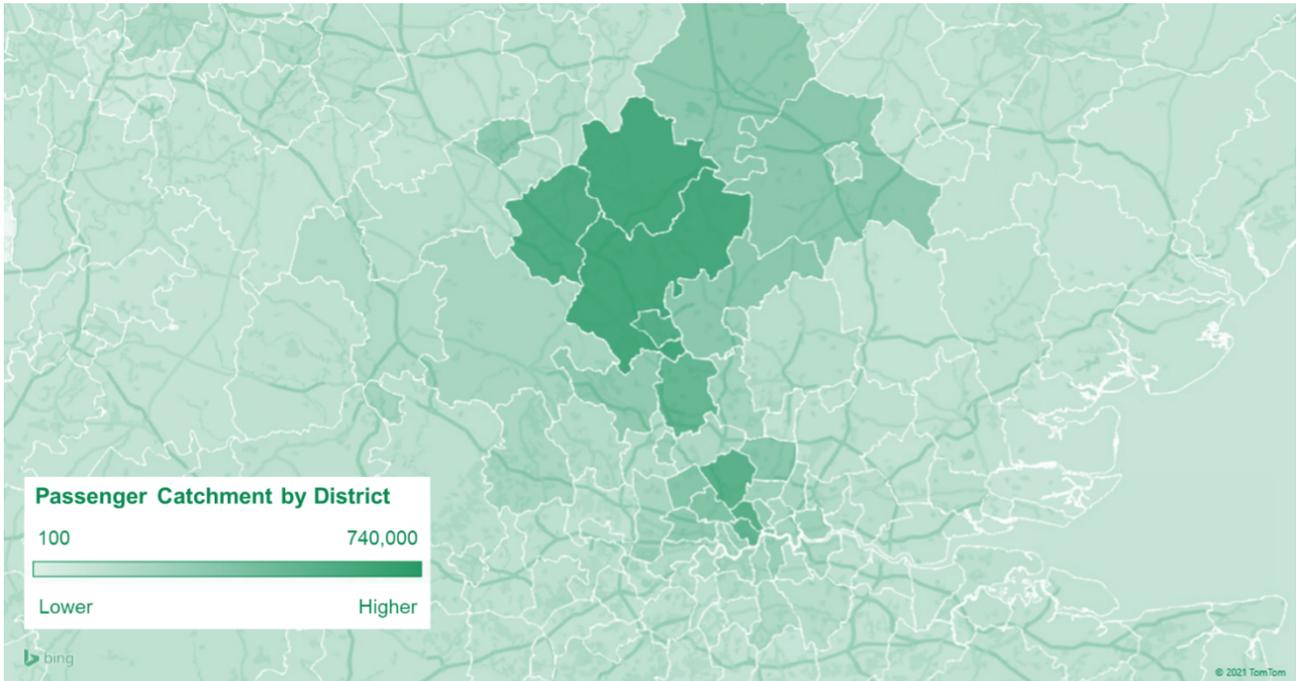
Source: CAA Passenger Survey data

6.2.23 Of the nearly 18.2 million passengers travelling through the airport in 2019, around 33% were foreign residents, which is slightly more than the proportion at London Gatwick Airport, and 13% were travelling on business, which is slightly less than the proportion seen at London Stansted Airport and London Gatwick Airport. Purely outbound leisure passengers amounted to only 26% of the total.

6.3 Catchment area and leakage

6.3.1 In **Inset 6.10** below, the catchment area by local authority district from which the airport draws its passengers is illustrated, taken from the same CAA Passenger Survey data. It demonstrates the relatively local nature of the airport's catchment with approximately 4.7 million passengers (27%) coming from the Three Counties of Bedfordshire, Hertfordshire and Buckinghamshire, immediately surrounding the Airport. A further 39% of passengers have surface origins or destinations in Greater London, with a strong catchment focus along the M1/Thameslink corridor and into the Oxford-Cambridge Arc.

Inset 6.10: The airport's passenger catchment area 2019



Source: CAA Passenger Survey data

6.3.2 The airport commands a high market share of all short haul air travel in the areas close to it. The airport's share of the market for short haul air travel is shown in **Inset 6.11**. The districts where it commands the highest share of the market are shown in **Table 6.2**. Its highest share of the market is attained in the Bedfordshire districts but the share of the overall market remains high across the Three Counties (see previous paragraph) and down the M1/Thameslink corridor including the northernmost London boroughs. This illustrates the importance of the airport being able to deliver enhanced air connectivity, particularly to short haul markets, if these areas are to keep pace in terms of the air connectivity available to them with other areas of the UK.

Inset 6.11: The airport’s share of the short haul market by district 2019



Source: CAA Passenger Survey data

6.3.3 **Table 6.2** details the top ten districts where the airport had the strongest market share for short haul passenger traffic in 2019. Districts within the immediate vicinity of the airport have the highest proportion of passengers utilising for short haul services.

Table 6.2: The airport's share of short haul air transport market by district

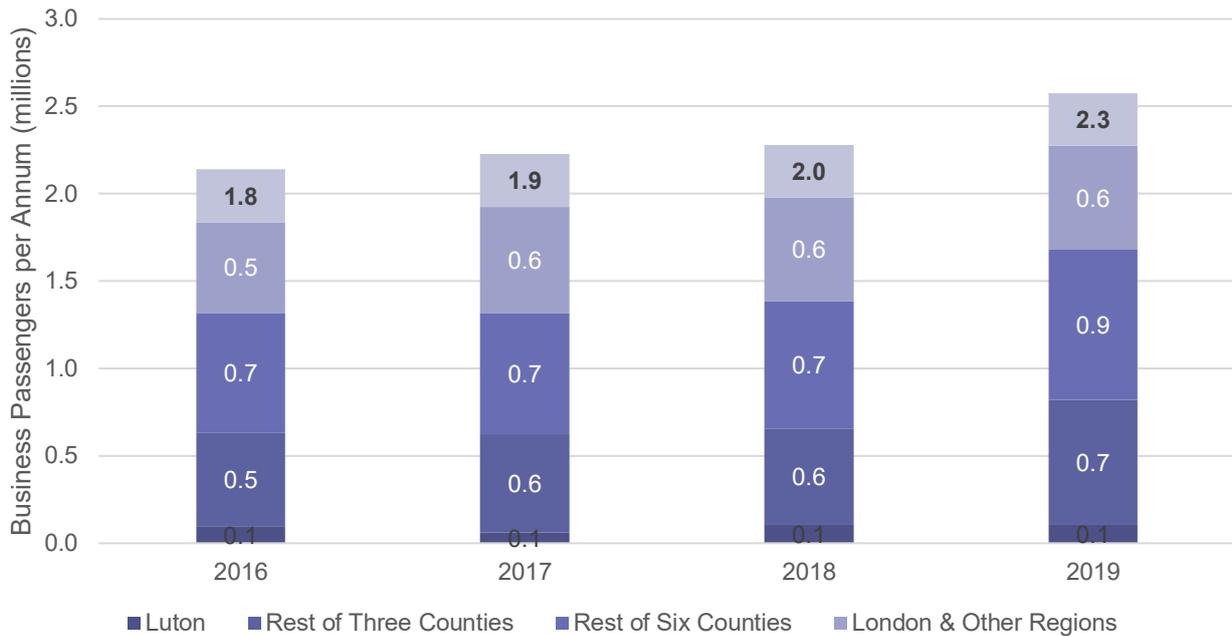
Rank	District	The Airport's Share of Market
1	Luton	83.5%
2	Bedford	79.2%
3	Central Bedfordshire	75.0%
4	St. Albans	70.3%
5	Stevenage	67.2%
6	Milton Keynes	65.6%
7	Dacorum	63.4%
8	North Hertfordshire	60.0%
9	Wellingborough	59.7%
10	Northampton	58.7%

Source: CAA Passenger Survey data

Business passengers

6.3.4 Over the past few years, the airport has handled in excess of 1.5 mppa travelling for business purposes. **Inset 6.12** illustrates how the volume of business passengers at the airport has grown between 2016 and 2019. In 2019, it handled nearly 2.3 million business passengers, of which 0.9 million originated from the Six Counties area. The airport handles in the region of 100,000 business passengers annually from the district of Luton alone.

Inset 6.12: Business passengers using the airport



Source: CAA Passenger Survey data

6.3.5 **Table 6.3** lists the top districts from which the airport drew its business passengers in 2019. Milton Keynes contributed the largest number of business passengers from a single district, accounting for approximately 9% of all business passengers who used it in 2019. Other nearby districts, such as Luton, Central Bedfordshire and St. Albans, also contributed significant volumes of business passengers. The airport also draws large numbers of business passengers from various London Boroughs, with the City of Westminster alone contributing the second highest number of business passengers.

Table 6.3: Origin of business passengers using the airport

Surface Origin District	Business Passengers	% of Total
Milton Keynes	194,100	9%
City of Westminster London Borough	115,900	5%
Luton	105,800	5%
Central Bedfordshire	103,700	5%
Camden London Borough	86,600	4%
St. Albans District	72,100	3%
Dacorum District	67,900	3%
Welwyn Hatfield District	56,500	2%
Barnet London Borough	55,500	2%
Islington London Borough	48,700	2%
City and County of the City of London	47,400	2%
North Hertfordshire District	44,900	2%
Watford District	37,200	2%
Brent London Borough	37,000	2%
Kensington and Chelsea London Borough	35,400	2%
Others	1,164,900	51%
<i>Three Counties</i>	821,500	36%
<i>Six Counties</i>	962,900	42%
<i>Thameslink Corridor</i>	283,700	12%
<i>London</i>	778,000	34%
<i>East of England</i>	407,500	18%
<i>South East</i>	700,600	31%
<i>Greater South East</i>	1,886,000	83%
Total	2,273,600	100%

Source: CAA Passenger Survey data.

6.3.6 Business passengers at airport make use of its strong domestic and European route network. Table 6.4 shows the most popular routes for passengers travelling for business purposes in 2014 and 2019. Domestic services to Edinburgh, Glasgow and Belfast remained strong throughout the five-year period, and connections to major European cities, such as Amsterdam, Paris and Geneva, have continued to grow. It is notable that connections to secondary Eastern

European cities, such as Cluj, Gdansk and Sofia, are also important to business passengers using the airport.

Table 6.4: Top destinations for business passengers using the airport

Destination City (2014)	Business Passengers (2014)	Destination City (2019)	Business Passengers (2019)
Edinburgh	155,650	Amsterdam	195,650
Amsterdam	155,550	Edinburgh	142,500
Glasgow	110,350	Glasgow	119,900
Paris	91,100	Belfast	115,150
Budapest	87,800	Barcelona	86,100
Belfast	86,850	Paris	78,100
Dublin	73,100	Geneva	68,000
Bucharest	55,700	Bucharest	66,200
Warsaw	50,500	Dublin	64,900
Geneva	50,300	Warsaw	61,750
Katowice	47,550	Budapest	57,000
Berlin	46,750	Lisbon	52,500
Cluj	44,800	Tel Aviv	49,400
Vilnius	40,600	Cluj	45,900
Tel Aviv	39,550	Gdansk	44,500
Barcelona	38,650	Berlin	42,850
Sofia	38,250	Sofia	42,500
Dortmund	37,050	Zurich	41,900

Source: CAA Passenger Survey data

Characteristics of business passengers

6.3.7 **Table 6.5** sets out the average annual income of business passengers at the airport with surface origins or destinations across the South East and East of England. Over half of the business passengers using it from the East of England had an annual income of at least £57,500 in 2019. This suggests that business travel usage from the airport is important to key decision makers in the businesses concerned, which reflects its economic role outlined in the previous section.

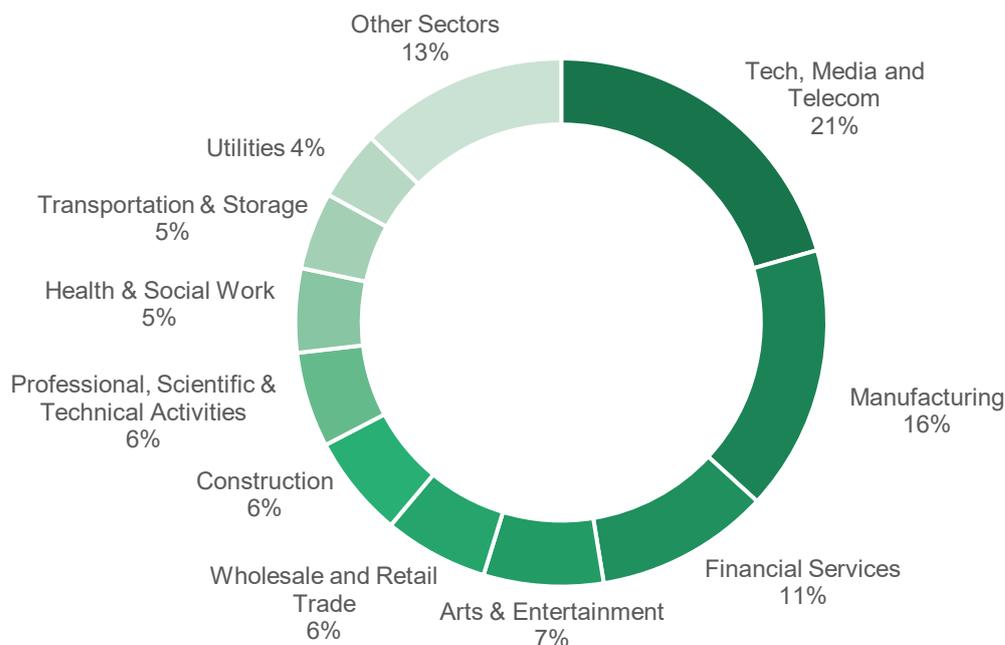
Table 6.5: Annual income of the airport's business passengers

Income Bracket	East of England	South East	London	Greater South East
0 - £22,999	7%	14%	14%	11%
£23,000 - £34,449	11%	14%	14%	13%
£34,500 - £57,499	31%	28%	31%	30%
£57,500 - £114,999	38%	38%	26%	33%
£115,000 - > £350,000	13%	6%	15%	13%

Source: CAA Passenger Survey data

6.3.8 **Inset 6.13** shows the sectors that business passengers travelling to or from the Greater South East region and using at the airport in 2019 were employed in. Business passengers employed in the technology, media and telecoms sector represented the single largest proportion at approximately 21%, followed by those employed in manufacturing and financial services sectors that accounted for 16% and 11%, respectively. This fits closely with the air intensive, air sensitive and high-value added sectors identified in **Section 5**. The preponderance of tech, advanced manufacturing, professional, scientific and technical activities, and the creative industries is clear in both analyses.

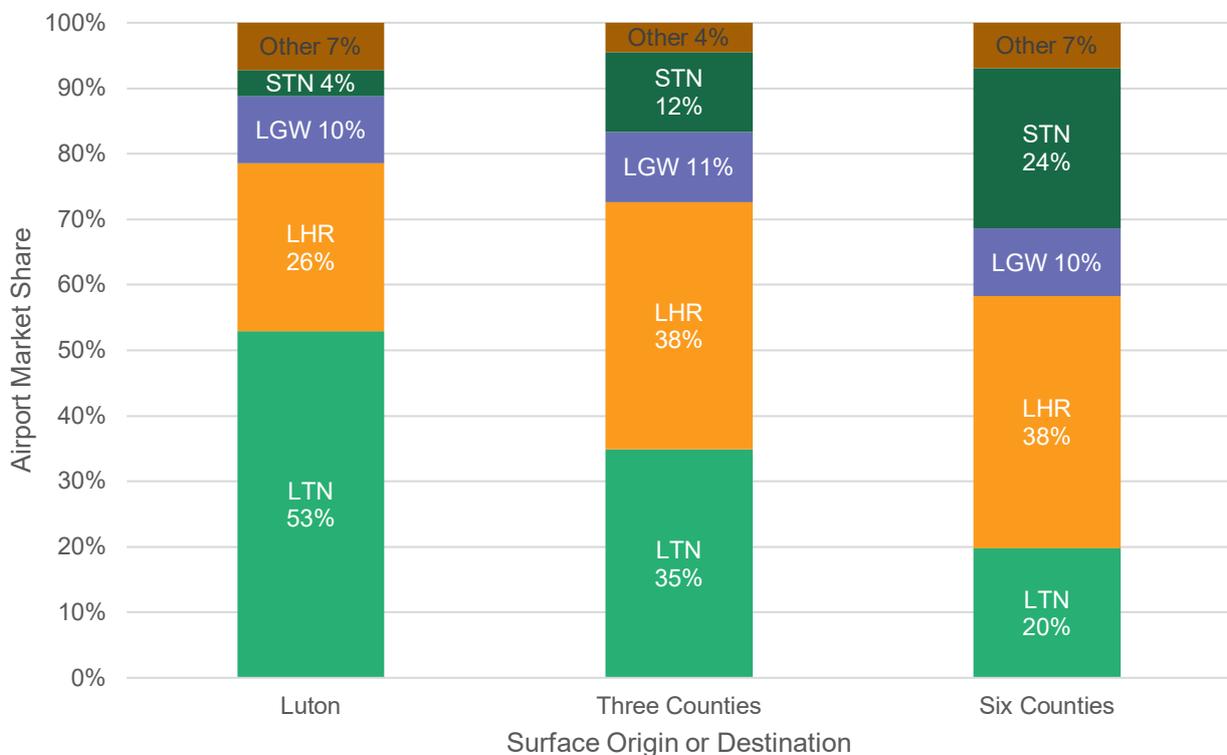
Inset 6.13: Employment sectors of business passengers at the airport



Source: CAA Passenger Survey data

6.3.9 The overall business passenger market is also considered in **Insets 6.14** and **6.15** below. As can be seen in **Inset 6.14**, the airport is used by more than half of all business passengers travelling to and from Luton itself, but it also handles over a third of all business trips to and from the Three Counties area. Beyond the Three Counties, greater proximity to Heathrow, Stansted or London City can be a factor. Nonetheless the high share of the business travel market commanded by Luton within the Three Counties area highlights the significant role played by the airport and the importance of it being able to increase the air connectivity offered to business travellers through the growth enabled by the Proposed Development. If the airport was not able to expand to accommodate growth, it is likely that the route network would consolidate back to high volume leisure routes, which would be detrimental to business prospects within the Three Counties.

Inset 6.14: London airports' share of business passengers



Source: CAA Passenger Survey

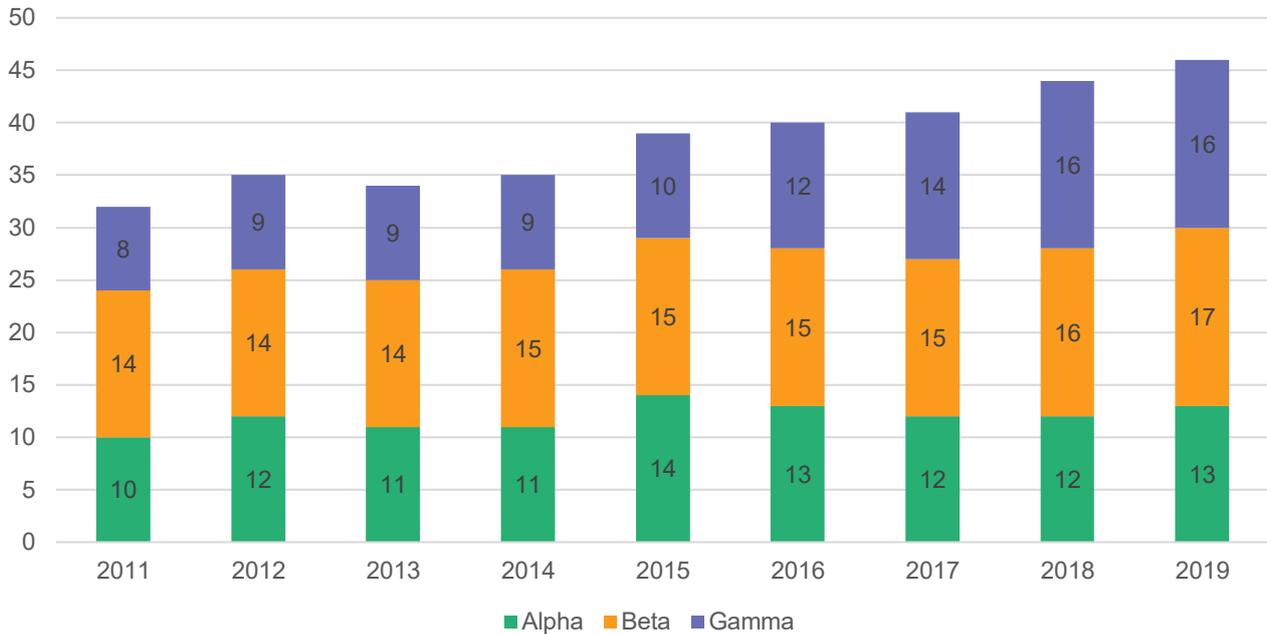
6.3.10 An important point to note is that much of the leakage of business passenger demand from the Three Counties to the other London airports is travelling to destinations not already served from the airport, including leakage of long haul traffic to Heathrow. Destinations such as Germany and the USA are not currently served from the airport but the growth enabled by the Proposed Development would allow such services to develop over time and enable the airport to claw back more of the local business passenger demand. Enabling this claw back would have the effect of reducing the length of surface access journeys compared to accessing these other airports so reducing congestion and consequent environmental impact, as well as delivering productivity benefits to business as

will be explained further in **Section 9**. The Proposed Development will also facilitate some long haul service development from the airport through providing some facilities for larger Code E type aircraft able to serve the Eastern seaboard of the USA and points in the near East, providing onward hub connections.

Business related connectivity to/from the airport

- 6.3.11 The analysis below considers the value of the airport's route network in terms of its ability to connect the regional economy to key economic centres around the world. This has been done by considering its coverage of world cities, as defined by the Globalisation and World Cities Network (GaWC) in *The World According to GaWC in 2020*^{cxvii}. This is the latest publication in a long series of research into world city formation around the world, including Europe. The research analyses the location decisions of advanced service firms to establish a hierarchy of world cities. Cities are then classified into a series of rankings starting with Alpha++ (the most important global centres) through to Gamma-. In addition, the classification identifies High Sufficiency and Sufficiency cities, which do not have all the features of world cities but display important characteristics of world cities. The analysis here focusses on connectivity to Alpha, Beta and Gamma cities, which are all considered to be important cities for business internationally. The full list of cities categorised by GaWC is included in **Appendix A**.
- 6.3.12 **Inset 6.16** shows the number of GaWC cities served from the airport over the last 10 years. There are a number of points to note:
- a. across all classifications, the number of world cities served by the airport has been on an upward trend for the last 10 years, reflecting its ongoing traffic and network growth;
 - b. there has been a limited growth in the number of Alpha cities served since 2011, with only three new Alpha cities being added since 2011. However, it should be recognised that the total number of Alpha cities is relatively small; and
 - c. there has been some growth in Beta city coverage, but this has, too, been limited. Coverage of Gamma cities has grown rapidly and doubled since 2011. These are cities that are growing in business importance and support the concept of global Britain.
- 6.3.13 The ongoing growth in connectivity to these key economic centres is an important indicator of how the airport's growth to date has fuelled its ability to support connectivity that is important in driving economic benefits. Some variation year on year is to be expected but the upward trend is clear indicating how it has supported wider business growth in the region over the last decade. Further expansion of capacity at the airport, as proposed, is essential to ensuring that the trend for improving business related connectivity can continue. Growth will enable the airport to deepen its connectivity to core Alpha, Beta and Gamma cities, including serving them at higher frequencies, which is important to business travellers, while growing further its coverage of globally important cities for business in all categories, particularly in Europe. This will enable the airport to develop the breadth and depth of connectivity that is so important to internationally competitive regions.

Inset 6.15: GaWC cities served from the airport

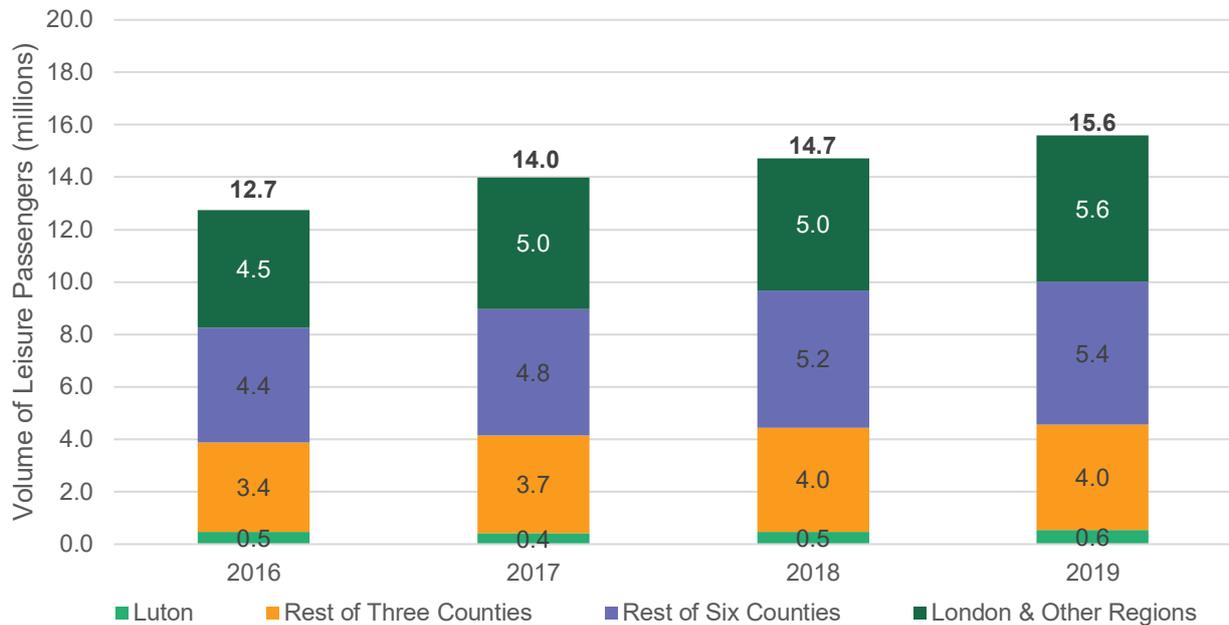


Source: York Aviation analysis of GaWC, The World According to GaWC 2020 and OAG

Leisure passengers

6.3.14 The airport has seen strong growth in leisure passengers since 2016, growing from 12.7 million passengers in 2016 to over 15.6 million passengers in 2019. Much of this growth has come from the Six Counties and the northern part of London reflecting the increasing attractiveness of the airport as its network of services has grown. This clearly demonstrates the role that the airport plays in the wider leisure market. Its market share within the Three Counties was already high but greater penetration of the market in the Six Counties and London demonstrates the growing importance of the airport in satisfying demand from across the East of England, the South East, London and the Midlands.

Inset 6.16: Leisure passengers using the airport



Source: CAA Passenger Survey

6.3.15 **Table 6.7** shows the main districts from which the airport drew its leisure passengers in 2019. This pattern is similar to that for business passengers. Milton Keynes, contributed the largest number of leisure passengers by any single district, amounting to around 700,000 passengers or 4% of the airport’s annual traffic. Other nearby districts, such as Luton, Central Bedfordshire and St. Albans, also contributed significant volumes of leisure passengers. The airport also drew large numbers of leisure passengers from various London Boroughs (around 38% of leisure traffic drawn from all boroughs in London), with the City of Westminster alone contributing the second highest number of leisure passengers.

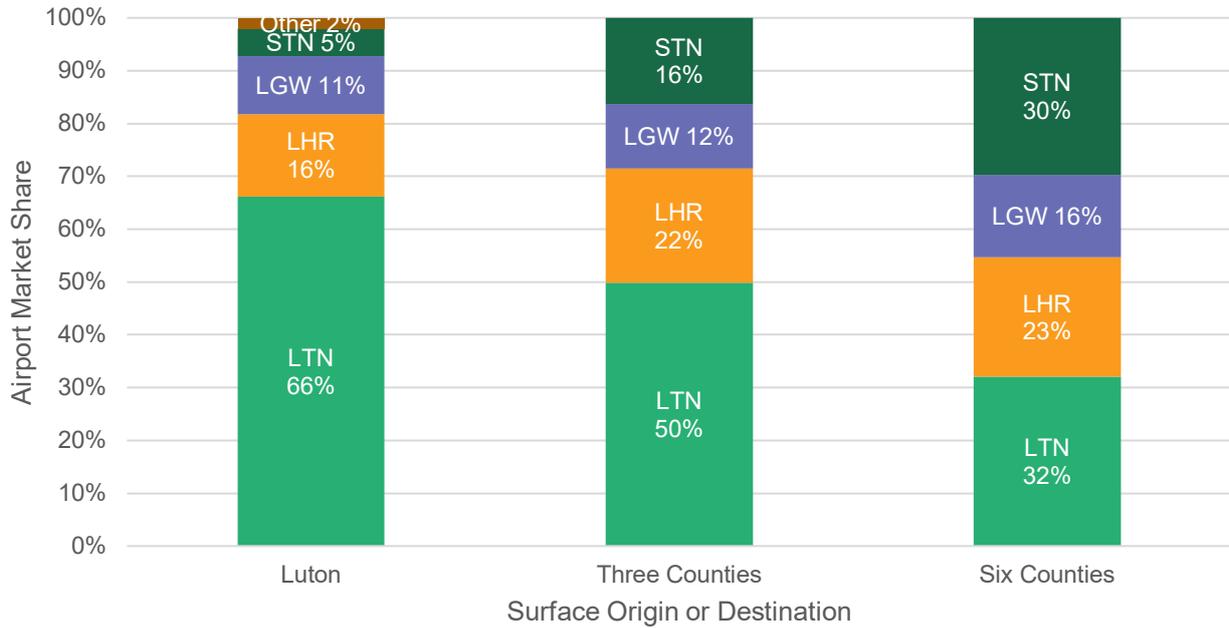
Table 6.6: Origins of leisure passengers using the airport

Surface Origin Districts	Passengers	%
Milton Keynes	697,300	4%
City of Westminster London Borough	634,200	4%
Luton	561,800	4%
Central Bedfordshire	551,900	4%
Camden London Borough	532,300	3%
St. Albans District	487,500	3%
Dacorum District	479,800	3%
Welwyn Hatfield District	446,000	3%
Barnet London Borough	344,300	2%
Islington London Borough	328,300	2%
City and County of the City of London	314,900	2%
North Hertfordshire District	309,700	2%
Watford District	304,900	2%
Brent London Borough	298,500	2%
Kensington and Chelsea London Borough	286,800	2%
Others	9,011,100	58%
Three Counties	4,564,000	29%
Six Counties	5,996,000	38%
Thameslink Corridor	2,205,200	14%
London	5,975,700	38%
East of England	4,994,700	32%
South East	3,105,700	20%
Greater South East	14,076,100	90%
Total	15,589,400	100%

Source: CAA Passenger Survey

6.3.16 **Inset 6.17** illustrates the market share by airport for leisure passengers with origins and destinations in the airport’s key study areas. It has a strong position in terms of meeting the needs of passengers to/from Luton. The airport’s influence remains strong within the core area it serves, with a 50% market share within the Three Counties and 32% in the Six Counties. Close to two million passengers from the Three Counties use Heathrow, although over 60% of these passengers were travelling to long haul destinations. Stansted is by the largest competitor in the short-haul leisure market, drawing around 1.4 million passengers from the Six Counties area. It is, however, also noticeable that Gatwick draws over 700,000 passengers from the area on a mix of short and long haul flights. This demonstrates the potential for a growing London Luton Airport to clawback demand from these more distant airports, serving that demand more efficiently and locally. Much of the leakage to these other airports, particularly to Heathrow and Gatwick is to long haul destinations not presently served by the airport but which will be enabled by the Proposed Development over the longer term.

Inset 6.17: London airports' share of leisure passengers

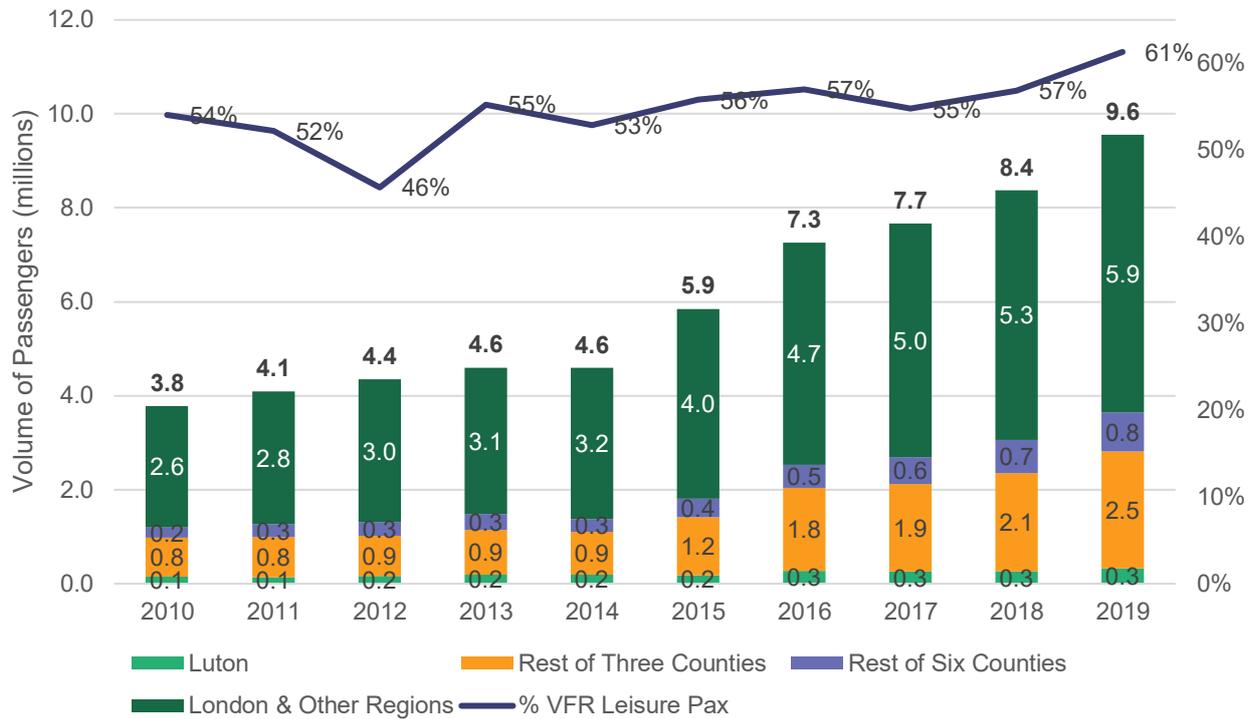


Source: CAA Passenger Survey

Visiting friends and relatives

6.3.17 **Inset 6.18** shows that an increasing proportion of the inbound leisure passengers over the last ten years have been travelling for the purpose of visiting friends and relatives. This is important in the context of the role that the airport plays in ensuring that the surrounding area is perceived as an attractive place to live as it is easy for friends and family to visit and vice versa.

Inset 6.18: Foreign inbound passengers flying through the airport

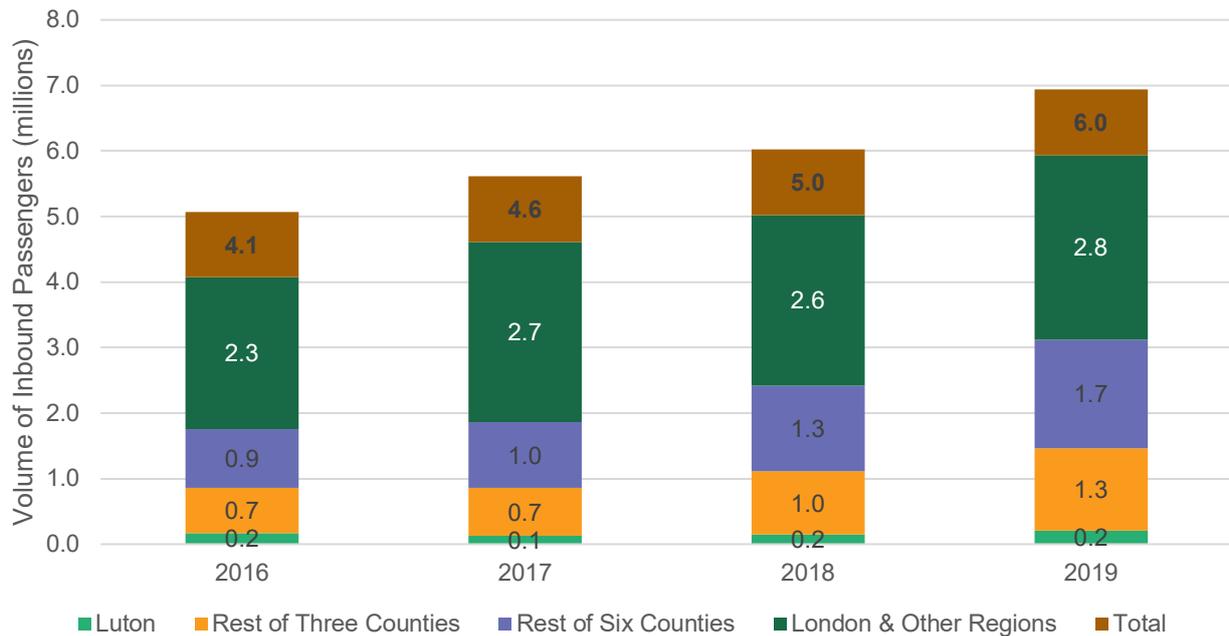


Source: CAA Passenger Survey

Inbound tourism

6.3.18 **Inset 6.19** shows that the overall volume of inbound passengers flying through the airport in 2019 has grown by around 50% since 2016. However, this growth has largely been in visits to the Three Counties and Six Counties, with the proportion staying locally increasing from 43% of inbound visitors using the airport to 53%. This suggests strongly that, as the airport grows its route network, it can contribute to growing the number of tourist visits within the local area, thereby supporting wider economic benefits as explained later.

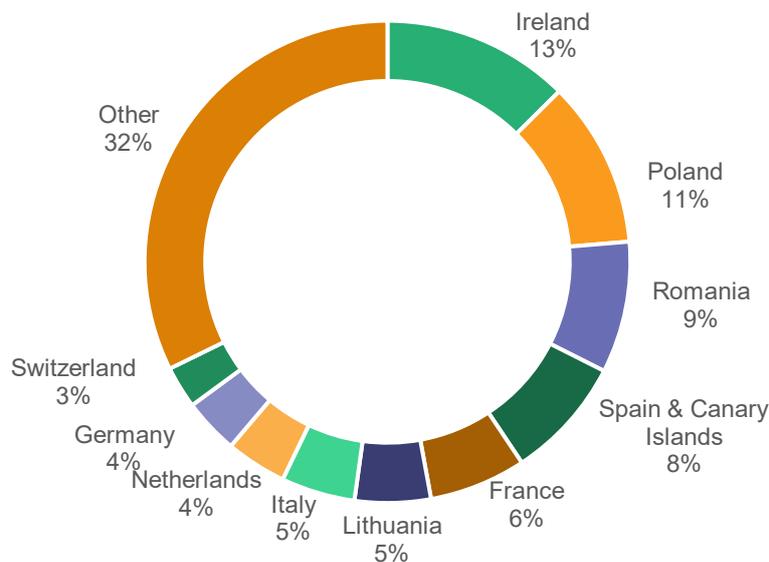
Inset 6.19: Foreign inbound passengers flying through the airport



Source: CAA Passenger Survey

6.3.19 The source markets for this inbound tourism to the Three Counties are set out in **Inset 6.20**. The rise of Wizz Air’s base at Luton has brought a greater influx of tourists from Eastern Europe, explaining why Poland, Romania and Lithuania all account for at least 5% each of total inbound tourists flying through the airport. Ireland tops the list with around 13%. To a large degree, the origins of inbound visitors reflect the route network offered by the airport, indicating the potential for growth in the inbound tourism contribution as the route network expands.

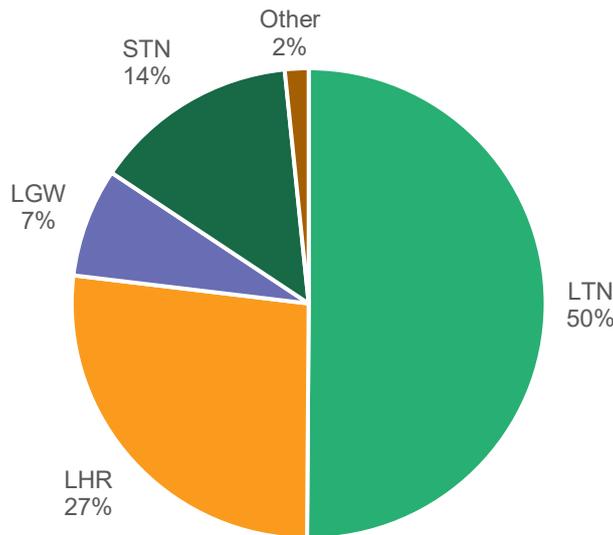
Inset 6.20: Key markets for inbound tourism in the Three Counties



Source: CAA Passenger Survey 2019

6.3.20 **Inset 6.21** shows that currently around 50% of inbound visitors to the Three Counties use the airport as distinct from other airports. Whilst much of the leakage is on long haul services at Heathrow, a growing route network at the airport will contribute to it commanding a higher share of the inbound tourist market than today, and should facilitate areas local to the airport in attracting a higher number of visitors in the future.

Inset 6.21: Passenger market share for foreign inbound passengers visiting the Three Counties in 2019



Source: CAA Passenger Survey 2019

6.4 Conclusions

6.4.1 This section sets out some basic information about the nature of the operations at the airport today. The rapid growth in demand provides the basis for the development of projections for the future use of the airport and the assessment of the capacity needed to handle it which this document goes onto set out.

6.4.2 Analysis of the characteristic passenger demand using the airport in 2019 indicates how growth has enabled it to better serve the needs of its catchment area but also the scope for further enhancement of the airport's broader economic role with the Proposed Development, which is set out in the following sections.

7 FUTURE DEMAND FORECASTS

7.1 Introduction

- 7.1.1 This section updates the demand projections that underpin the Proposed Development. At the outset, it should be noted that the Covid-19 pandemic led to an almost complete suspension of flying from many UK airports and a significant drop in demand due to government policies around ‘lockdowns’ and travel restrictions. Significantly, the pandemic has led to an economic downturn globally, including a recession in the UK and most European nations, representing the core market served from the airport. Hence, updated forecasts have been developed using economic projections from early 2021, which take into account both of these factors. The forecasts are also set out as a range to reflect greater market uncertainty over the forecast period.
- 7.1.2 This section outlines the methodology used to produce these forecasts, outlining the assumptions and key economic input data, as well as the resultant output forecasts. It also outlines the results.

7.2 Approach to passenger demand forecasting

- 7.2.1 This sub-section outlines the overall approach taken in developing the passenger forecasts, including the key input assumptions and the resulting growth rates arising from the modelling.

Approach overview

- 7.2.2 The primary approach to developing the forecasts for the airport has been to follow a ‘top-down’ econometric approach which takes into account consideration of macro econometric effects, passenger choice and displacement, and long-term trends¹². This type of approach is generally considered to be the most appropriate for considering traffic growth at individual airports over the medium to long-term. It initially considers how the airport might grow if it were not constrained by the capacity of its infrastructure before constraining demand growth where necessary to that which can be handled by the airport’s infrastructure at any given point in time.
- 7.2.3 ‘Bottom-up’ forecasting is often used for short-term airport forecasts where specific assumptions are made about the routes and frequencies of service that the airlines will operate. This is typically based on an understanding of the scale of the potential market but draws more heavily on assumptions as to how airlines will serve that market. Typically, ‘bottom up’ forecasts would be used to inform airport business planning over a one to five year period but ‘top down’ econometric methods are considered more robust over the longer term.
- 7.2.4 Deriving the demand forecasts is a multi-stage process. This process is summarised in **Inset 7.1** and discussed below. Adopting such a multi-stage

¹² ‘Top down’ forecasts start with a projection of overall demand across the UK and in the catchment area of the airport and examine the share of the market that the particular airport is likely to attract over the medium to long-term. ‘Bottom up’ forecasts based on the specific services that airlines are expected to operate are typically used to derive more detailed short-term forecasts up to 5 years ahead.

approach, which first considers demand in an airport’s catchment area and then the competitive position of an airport in meeting a share of that demand is more robust than simply assuming that an overall growth rate irrespective of competition between airports to meet that demand. Of particular relevance is that it enables different scenarios of capacity delivery across the London airports to be tested.

Inset 7.1: Passenger demand forecasting process



7.3 Development of the demand forecasts

Establishing the scale of the market

- 7.3.1 The first stage in the forecasting process is to develop an understanding of how underlying passenger demand in London Luton Airport's catchment area is expected to grow over time. This includes passengers flying from the airport and also those that are travelling via other airports, such as Heathrow or Stansted. For the purposes of these forecasts, all demand from, essentially, the southern half of the UK has been included in this wider catchment area. It is important to note that the initial stage is to forecast growth in the underlying market in which the airport operates and, as such, this does not directly represent how passenger volumes using it will grow in serving that market. A later stage of the modelling process then determines how much of the underlying market would be expected to use London Luton Airport in the context of market growth overall.
- 7.3.2 Demand is segmented in a number of ways:
- a. by surface origin – CAA Passenger Survey data is used to identify baseline demand at a district level;
 - b. by air journey destination – passengers are identified as travelling to domestic, European, North American or other long haul¹³ destinations; and
 - c. by Purpose of Travel and Residence – passengers are identified by whether they are travelling for business or leisure and whether they are UK or Foreign residents.
- 7.3.3 This segmentation allows different rates of growth to be applied to different markets, reflecting differing levels of market maturity, differing rates of economic growth and different market characteristics. The growth rates used here are based upon the underlying analysis that underpins the Department for Transport's (DfT's) UK wide passenger demand forecasting model as set out in their UK Aviation Forecasts 2017^{cxviii}. This includes overall trends such as the increased use of video-conferencing over time reducing the extent to which business travel grows as the economy grows and other factors reflecting a maturing of the market for air travel to and from the UK.
- 7.3.4 Adjustments have been made to reflect the performance of the market between their base year, 2016, and 2019 and to reflect updated economic data including Gross Domestic Product (GDP) forecasts for the UK and further afield, fuel prices and carbon costs. This approach is considered to be the most robust method of assessing the overall passenger demand drivers in the UK market.
- 7.3.5 As with the DfT's model, the model used in this case determines future growth rates in the market based on a forward view of two main drivers, economic growth, usually UK or overseas GDP (or a combination of the two), and modelled air fares, which are dependent on a number of core building blocks, notably:

¹³ Short haul flights are typically those with in the UK, Europe and the Mediterranean region, Long haul flights are typically to the rest of the world, including North America.

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

7.3.6 How changes in economic growth and air fares translate through to growth in air transport markets is based on the elasticities (the degree to which a demand or supply is sensitive to changes in price or income) identified within the DfT’s forecasting model. These were originally set out by DfT in 2013 and summarised in the 2017 UK Aviation Forecasts^{cxix}. They are estimated using time-series regression techniques taking into account changes in the air travel market over a long period of time¹⁴, including several recessions and other ‘shock’ events. This means that the market response to the effect of the Covid-19 ‘shock’ is expected to follow the pattern seen following other shock events, such as changes in the pattern of business travel. At the present time, use of these calibrated demand elasticities is considered the most robust approach. The elasticities are set out in **Table 7.1** below.

Table 7.1: Department for Transport income and fare elasticities

Sector	Income Elasticity	Price Elasticity
UK Business	1.2	-0.2
UK Leisure	1.4	-0.7
Foreign Business	1.0	-0.2
Foreign Leisure	1.0	-0.7
International to International Transfers	0.5	-0.5
Domestic	1.1	-0.5
Total	1.2	-0.6

Source: Department for Transport UK Aviation Forecasts 2017

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

7.3.8 Although the model uses DfT’s elasticities, these have been applied within a Monte Carlo simulation approach to consider the potential impact of varying

¹⁴ Time series regression is a statistical method for predicting future demand based on the historic relationship between demand and a number of key predictive variables, in this case principally economic performance and the cost of air travel.

assumptions about future economic growth, fuel prices or carbon costs, taking into account uncertainty and risk, to define the potential range of the future growth rate of growth of air travel demand within the catchment area served by the airport. Monte Carlo simulation is a mathematical technique based on probabilities of occurrence of the various input assumptions. The simulation runs the potential different combinations of inputs, weighted by their probabilities, many times to determine a broad range of growth rates for each year for the forecast.

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

- a. Economic Growth – a range of economic growth scenarios for the UK and other world regions has been developed based on economic forecasts from the Office for Budgetary Responsibility (OBR), HM Treasury’s review of independent forecasts, Bank of England, the International Monetary Fund and the Organisation for Economic Co-operation and Development (OECD). In each case, the most recent short and long-term forecasts available in Spring 2021. These projections, thus, take into account the potential range of economic recovery outcomes following the Covid-19 pandemic and factor in expected BREXIT effects.

In each case, ‘central’ scenarios from each organisation are assumed to have a higher probability of occurrence. High and low forecasts are assumed to have less likelihood of occurrence, with the weighting of probabilities towards the downside given the circumstances around the Covid-19 pandemic at the time the forecasts were produced. In other words, low economic growth scenarios are assumed to be more likely to occur than high economic growth scenarios. This means that there is a degree of conservativeness inherent across all forecast scenarios.

In addition, a further step has been included in relation to UK economic growth to reflect the fact that the economy of London, the South East and the East of England, the core catchment for the analysis, has traditionally grown faster than the UK as a whole. Data from the Office for National Statistics has been used to identify the differential between economic growth in this area and the rest of the UK over the previous 20 years. This identified that economic growth rates have been around 20% higher in London, the South East and the East of England. This uplift has been used to adjust the underlying UK economic growth moving forward, but with the effect assumed to reduce over time to zero by 2040;

- b. Carbon Prices – the forecasts assume that passengers will, via some mechanism, have to pay for the carbon emissions associated with their travel. Effectively, this could be paying for offsetting or removals of carbon or the higher costs associated with alternative low or zero carbon technologies (known as abatement costs). In other words, the cost of carbon is internalised within the forecasts and the costs are based on the Department for Business, Energy and Industrial Strategy (BEIS) guidance on carbon values 2018 published in 2019^{cx}. This guidance includes an assessment of the future values of carbon for traded sectors, which are

intended to be reflective of future carbon allowance prices in emissions trading schemes. These carbon allowance prices are a reflection of what will actually be paid by passengers in the future.

Since the forecasts were produced, BEIS has updated its guidance on carbon values for public policy appraisal as part of a review of carbon pricing^{cxxi}. This document removes the distinction between carbon values for traded and non-traded sectors for policy appraisal and, as a consequence, no longer provides any guidance on future carbon allowance prices (as opposed to the broader societal costs of carbon). The 2018 guidance, therefore, remains the latest BEIS guidance on future carbon prices. This is in line with the Jet Zero Consultation documents published by the DfT in July 2021, which continue to use the earlier BEIS guidance^{cxxii};

- c. *Air Passenger Duty (APD)* – a series of potential paths for APD are set out, including both increasing APD and the possibility of an APD waiver to support Covid-19 recovery in short-term;
- d. *Fuel Prices* – fuel prices have a significant influence on air fares. The potential future price of oil has been taken from the latest guidance from BEIS.

7.3.10 The full range of assumption scenarios are set out in **Appendix B**, along with the probabilities assigned to each scenario within the Monte Carlo analysis.

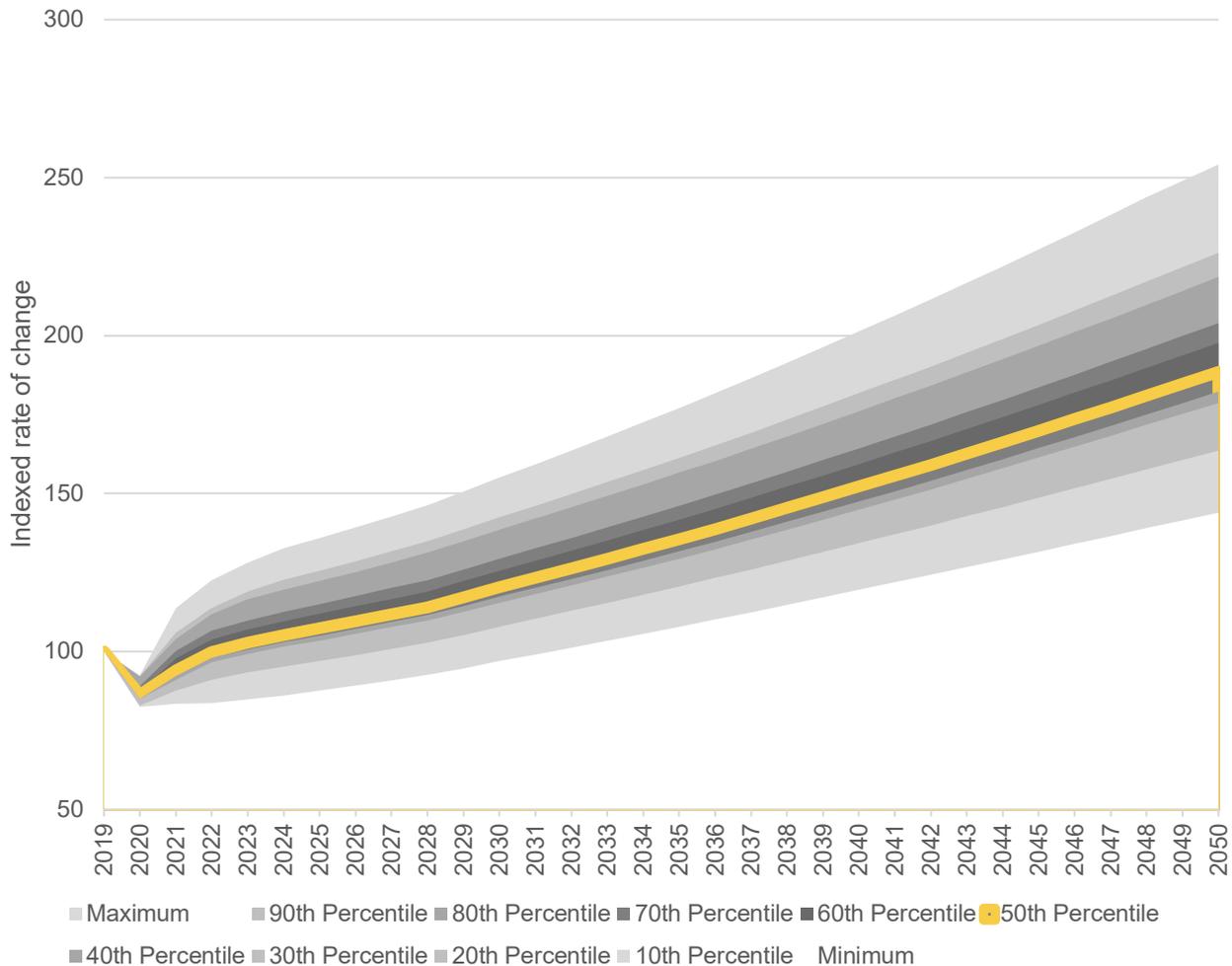
7.3.11 The outturn forecast market growth rates for the 50th Percentile from the Monte Carlo simulation are shown in **Table 7.2** below. The range of underlying market growth rates is shown in **Inset 7.2** (2019 is set at 100%). This approach enables a ‘**most likely**’ growth path to be identified at the 50th percentile but also identifies the upper and lower bound of the potential outcomes, representing a rounded view of risk taking into account all factors. The 20th percentile taken as the **realistic lower bound** of demand growth within the airport’s catchment area and the 80th percentile taken as the **realistic upper bound** of demand growth. The mid-range 50th percentile has been adopted as the ‘most likely’ demand growth trajectory in terms of the overall market available to the airport.

Table 7.2: Underlying passenger demand growth rates – 50th Percentile ‘Most Likely’

Broad Segment	2019 to 2030	2031 to 2050
Domestic Business	1.3%	1.6%
Domestic Leisure	1.6%	2.3%
International Business	1.6%	2.0%
International Leisure	1.3%	2.0%
Total	1.3%	2.0%

Source: York Aviation

Inset 7.2: Range of underlying market growth rates



Source: York Aviation

7.3.12 These future growth rates show a significant dip in underlying demand as a result of the economic effects of Covid-19, before the potential underlying demand in the market recovers by around 2023. It should be noted that this underlying market demand position does not reflect the impact of travel restrictions and other health related factors on actual passenger throughput, which is why the 2020 dip in underlying passenger demand is relatively small compared to the dip in actual passenger throughput observed at UK airports in 2020 and 2021. It may also not fully reflect when the airlines will reinstate aircraft capacity to 2019 levels and, hence, the recovery in actual passenger throughput observed at UK airports may lag behind demand to some degree.

7.3.13 Hence the final forecasts have been adjusted to reflect the anticipated ongoing effect of restrictions on the full recovery of the market to 2019 levels. The growth rates by market segment, identified through this process, are applied to an underlying demand base defined at district level using CAA Passenger Survey data. The primary source is the 2019 survey data which provides information on demand using Luton, Gatwick, Heathrow, Stansted, London City, Birmingham, East Midlands and Manchester airports and its surface origin or destination. The result is the total ‘pool’ of demand across the catchment area from which the

airport can draw, broken down by local authority district for each year for each market segment through to the end of the forecast period.

Estimating the airport's share of the market

- 7.3.14 The second element of the forecasting process is to identify how this pool of demand will be served by the network of airports in the UK serving the southern half of England. The other airports within the model are Bristol, Birmingham, Cardiff, East Midlands, Exeter, Gatwick, London City, Heathrow, Stansted and Manchester, covering the southern and central part of the UK. This process is undertaken using a regression based multinomial logit model¹⁵. The allocation model is similar in concept to that used by the DfT within its aviation forecasting suite.
- 7.3.15 Such models seek to mimic passenger decision making in terms of which airport they choose to use by analysing how passengers have behaved in the past using CAA Passenger Survey data. The model assumes that passengers will make a choice between airports based on the level of utility (a function of access time/cost, frequency of service and air fares/type of airline) that each airport offers. The approach adopted is similar to that used by the DfT in its passenger allocation model used to assess the level of future demand that might use each of the UK's main airports. Other data inputs are schedules data from OAG and travel times data from Google Maps. Different models of passenger behaviour have been estimated to reflect different segments of the air transport market, notably different passenger choices in relation to domestic, short haul and long haul travel.
- 7.3.16 The model operates at a CAA district level. It derives market shares for each airport in the model within each district based on the passenger choice parameters described above. As markets grow, it examines how the market share balance will change based on how frequencies are expected to grow at each airport and based on any capacity constraints that are relevant at each airport. The way that frequency at each airport is expected to grow is based on airports' previous frequency growth in response to underlying demand growth in the UK market so the frequencies grow to meet the market.
- 7.3.17 Demand is then allocated to the individual airports based on their relative attractiveness in each district, for each passenger type, based on access time and levels of service. The model is run iteratively over time so that the assumed level of service reflects the demand attracted to an airport in the previous year. This produces an unconstrained demand forecast for all airports in the model, including London Luton Airport.
- 7.3.18 At this initial stage, the unconstrained demand forecasts take no account of any capacity constraint at any of the airports. As the next step where, in total, an airport is allocated more passengers than it is able to handle within its infrastructure capacity, an additional time penalty cost is then added which makes it relatively less attractive (i.e. passengers are priced off). This has two effects:

¹⁵ A logit model is a form of statistical regression that predicts the discrete outcomes based on the performance of a number of other variables.

- a. some passengers choose to no longer travel as the additional cost means the journey is not sufficiently valuable to them; and
- b. some passengers will switch to other airports as these become relatively more attractive compared to their original choice.

7.3.19 In relation to other airport capacity constraints, only Heathrow and Gatwick are assumed to be currently constrained. In the first instance, their growth is limited to incremental growth up to assumed capacities of 90 mppa and 50 mppa respectively based on their existing runway usage, consistent with DfT assumed capacities in the UK Aviation Forecasts 2017. Although the provision of a third runway at Heathrow continues to benefit from support from the ANPS, as set out in Section 4, and Gatwick is bringing forward its proposals to bring its northern runway into permanent use on a similar timescale to this Proposed Development, neither development is consented and the timing of each remains uncertain. Hence, the effect of the provision of additional runway capacity at these airports is tested separately.

7.3.20 In the majority of scenarios tested, the model assumes that a third runway is delivered at Heathrow in 2033 and no additional capacity is added at Gatwick, reflecting that it may not be commercially viable for the two developments to proceed in tandem. A further scenario sensitivity has, however, been tested, with Gatwick starting to use its Northern Runway in 2028¹⁶. The expanded capacity at Heathrow with a third runway is assumed to be 135 mppa, while Gatwick with a second runway is assumed to be capable of handling around 70 mppa. For the purposes of the forecasts, account has been taken of the permission granted for Stansted Airport to grow to 43 mppa. Other airports are assumed to be unconstrained over the medium to long-term and to be able to meet the demand they can attract.

7.3.21 The result is a passenger demand forecast for each airport for each year, accounting for capacity constraints within the system. At this point, the throughput of London Luton Airport was constrained to 32 mppa in the longer term, reflecting the parameters of the DCO application, but was otherwise unconstrained until that throughput was reached in order to define the requirement for the Proposed Development up to the 32 mppa capacity that is the basis of the DCO application. This initial 'unconstrained' forecast was then further constrained taking into account the likely phased delivery of new capacity, as set out in later in this section.

Other adjustments

7.3.22 It is also necessary to make some other adjustments to reflect issues that econometric models of this type have difficulty dealing with effectively:

- a. the impact of Covid-19 on travel restrictions and other deterrents to travel in the short-term;

¹⁶ This timing is slightly ahead of the timescales put forward by Gatwick in its recent DCO consultation documentation, which suggests two runway operations commencing in 2029. It is noted that Gatwick has also asserted that its potential capacity with and without the use of the Northern runway may be greater than our core assumptions but these have not yet been validated so the DfT assumptions have been retained.

- b. short-term airline behaviour in terms of putting on services to meet demand; and
- c. new market segments, such as the potential for long haul services from the airport.

Covid-19 effects

7.3.23 In terms of the adjustment for short-term Covid-19 effects, the impact has not necessarily been on the desire to travel (i.e. demand) but the ability to do so. Hence, the current throughput in terms of passenger numbers at any airport does not properly reflect underlying demand for air travel but the ability to fly constrained by travel restrictions, the costs of testing, health concerns, a lack of certainty around government policies in relation to travel, and the capacity decisions of airlines faced by these issues. Such factors cannot be modelled so a judgemental adjustment has been made to the first few years of the forecast to reflect a general aviation industry consensus that the number air passengers flying (actual passenger throughput) will return to 2019 levels by around 2024^{cxxiii} and be driven, thereafter, by the conventional econometric parameters, i.e. the levels of underlying demand.

Long haul overlay forecasts

7.3.24 A further issue for which adjustments have been made is around the development of long haul services over the longer term. Logit models, such as those used here, ultimately reflect passenger choices and behaviour from the past. Hence, there is limited data from which to assess whether passengers would use longer haul services from the airport in future as overall demand grows. Logit models, thus, have difficulty predicting how markets will grow in the future where an airport has limited levels of similar activity currently. To date, the operation of longer haul services using larger aircraft have been limited not just by runway length and aircraft capability but by limited infrastructure on the ground and the accessibility of the airport, which will be overcome by the operation of the Luton DART (direct air-rail transit) from 2022.

7.3.25 A supplementary analysis has, therefore, been undertaken, examining long haul markets in the airport's main catchment area on an individual basis to identify those routes that might come forward in the future, taking into account the length of the current runway, and over what timescale those new routes may become attractive. Over time, it is reasonable to assume that such services may develop at the airport as the underlying demand for key destinations long haul increases and the Proposed Development provides improved infrastructure to enable such services to be handled. This would replicate the patterns seen at some other London airports, notably London Stansted more recently, as well as at regional airports across the UK where long haul services have developed in more recent years. There are, however, a number of issues to be considered.

7.3.26 One consideration in the scope for long haul services at the airport is that the runway is not long enough to permit regular flying to destinations beyond the Middle East, the eastern seaboard of North America and the Caribbean. Over recent years, there have been services to points such as Cancun in Mexico from the airport but the runway would not permit direct services to destinations in Asia

and South America. This limits the range of direct long haul services that could be operated.

- 7.3.27 In terms of the demand for the services, the long haul forecast overlay uses a semi ‘bottom-up’ approach, which takes account of both the underlying demand in the airport’s catchment area (using CAA Survey data for 2019) and also likely realistic frequencies and capacities consistent with the potential route by route demand.
- 7.3.28 The model then determines how much of this demand the airport could expect to attract if services were available using identified market capture rates. These rates have been established based on the proportion of underlying demand that chooses London Luton Airport over alternative airports on existing routes where it competes with a number of other neighbouring airports offering services to the same destinations as a proxy for the market capture on long haul routes. This approach reflects that long haul markets that might be served from the airport are highly likely to also be served from one or more of the other London airports. These market capture rates are applied to each district to provide the scope of demand which would theoretically be available to the airport in 2019 if such services had operated.
- 7.3.29 A further adjustment is then made to each year’s forecast to reflect the scope for onward connecting passengers on long haul services. A number of destinations globally act as hubs, particularly those which are within the range of operation from the airport’s runway, such as Dubai, Doha and New York. This adjustment is based on data for 2019 from a number of UK airports, which feature long haul services, to determine the ratio of point-to-point passengers (i.e. those destined for each destination directly) and those using the destination to make an onward connection to a further point. Examples of these ratios can be seen in **Table 7.3** below. Across all the long haul routes being considered, these ratios are applied to the point-to-point demand to determine the overall market potential for a service, including onward connecting traffic based on these typical ratios.

Table 7.3: Examples of onward connecting ratios for long haul destinations

Destination	Point-To-Point Passengers	Onward Connecting Passengers
Dubai	27%	73%
New York (JFK)	86%	14%
Doha	10%	90%
Washington (IAD)	82%	18%

Source: York Aviation/CAA Survey 2019.

- 7.3.30 The demand for each long haul opportunity is then grown forward based on the same market growth rates set out in **Table 7.2** to identify which routes are likely to be viable and over what timescale, taking into account realistic annual frequencies of service, aircraft capacities and load factors. Any route which could not credibly be served from airport’s runway is excluded at this point. For the remaining routes, a minimum threshold is set, below which services would be

unlikely to be unviable, based on typical minimum frequencies for the route and likely aircraft types. Examples of these thresholds can be seen in **Table 7.4**.

Table 7.4: Minimum passenger thresholds for services at the airport (85% load factor)

Aircraft Seats	3 times Weekly, Year Round	5 times Weekly, Year Round	Daily, Year Round	2 times Daily, Year Round	3 times Daily, Year Round
180	48,000	80,000	111,000	222,000	333,000
220	58,000	97,000	136,000	272,000	407,000
250	66,000	111,000	154,000	309,000	463,000
300	80,000	133,000	185,000	370,000	556,000
350	93,000	155,000	216,000	432,000	648,000
400	106,000	177,000	247,000	494,000	741,000

Source: York Aviation

7.3.31 As demand to particular destinations increases above a set minimum threshold over time, these destinations are included in the overall long haul forecast. The forecasts are compiled every five years from 2025 to 2050, with interpolation between them. Examples of routes which are expected to be viable from the airport over the life of the forecast are:

- a. New York (JFK and/or Newark);
- b. Dubai;
- c. Orlando;
- d. Toronto;
- e. Chicago;
- f. Washington;
- g. Cancun;
- h. Abu Dhabi; and
- i. Doha.

Integration of ‘top-down’ forecasts and the long haul overlay forecasts

7.3.32 The final combined passenger forecasts, which are presented in the following sub-section are a combination of the ‘top-down’ allocation model passengers and the overall long haul forecast. The two are directly additive in the unconstrained (up to 32 mppa) demand forecasts for the airport, i.e. the long haul forecasts are layered directly on to the short haul and domestic forecasts. Short haul traffic is expected to remain the dominant traffic at the airport. By the time the airport reaches 32 mppa, long haul passengers are expected to make up between 5% and 8% of total traffic depending on scenario.

7.4 Passenger forecasts for the airport

7.4.1 The resulting passenger forecasts for the airport are set out below. These include consideration of a number of different scenarios for future passenger growth based around faster and slower growth in underlying demand and alternative scenarios for runway capacity delivery in the London airport system.

7.4.2 Initially, the forecasts are presented on an unconstrained basis until 32 mppa is reached. These reflect the potential passenger demand that the airport could attract under each capacity scenario elsewhere if it had the infrastructure capacity to do so. The timeline for the delivery of the Proposed Development and, hence, the constraining influence of the airport's infrastructure, is then layered on to the unconstrained passenger demand forecasts to enable consideration of the passenger throughput that can be achieved at the airport through the delivery of the Proposed Development. These passenger forecasts are referred to as the constrained forecasts and these constrained forecasts are those used to assess the impact of the Proposed Development.

Unconstrained passenger forecasts

7.4.3 A number of different scenarios for future growth at the airport have been considered in terms of the unconstrained passenger demand potential for the airport, where it is limited only when the passenger throughput reaches 32 mppa. These reflect a combination of assumptions around additional runway capacity at the London airports, alongside faster and slower underlying passenger demand growth rates as well as the 'most likely' demand case.

7.4.4 In terms of additional runway capacity in the London airport system, four different possibilities have been considered:

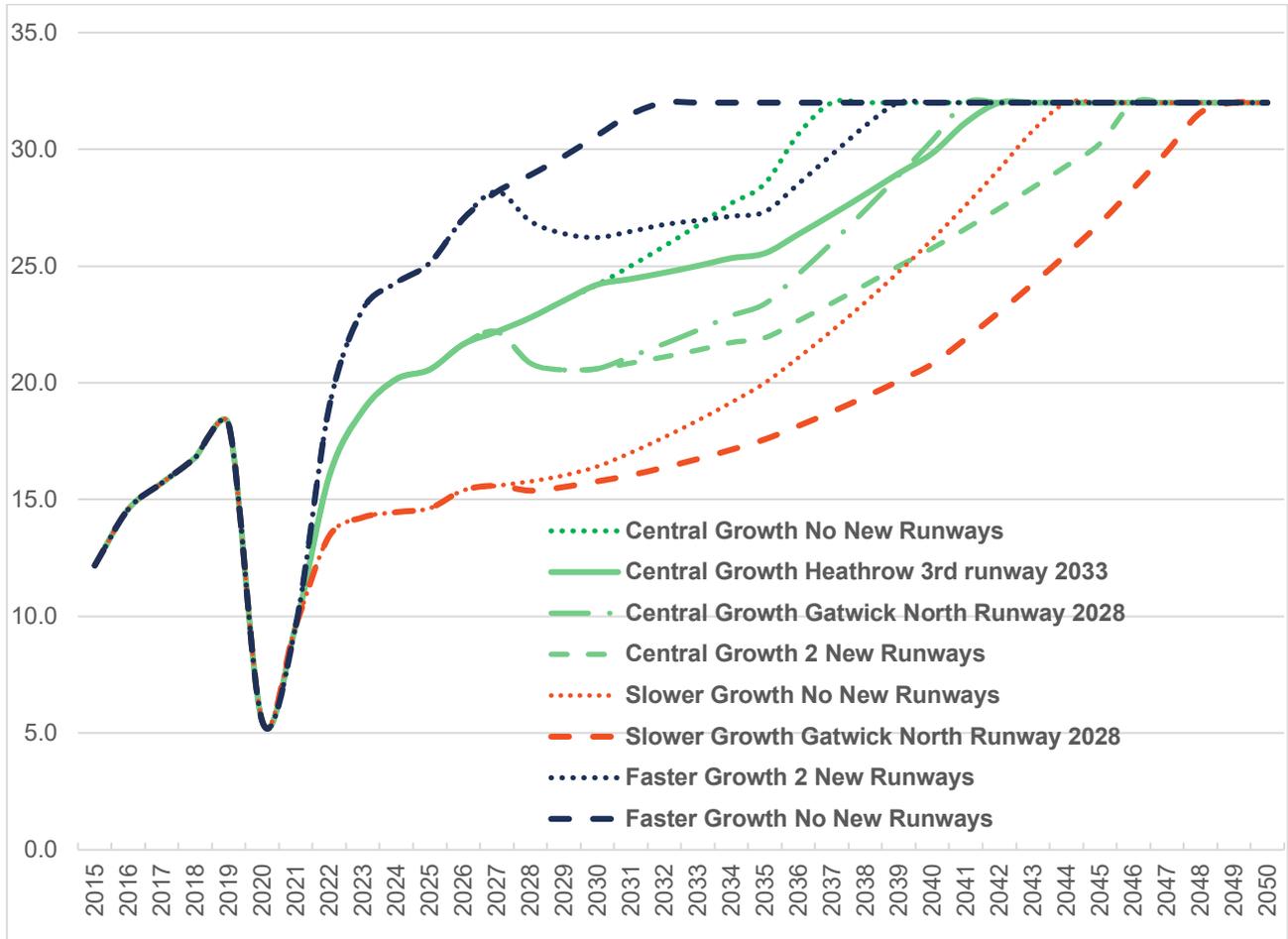
- a. no new runways in the London airport system;
- b. the opening of the third runway at Heathrow in 2033, which is based on an optimistic view of when this project could now be delivered;
- c. the opening of a second runway at Gatwick in 2028, which is slightly ahead of the timelines published by Gatwick in its DCO Statutory Consultation in September 2021; and
- d. the delivery of both a third runway at Heathrow and a second runway at Gatwick in line with the timescales above.

7.4.5 The growth rate scenarios modelled are based on the outputs from the Monte Carlo model described above in terms of the expected growth in the underlying passenger demand market. The 50th percentile growth rate, reflecting what is considered the 'most likely' scenario for future growth, has been used as the basis of the Central Growth scenarios. The 20th and 80th percentiles are used to provide reasonable Slower Case and Faster Case growth rates respectively against which the provision of new runways has been tested under a number of different scenarios.

7.4.6 Eight of the resulting passenger demand growth scenarios are set out in **Inset 7.3** alongside the unconstrained passenger demand forecast used for Statutory

Consultation in 2019. These reflect realistic permutations of potential growth and delivery of runway capacity elsewhere as discussed further below. At this point, no account has been taken of the timing of delivery of new capacity at the airport.

Inset 7.3: Unconstrained passenger demand forecasts for London Luton Airport



Source York Aviation

7.4.7 Whilst these demand scenarios set the reasonable boundaries within which the forecasts for the airport should lie, having regard to the underlying economic factors and the potential for other airports to deliver additional runway capacity, there are reasons why some combinations are less plausible.

7.4.8 In terms of the unconstrained demand forecasts, three scenarios have been defined for the potential underlying growth in demand:

- a. a **central growth scenario** based on the ‘most likely’ growth, defined in paragraph 7.3.11 above, combined with allowance for one new runway at either Heathrow or Gatwick represents the most robust, basis for considering the need for additional capacity at the airport;
- b. a **slower growth scenario**, which is a hybrid of ‘reasonable lower bound’ market growth with no additional runways or ‘most likely’ growth with two additional runways in the South East of England, as it would be expected that with slower overall growth in the market the additional runways at both

Heathrow and Gatwick would be substantially delayed or, potentially, not delivered at all;

- c. a **faster growth scenario** broadly equivalent to the 'reasonable upper bound' market growth with two additional runways or 'most likely' growth with no additional runways delivered. This would potentially represent the reasonable worst case for the assessment of environmental impacts, as the 32 mppa limit for the DCO application would be attained at an earlier date with potential implications for the fleet mix, as discussed later in this section.

7.4.9 However, it is important to also consider the extent to which these demand forecasts can be met in terms of the delivery of new capacity through the Proposed Development. It is these demand forecast scenarios, further constrained by the prospective phased delivery of new airport capacity which form the basis of the assessment of the impacts of the DCO application.

Constrained passenger forecasts

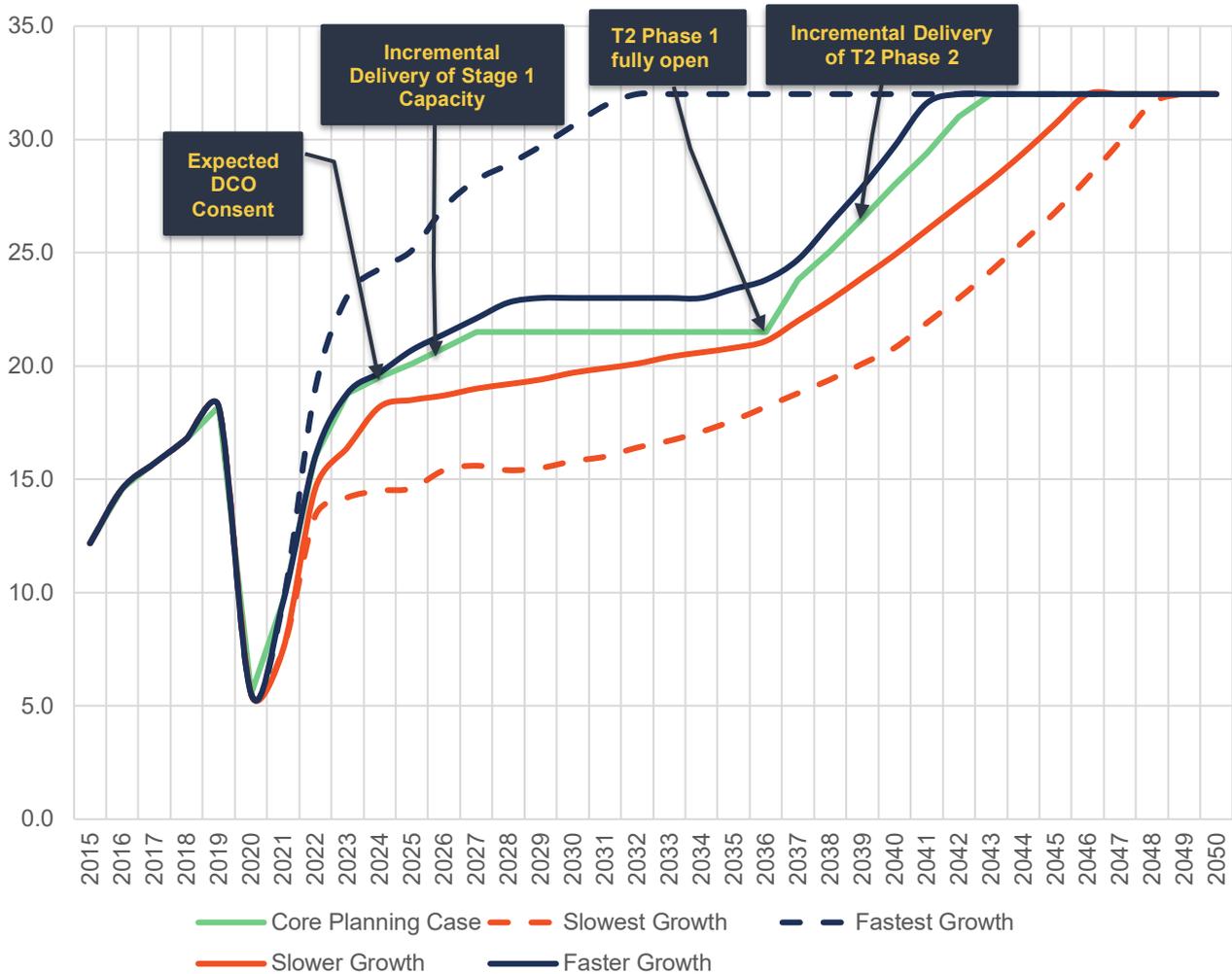
7.4.10 The constrained passenger forecasts consider the extent to which the unconstrained demand projections described above could be delivered given the indicative assessment phasing of the Proposed Development as set out in Section 2. In practice, the timing of delivery of new airport capacity means that growth at the airport is likely to be subject to some periods where it will be constrained below that which could be attained if it was able to meet unconstrained demand growth as set out above. Ultimately, based the assumed phasing of development, 32 mppa would be reached at a slightly later date than would be the case if capacity could be delivered in time to meet the underlying demand. The effect of constraint has been specifically modelled and taken into account in development the forecasts for assessment purposes.

7.4.11 The projections set out here form the basis of the assessments set out in the **PEIR** but the range of forecasts is intended to be indicative of the reasonable range of potential outcomes which could impact on the phasing of delivery.

7.4.12 As noted above, the central growth scenario, with one new runway elsewhere in the London airport system, is considered the most reasonable basis for defining the **Core Planning Case** for the application for development consent and this provides the basis for the environmental assessment. **Inset 7.4** shows the relationship between the Core Planning Case and potential Faster and Slower growth cases. It also shows the outer bounds of the forecast range taken from the unconstrained growth scenarios (**Inset 7.3**) for reference and key milestone dates in the construction phasing.

7.4.13 The Core Planning Case assumes development consent is secured in 2024. This is then followed by incremental delivery of additional capacity in T1, which enables passenger throughput to increase to 21.5 mppa. The initial works to deliver T2 are expected to be complete in time for it to open in 2037, which enables growth beyond 21.5 mppa, and incremental delivery of capacity thereafter enables growth in passenger throughput to meet demand through to the ultimate capacity for the scheme of 32 mppa. 32 mppa is reached in 2043.

Inset 7.4: Planning scenarios for assessment



Source: York Aviation

- 7.4.14 The **Faster Growth Case** sees 32 mppa achieved in 2042, based on the faster growth scenario for underlying growth in demand but also allows for some incremental growth above 21.5 mppa through T1 if the airlines are willing to operate more flights outside of key peak periods, as will be explained further later in this section. It also assumes that some of the T2 infrastructure could be brought into use a year or so ahead of full opening at the end of 2036. On this basis, the throughput of T1 could reach 23 mppa, with some further small incremental growth achieved ahead of the full opening of T2 if some new apron capacity can be made available ahead of the opening of the terminal.
- 7.4.15 In line with the slower growth demand scenario set out above, the **Slower Growth Case** sees 32 mppa reached later in 2046.
- 7.4.16 The passenger forecasts by year for each of the assessment cases are set out in **Table 7.5** below.

Table 7.5: Demand forecasts (mppa) – Cases for assessment

Year	Core Planning Case	Faster Growth Case	Slower Growth Case
2019	18.2	18.2	18.2
2020	5.5	5.5	5.5
2021	9.6	9.6	7.5
2022	16.0	16.0	14.6
2023	18.8	18.8	16.4
2024	19.5	19.5	18.2
2025	20.1	20.1	18.5
2026	20.8	20.8	18.7
2027	21.5	21.5	19.0
2028	21.5	21.6	19.2
2029	21.5	21.6	19.4
2030	21.5	21.7	19.7
2031	21.5	21.7	19.9
2032	21.5	21.8	20.1
2033	21.5	21.9	20.4
2034	21.5	21.9	20.6
2035	21.5	22.0	20.8
2036	21.5	22.0	21.1
2037	23.8	23.8	22.0
2038	25.1	25.6	22.9
2039	26.5	27.4	23.9
2040	28.0	29.4	24.9
2041	29.4	31.6	26.0
2042	31.0	32.0	27.1
2043	32.0	32.0	28.2
2044	32.0	32.0	29.4
2045	32.0	32.0	30.7
2046	32.0	32.0	32.0

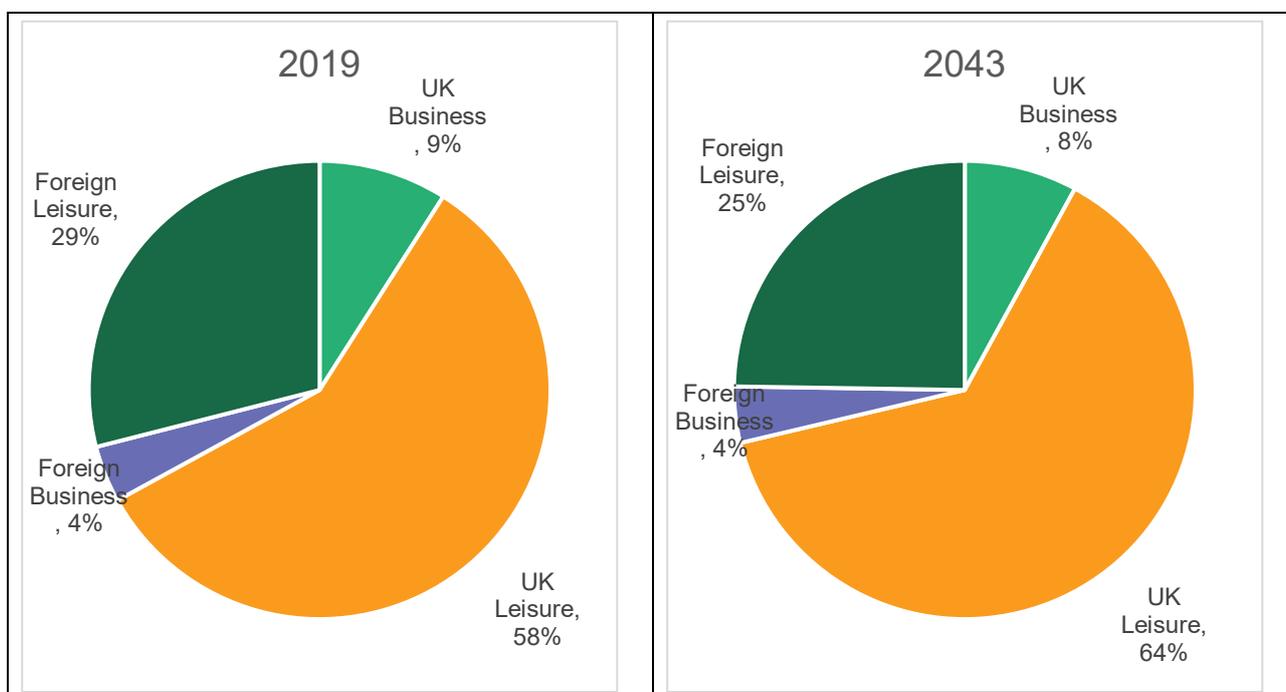
Source: York Aviation

7.4.17 It should be noted that, as explained earlier, projections in the very short-term are highly impacted by assumptions about travel restrictions in operation and should be treated with some caution until the mid-2020s, from which point it is assumed that such restrictions on the ability of the aviation industry to meet demand are removed and that the actual passenger throughput at the airport matches underlying demand, subject only to the timescales over which new airport capacity can be delivered.

Passenger characteristics

7.4.18 In terms of the passengers that are expected to use the airport in future, the airport is expected to remain broadly similar to its composition now. A comparison between the different passenger segments in 2019, taken from CAA Passenger Survey, and in 2043 from the Core Planning Case forecast is set out in **Inset 7.5**. The forecasts suggest a small shift towards UK Leisure passengers primarily and away from Foreign Leisure passengers.

Inset 7.5: Passenger characteristics at the airport in 2019 and in 2043



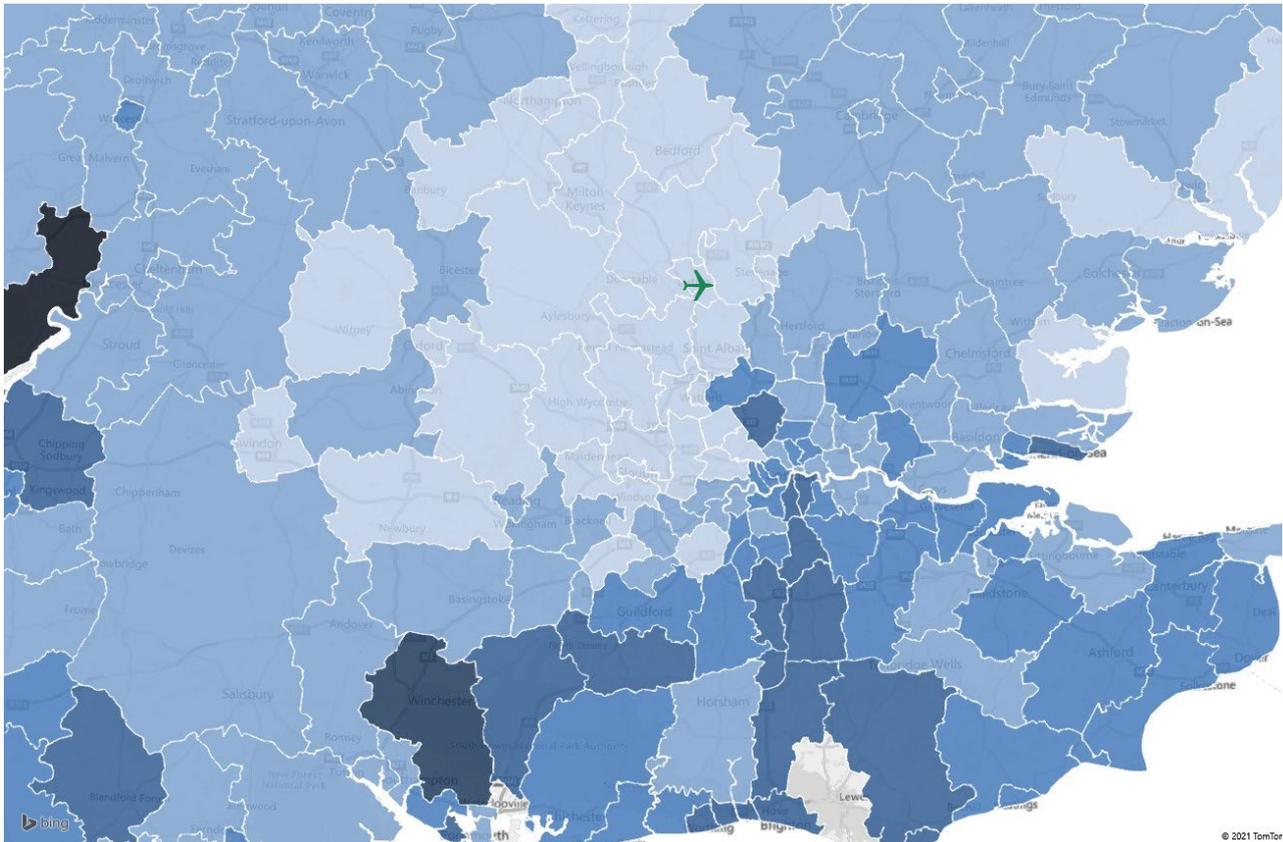
Source: York Aviation

7.4.19 Business passengers are still expected to grow in numerical terms, although they are expected to make up a slightly smaller proportion of the overall number of passengers over the longer term. The underlying growth projections have already factored in the long-term trend towards greater use of video-conferencing, meaning that the increase in business travel relative to the underlying economic activity is moderated over time.

7.4.20 In terms of its catchment area, the airport is expected to expand the area it draws passengers from over time, particularly to the South, reflecting the greater attractiveness in terms of its range of services. The expansion to the South reflects likely ongoing constraint within the London airport system even in the future. **Inset 7.6** shows a map of passenger demand growth rates by district.

The darker colours represent faster growing sources of demand, albeit the effects are only marginal in scale. This shows quite clearly that faster growing markets tend to be to the south of the airport. This will, ultimately, have some implications for surface access to the airport moving forward, which have been taken into account in the transport assessment.

Inset 7.6: Map of passenger demand growth rates by district



Source: York Aviation

7.5 Cargo and business aviation forecasts

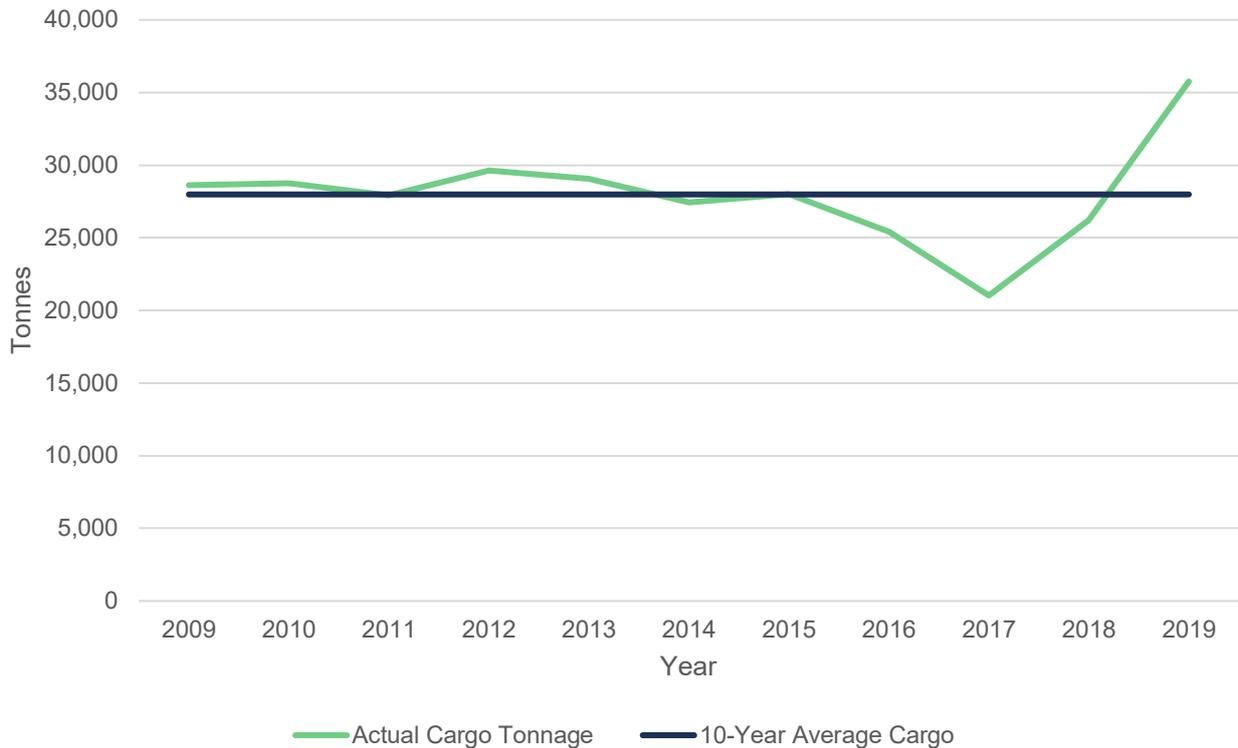
7.5.1 This sub-section sets out the approach taken to forecasting cargo and business aviation activity and the corresponding associated forecasts for aircraft movements.

Cargo forecasts

7.5.2 Currently, cargo at the airport is carried almost exclusively on dedicated cargo aircraft, primarily operated by DHL and Turkey's MNG Airlines. Low fares airlines, such as easyJet, Wizz Air and Ryanair that dominate passenger activities at the airport, do not generally carry cargo in the bellyholds of their aircraft.

7.5.3 Cargo tonnage has fluctuated from year to year, and between 2009 and 2019, the average annual cargo tonnage has been around 28,000 tonnes. However, in 2019, this figure was significantly higher at 35,700 tonnes (see **Inset 7.7**).

Inset 7.7: Cargo tonnage at the airport 2009 – 2019



Source: CAA Statistics

- 7.5.4 Similarly, cargo aircraft movements have also fluctuated, peaking in 2019 at 2,800 annual movements but this was significantly higher than in 2017 and 2018 at 1,900 movements in 2017 and 2,300 movements respectively.
- 7.5.5 Although most cargo is currently handled on dedicated cargo aircraft, this may not be the case in the longer term as the airport attracts long haul passenger services once the new infrastructure in T2 is available to support such operations. Unlike the low fares airlines, which are expected to continue to drive the majority of growth in the short haul market, long haul airlines (including long haul low fares airlines) do carry bellyhold cargo. Therefore, the projections for future cargo are based on a combination of the dedicated cargo aircraft market and also the addition of long haul services over time.
- 7.5.6 Despite the uptick in throughput in 2019, significant growth in the dedicated cargo market at the airport is not anticipated, given the patterns seen over the longer-term. To ensure that sufficient cargo capacity is included within the development plans, cargo carried on dedicated cargo aircraft is assumed to remain at 35,700 tonnes over the period of the forecasts, as per 2019. As explained further below, it is not planned to encourage additional dedicated cargo operations. This actual cargo tonnage may, in reality, fluctuate in some years.
- 7.5.7 For long haul bellyhold cargo, a ‘bottom-up’ forecast for cargo has been created, which looks at the annual frequency of services and the tonnage which may be carried on each of the passenger services identified in the long haul overlay forecasts. The forecasts have not sought to explicitly estimate cargo tonnage demand at the airport because cargo will typically be sent through any airport

which has bellyhold capacity available to the relevant destination and is not necessarily explicitly linked to the local market around an airport. On this basis, and considering the relatively small amount of cargo forecast for the airport, the projections have been based on an assumption of the take up of bellyhold capacity available on such services.

7.5.8 This ‘bottom-up’ forecast, therefore, relates to the assumed fleet mix for long haul activity, with each aircraft assumed to carry an average tonnage of cargo across all its movements. The typical tonnage per movement has been assessed based on the performance of other UK airports (excluding London Heathrow). These estimates can be seen in **Table 7.6**. On this basis, it has been assumed that each long haul passenger aircraft movement will also carry 5 tonnes of cargo.

Table 7.6: 2019 Average tonnes per widebody aircraft movement at UK airports

Airport	Bellyhold Cargo	Scheduled Widebody Movements	Average Tonnes Per Movement
Birmingham	15,764	3,878	4
London Gatwick	110,150	29,808	4
London Stansted	6,874	1,168	6
Manchester	104,635	20,620	5
Newcastle	4,075	874	5

Source: York Aviation analysis of CAA Airport Statistics

7.5.9 Within the passenger forecast, long haul services are not assumed to commence until 2037, when T2 provides suitable new infrastructure capable of serving larger (Code E) aircraft. Consequently, the forecast for bellyhold cargo only commences in 2037 and is shown for the core assessment years in **Table 7.7**. To the extent that 27 and 32 mppa are reached earlier or later in the Faster and Slower Growth cases, these throughputs would be reached earlier or later.

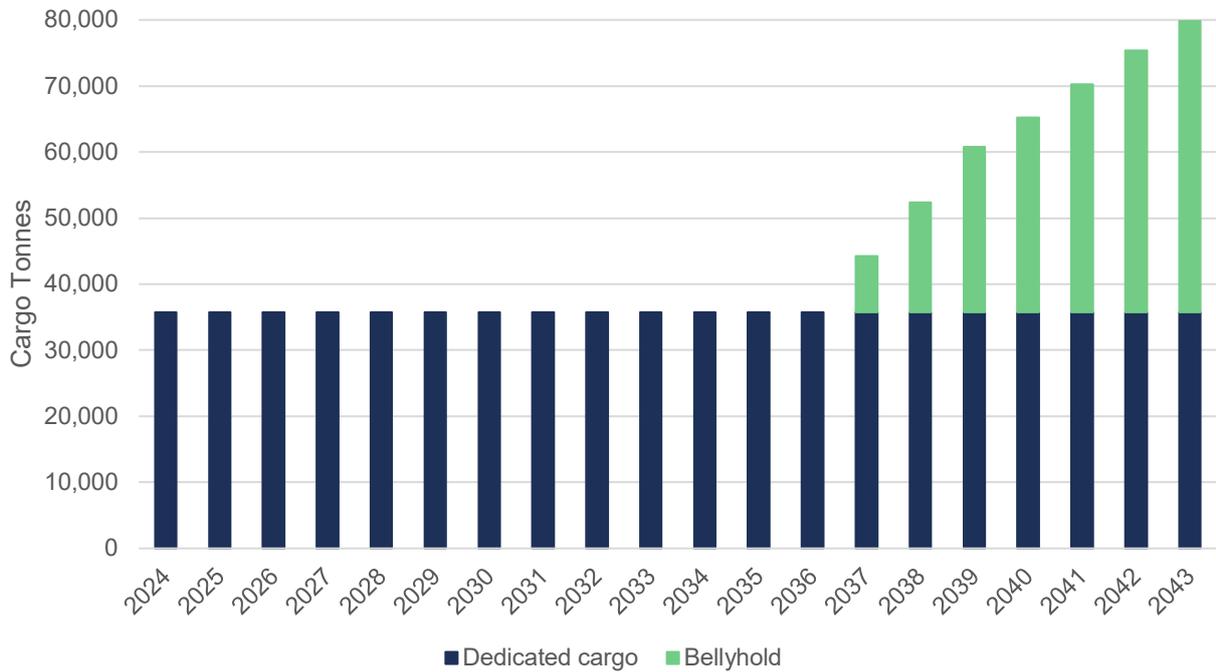
Table 7.7: Bellyhold cargo tonnage forecast for the airport

	Annual Movements	Tonnes/ Movement	Cargo Projection
2039			
Airbus A350-900	630	6	3,780
Boeing-787-8	1,880	4	7,520
Boeing-787-9	630	7	4,410
Boeing-787-10	1,250	7	8,750
Airbus A321LR	630	1	630
Total 2039 Bellyhold Cargo			25,090
2043			
Airbus A350-900	630	6	3,780
Boeing-787-8	4410	4	17,640
Boeing-787-9	1260	7	8,820
Boeing-787-10	1890	7	13,230
Airbus A321LR	630	1	630
Total 2043 Bellyhold Cargo			44,100

Source: York Aviation

7.5.10 The dedicated cargo tonnage per annum and bellyhold projections have then been combined to provide the overall cargo forecast. This is shown in **Inset 7.8**, reaching a peak of around 80,000 tonnes of annual cargo by 2043 in the Core Planning Case.

Inset 7.8: Long-term cargo tonnage forecast for the airport

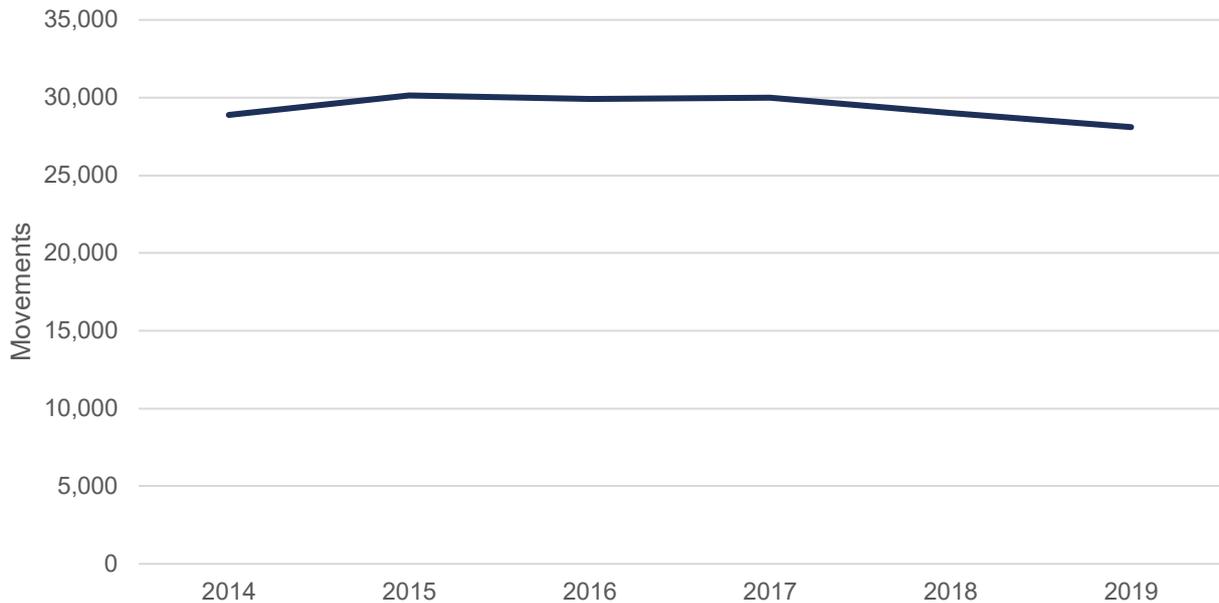


Source: York Aviation

Business aviation forecasts

7.5.11 Business aviation is forecast solely on the basis of aircraft movements. As can be seen in **Inset 7.9**, there has been relatively little variation in the number of such aircraft movements over recent years, in large part related to the amount of apron space available to park such aircraft. In recent years, the typical number of such movements annually has been up to around 30,000 movements.

Inset 7.9: Historic Business/General Aviation aircraft movements at the airport



Source: LLAOL Movement Data.

7.5.12 Given recent trends, the future projections have assumed that such movements remain at this upper limit of 30,000 aircraft movements a year throughout the forecast period, which is considered a realistic upper bound for assessment purposes given that additional apron areas for such aircraft are not part of the Proposed Development.

7.6 Parameters for environmental assessment, surface access planning and capacity assessment

7.6.1 This sub-section sets out how the passenger and air cargo projections outlined above have been used to provide the more detailed forecast parameters to enable the assessment of the impacts of the Proposed Development.

Annual aircraft movement forecasts

7.6.2 Based on the passenger and cargo projections outlined above, aircraft movement projections have been developed. The outputs described here are for the Core Planning Case (32 mppa by 2043), but the process, assumptions and methodologies are also consistent for outputs related to the Slower and Faster Growth cases.

7.6.3 In addition to outputs relating to the Proposed Development to 32 mppa, outputs have also been prepared for the Without Development Case of 18 mppa to allow assessment of the impacts of the development relative to Without Development. If the recent decision of Luton Borough Council to grant approval to lifting the passenger cap at the airport to 19 mppa (21_00031_VARCON) is confirmed, further consideration to the implications of this cap uplift for the Without Development Case will be given before submission.

7.6.4 In addition to the Core Planning Case fleet mix, a variant fleet mix has been developed for the Faster Growth Case that assumes a slower transition to new generation quieter aircraft in order to ensure that a reasonable worst case for environmental assessment has been set out.

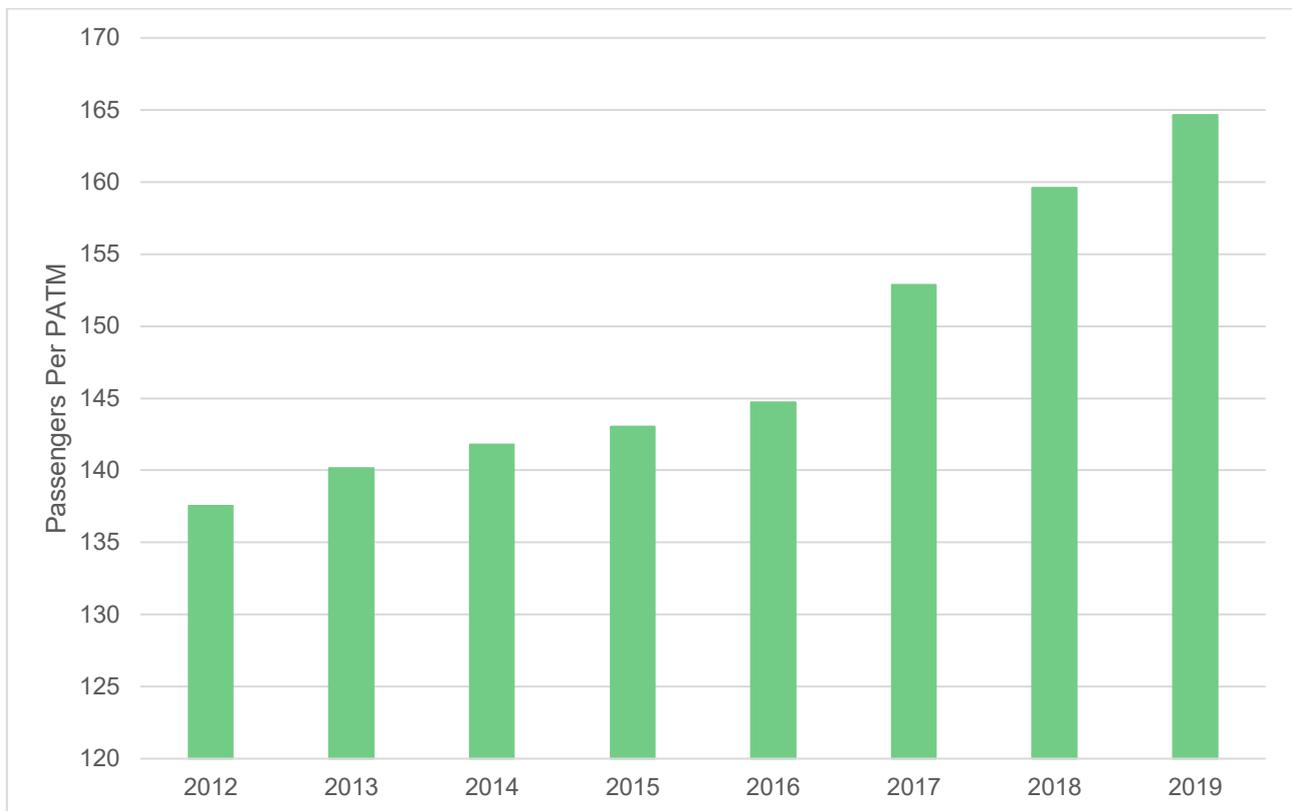
7.6.5 It is important to recognise that over the period to 2046, there will be further developments in aircraft technology, not least to meet the requirements of Jet Zero to see the introduction of electric or hydrogen powered aircraft. Such new generation aircraft would be expected to be quieter than those they replace, following the consistent trends for new generation aircraft to be quieter than those they replace. The main fleet mixes provided for assessment make no assumptions regarding such next generation aircraft entering into service but it is reasonable to assume that they will be entering into service by the mid to late 2030s in order to meet the overarching targets set out within Jet Zero. Hence, a fleet mix sensitivity case has been developed to reflect the prospects for further technological evolution in the late 2030s and 2040s.

Passenger air transport movement forecasts

7.6.6 Projections of commercial passenger aircraft movements, or Passenger Air Transport Movements (PATMs), are calculated for future years based on a projected average number of passengers per movement. By dividing the overall passenger forecast by these projections, the annual movements are determined.

7.6.7 Hence, the first stage of assessing the PATMs is to determine the likely average passengers per movement in future years. The starting point for establishing the number of passengers per PATM in future years has been to review recent performance at the airport. As can be seen in **Inset 7.10**, this has been increasing over recent years, climbing from around 138 passengers per PATM in 2012 to just under 165 in 2019. Over the last 4 years alone, this figure has grown by an average of 3.6% per annum.

Inset 7.10: Recent growth in passengers per PATM at the airport



Source: York Aviation analysis of LLAOL Movement Data

- 7.6.8 This rapid increase has taken place for two key reasons:
- the average number of seats available on each flight has been increasing; and
 - airlines have been selling a higher proportion of the seats available on each flight (known as the load factor).

- 7.6.9 The first of these has been the result of a combination of:
- airlines replacing older aircraft with larger versions of the same aircraft families, for example easyJet replacing 156-seat Airbus A319 aircraft with 186-seat Airbus A320 aircraft; and
 - because of more rapid growth by airlines such as Wizz Air which have been operating larger capacity variants of narrowbody aircraft compared to the historic average at the airport.

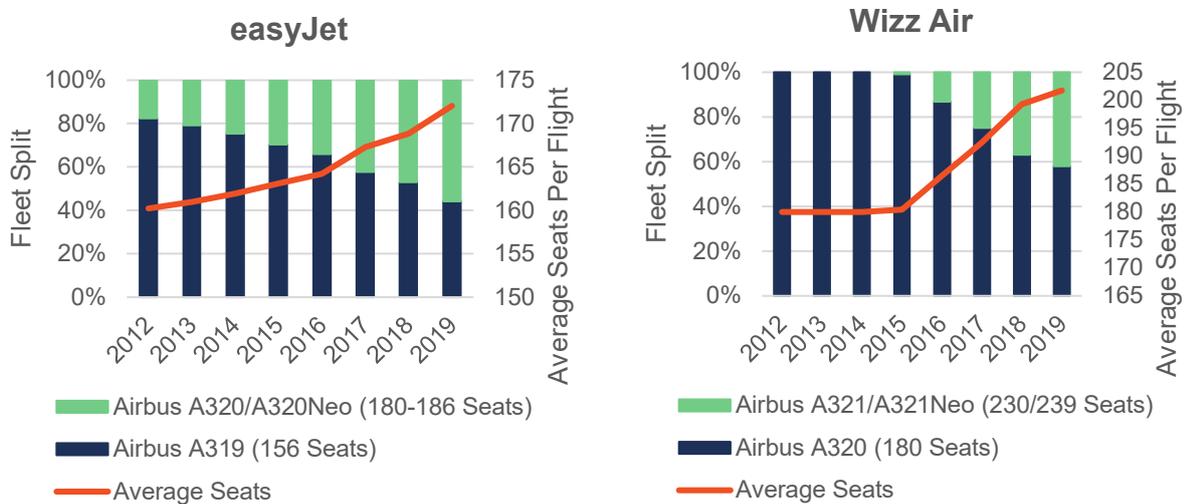
7.6.10 It is important to recognise, however, that when considering 'larger' aircraft in this context, the airlines continue to base their operations around Code C narrowbody types, which includes the Airbus A320 family and Boeing-737 family of aircraft. Within each of these there are different variants. In essence, these are just stretched variants of the same basic aircraft with more seats on board. Indeed, some aircraft have been altered to fit more passengers without any physical change to the fuselage, such as the increase from 180 to 186 seats on the Airbus

A320 and the increase from typically 210-220 passengers on the Airbus A321 to up to 235-239 passengers on the replacement Airbus A321Neo.

7.6.11 Hence, growth in aircraft size has not been due to any fundamental change to much larger aircraft and this can be seen in **Inset 6.5** which illustrates the scale of seat increase across the Airbus A320 family for the two largest airlines at the airport, easyJet and Wizz Air.

7.6.12 **Inset 7.11** illustrates the balance of aircraft types scheduled by these key airlines since 2012 and the impact on the average number of seats per movement for each, showing the clear upward trend and the acceleration of this over recent years.

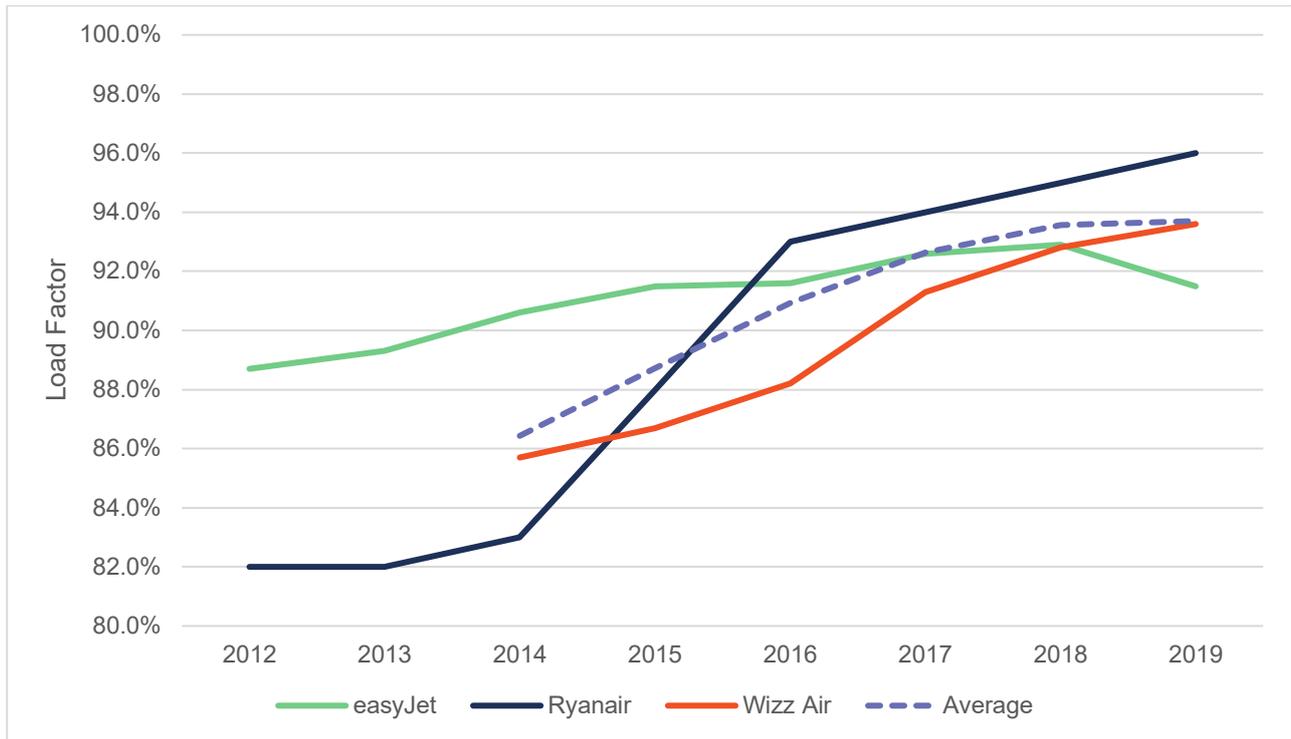
Inset 7.11: Fleet breakdown and average seats per aircraft movement for easyJet and Wizz Air at the airport



Source: OAG

7.6.13 In addition to this upward shift in aircraft capacity, the main airlines operating at the airport have also been focusing on increasing the proportion of seats sold on each flight (the load factor) in recent years. These carriers historically targeted selling around 80-85% of all available seats, but recently have actively sought to increase this to over 90%. **Inset 7.12** shows the average load factors for the airport's three largest carriers across their whole networks over time, illustrating the upward trend.

Inset 7.12: Network-wide average load factors for key airlines using the airport



Source: Airline Annual Reports

7.6.14 This upward trend towards higher load factors has been broadly consistent across all carriers at the airport, where it is estimated that the average load factor across all airlines climbed from 81% in 2012 to 88% in 2019. Going forward, the recent trends in load factor growth are likely to be unsustainable as the ability to increase the number of passengers per ATM is, ultimately, limited by the seating capacity of the aircraft, typically Code C aircraft operating short haul flights from the airport, and the commercial reality that some flights will operate with a full load (such as outbound at the start of the school holiday period) whilst the reverse leg will necessarily have a lower load factor.

7.6.15 This suggests that the rate of change in average passengers per aircraft movement will be slower over the medium to long-term. In determining the future expectations as to passengers per PATM, a number of other factors have been considered:

- a. the number of easyJet Airbus A319s to be replaced by larger aircraft is now a smaller proportion of the overall the airport fleet than over recent years, meaning that the replacement of each will have a lower impact on the average numbers of passengers per aircraft in future;
- b. Wizz Air now accounts for a larger proportion of the overall traffic and, therefore, its future growth will have a lower impact in terms of the ongoing increase in passengers per aircraft movement than the impact up to 2019 when it was growing its share and increasing aircraft size concurrently;

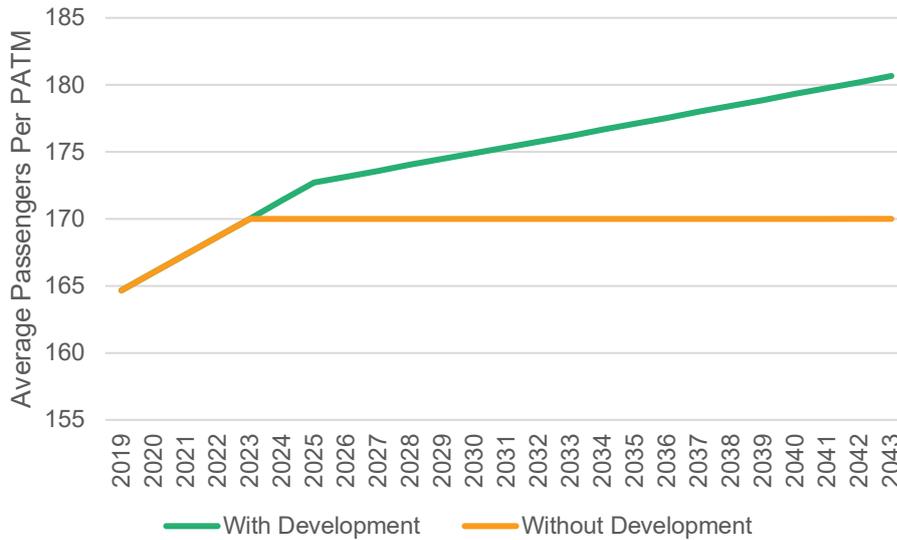
- c. the change in average seating capacity for other airlines may be less even as they replace aircraft, for example Ryanair's new B737-Max 8 aircraft will carry only 9 passengers more than their current fleet;
- d. network-wide and at the airport average load factors appeared to be stabilising pre Covid-19 at around 93% year round. Given that it is not realistic to expect 100% of seats on all flights year round, then there is likely little scope for this to be a contributing factor in average passengers per PATM increases; and
- e. as the airport grows, different types of airlines may have lower average load factors compared to the existing airlines, for example regional or full service airlines that may operate more in the 70-80% load factor bracket.

7.6.16 In the short-term, due to Covid-19, load factors are likely to remain below long-term averages. Taking into account the factors above, the average rate of change in average passengers per PATM is assumed to be approximately 1% per annum until the mid-2020s, then slowing to 0.25% per annum until the end of the forecast period. The more rapid change in the near term reflects the continued replacement of easyJet's Airbus A319 aircraft, before then settling to a balanced mix of larger Code C aircraft such as Airbus A320s and Airbus A321s (and Neo versions), with some more steady replacement of the smaller variants over time as passenger demand increases.

7.6.17 These projections have been informed by consultations with airlines operating at the airport presently regarding their fleet plans going forward as well as their likely operating patterns as they grow. These have also been checked against the publicly announced fleet plans for these airlines. As other stages of the detailed outputs were produced, including the Busy Day Timetables and the annual fleet mixes, so the average increase was sense-checked and confirmed that this was a credible rate of change.

7.6.18 **Inset 7.13** illustrates the expected annual average passengers per PATM used to underpin the detailed forecast outputs. The same assumptions apply across all forecast scenarios (Core Planning, Faster Growth, Slower Growth and Without Development). In all cases, a downward adjustment to the number of aircraft movements expected in 2023 has been made to reflect known airline re-fleeting plans. Thereafter, the number of passengers per PATM is grown in line with the forecasts except in the Without Development Case when, on reaching 18 mppa again (in 2023), it is assumed that the airlines will seek to maintain frequencies of service rather than increase aircraft size with the passenger cap in place.

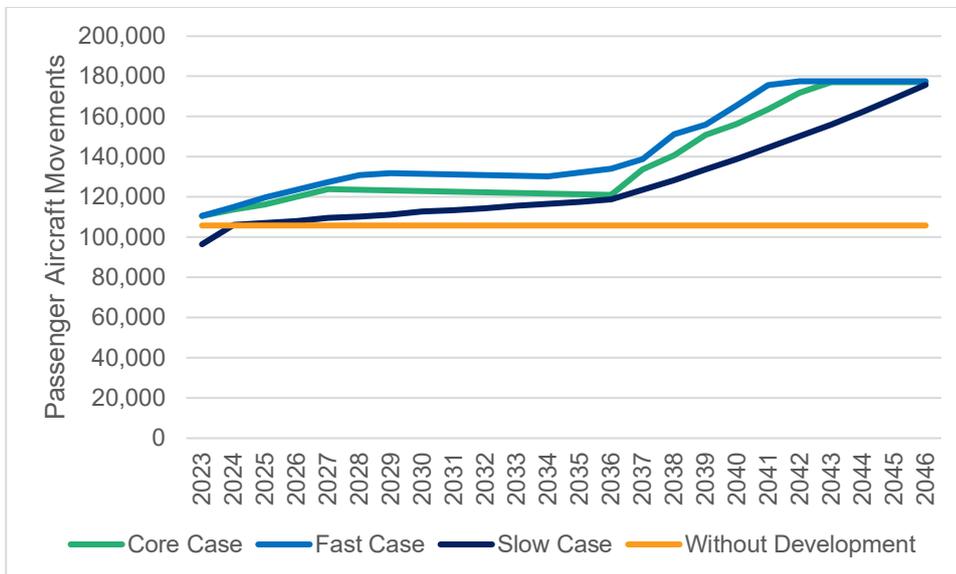
Inset 7.13: Forecast average passengers per PATM at the airport



Source: York Aviation

7.6.19 The average numbers of passengers per aircraft movement have been used to calculate the annual number of PATMs by dividing the passenger forecast by the average aircraft size for each of the forecast scenarios. The resultant movement forecasts can be seen in **Inset 7.14**.

Inset 7.14: Passenger air transport movement forecasts



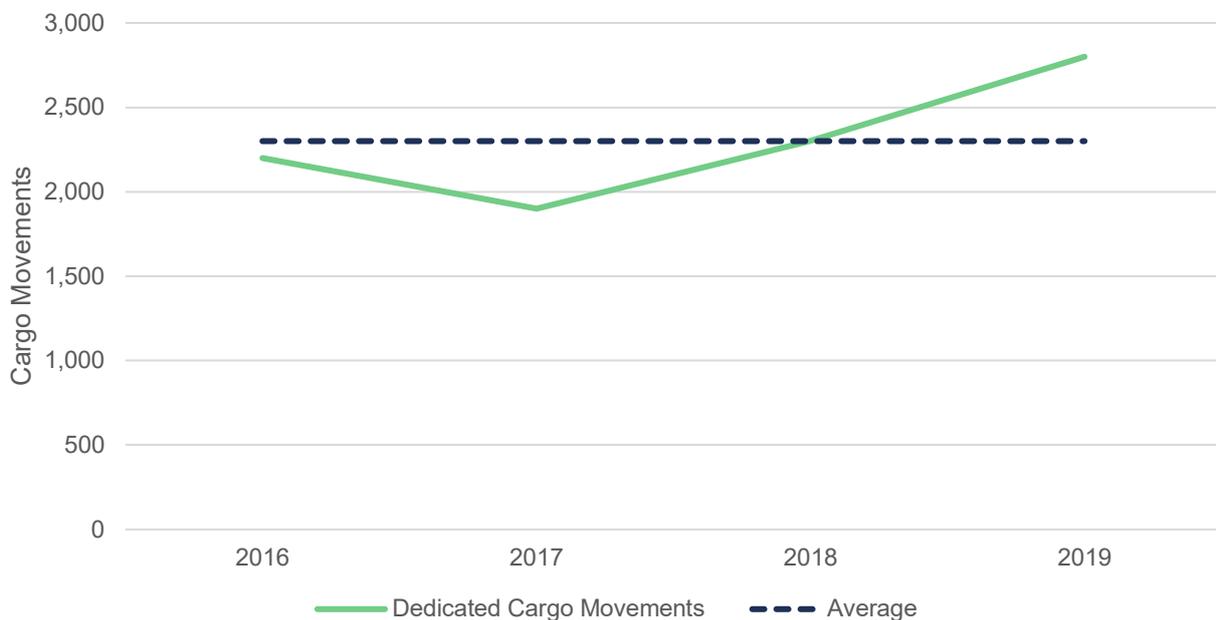
Source: York Aviation

7.6.20 Over time, as long haul services develop, wide-bodied aircraft and some long haul narrowbody aircraft will enter the fleet mix. At 27 mppa, around 3% of the annual passenger fleet is projected to be wide-bodied aircraft, climbing just under 5% at the point when 32 mppa is handled.

Cargo aircraft movement forecast

7.6.21 As has already been indicated earlier in this section, it is assumed that cargo on dedicated aircraft will be capped at the 2019 level. Similarly, dedicated cargo aircraft movements are projected on a fixed basis throughout. Although the number was around 2,800 movements in 2019, this was an isolated peak and, even during the Covid-19 pandemic when activity in dedicated cargo aircraft increased generally, the number of such movements at the airport was 1,600. A realistic average of 2,300 dedicated cargo aircraft movements has been adopted for the future as can be seen in **Inset 7.15**, albeit that these movements are expected to be able to accommodate the cargo tonnage seen in 2019 over the longer term due to some up-gauging of aircraft.

Inset 7.15: Historic cargo aircraft movements at the airport



Source: York Aviation

Total aircraft movement projections

7.6.22 The overall movement forecasts are, hence, derived by combining the passenger movement and cargo aircraft movement forecasts described above, along with the business aviation projections described earlier in this section. These can be seen in **Inset 7.16**.

Inset 7.16: Total aircraft movements by year With Development and in the Without Development Cases



Source: York Aviation

Key outputs for environmental impact assessment

- 7.6.23 The forecasts have been developed into more detailed outputs to allow the environmental impact assessment work to be undertaken, as well as to support capacity planning and highways modelling. Key outputs include:
- a. Busy Day timetables for airport capacity planning and October Day Timetables for highways modelling and surface access;
 - b. annual fleet;
 - c. 92-Day fleet mix for noise assessment; and
 - d. assumed world region split for each aircraft type and average range to each region.

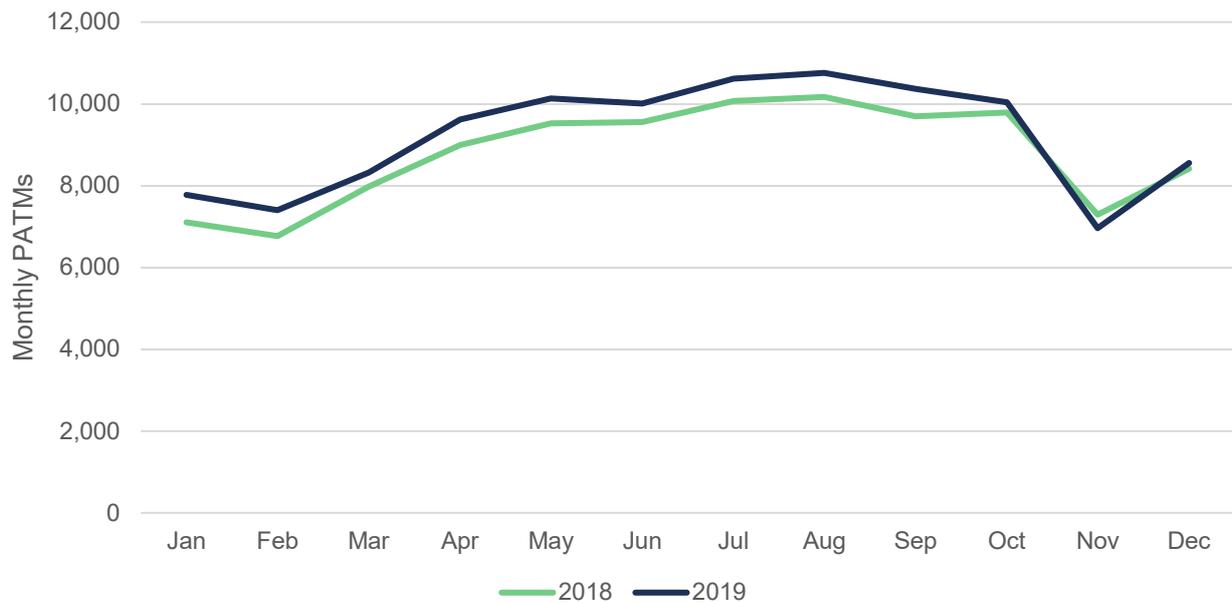
Busy day and October day timetables

- 7.6.24 Busy Day Timetables (BDTTs) have been developed as a basis for assessing capacity requirements and these are used to project forward to 92-day and annual fleet mixes, which are considered later in this section.
- 7.6.25 These BDTTs are intended to represent a typical busy day, not the peak day in the year or the busiest hour in the year but a typical busy period relevant to be used for design purposes. This is normally based on the day containing the 30th busiest hour in the year. As the airport has a fairly consistent pattern of daily operations over the busy summer period, this is considered a representative day.
- 7.6.26 In addition, timetables for an indicative October day have been developed in each assessment year for the purposes of surface access assessments and transport modelling. This is to reflect that the Busy Day in each year is likely to occur in the peak of summer when background road traffic is lower due to the school

holidays. The October day represents a typical busier day for the month (excluding the half term peak) to test against a normal level of background traffic demand and is considered more appropriate for surface access modelling.

7.6.27 The first stage in developing these indicative timetables is to determine the number of movements which will occur on each day. The airport, like many airports, has a definite peak in movements over the summer months, declining in the winter months. This can be seen in **Inset 7.17** for 2018 and 2019.

Inset 7.17: Seasonality of passenger aircraft movements at the airport



Source: CAA Statistics

7.6.28 Over time, as the airport grows it is expected that this seasonal pattern will flatten somewhat as:

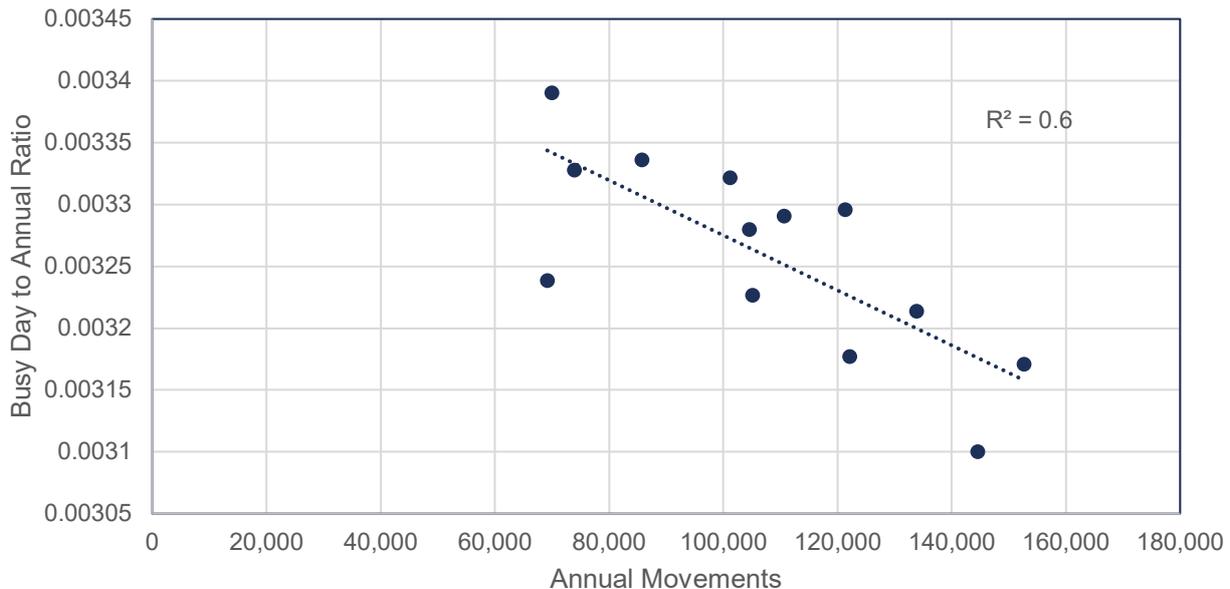
- a. many long haul services are likely to operate a more consistent schedule across the year than short haul services;
- b. leisure routes tend to dominate smaller airports, whilst larger airports tend to have a greater balance of destinations, many of which will have year-round demand; and
- c. regional airlines, which currently have a limited presence at the airport, but likely to grow over time, may operate a more consistent pattern of traffic across the year.

7.6.29 Examining trends in seasonality at the airport and at Stansted, with a similar mix of traffic as expected in future, regression analysis shows how the ratio of Busy Day to annual passenger aircraft movements would be expected to decrease as the airport grows. This is shown in **Inset 7.18**. Hence, the number of aircraft movements on the Busy Day does not grow pro rata to the increase in the annual number of aircraft movements. This decline is projected to 2040 but the number

of aircraft movements on the busy day is retained as a constant proportion to annual movements thereafter in order to:

- a. reflect uncertainty over the nature of airlines which may be operating in the UK, and their patterns of operation in 20 years' time; and
- b. present a reasonable worst case environmental assessment which is driven off the Busy Day, particularly for the key noise assessments.

Inset 7.18: Busy day to annual passenger aircraft movement analysis



Source: York Aviation

7.6.30 Whilst the number of aircraft movements assumed on the Busy Day declines relative to the annual number of aircraft movements forecast, the number of aircraft movements expected on the October day increases slightly over time relative to the annual total. This is because there is expected to be some spill over of peak activity into the shoulder months such as October.

7.6.31 Taking these adjustments into account, **Table 7.8** illustrates the projected Busy and October Day passenger aircraft movements for each of the key assessment years.

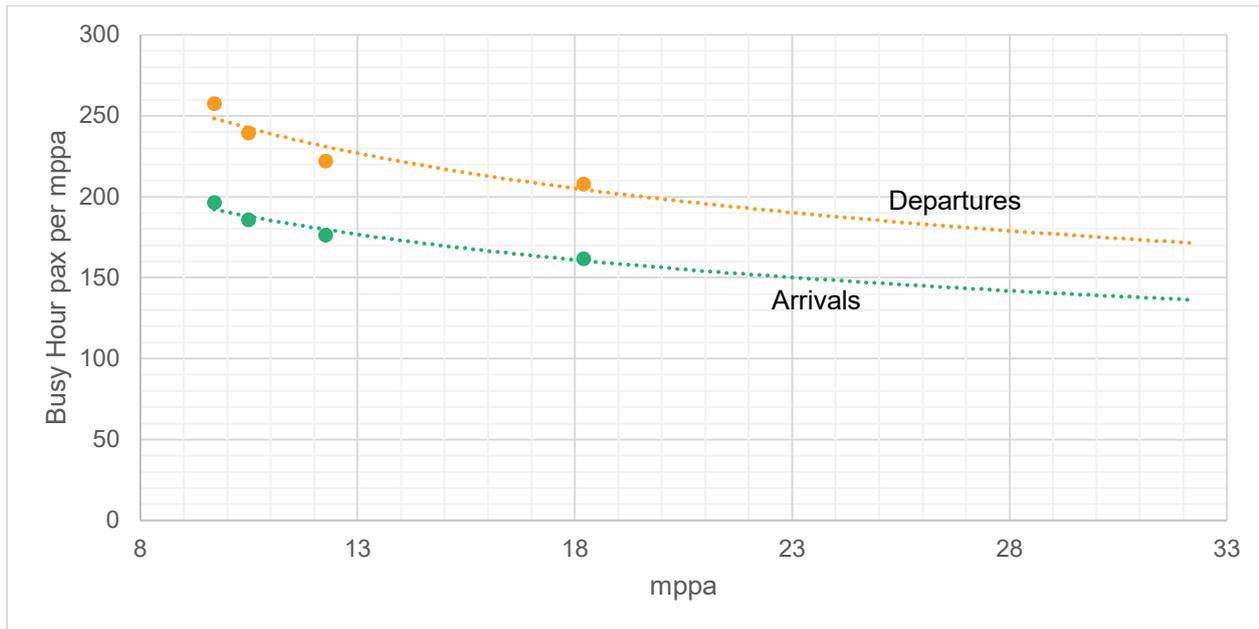
Table 7.8: The number of aircraft movements projected on the busy and October Days

Forecast Ratio		
Year	Busy Day	October Day
2027	403	373
2039	483	457
2043	565	536

Source: York Aviation

- 7.6.32 The process for developing the timetables is consistent across both the Busy Day and the October Day and, in both cases, uses appropriate days for 2019 as the starting point for the process. There are three key stages to the timetable development:
- a. remove services known to no longer be operating (due to airline failures or service withdrawals);
 - b. adjust aircraft types based on discussions with airlines, industry trends and in line with aircraft size parameters set out above; and
 - c. add new flights to the schedule up to the projected number of movements for a busy day. Additional flights are based on observed operating patterns for airlines, whether with based or inbound aircraft. Mini schedules have been created for new based aircraft which will reflect likely and forecast destinations, sector lengths and turnaround times, building up a day's operation for such an aircraft to add into the timetable. For potential inbound aircraft, these are based on likely arrival times at the airport from the origin as well as realistic turnaround times before departure.
- 7.6.33 It is important to note that, whilst the timetables are based on realistic operating patterns, they remain indicative of the profile of traffic, generic assumptions as to the destinations likely to be served and the types of airlines which may operate. Over the period to 2043, it is likely that some airlines will enter and leave the market and it is the nature of the schedule overall which is more important than the detail by airline or route.
- 7.6.34 As a further sense check, the historic relationship between the typical busy hour flow of arriving and departing passengers at the airport has been examined to ensure that, within the busy day, the busy hours are grown appropriately having regard to the expectation that, as with seasonality, the profile of traffic using an airport will spread over the day as the overall number of flights and passengers handled grows. The profile for the airport, based on recent years' actual data. Is illustrated in **Inset 7.19**.

Inset 7.19: Ratio of busy hour to annual passengers at the airport (arrivals and departures)



Source: York Aviation analysis of LLAOL data

7.6.35 This analysis results in estimated peak hour passenger flows across the airport as a whole for each of the assessment throughputs; 21.5, 27 and 32 mppa. These are set out in **Table 7.9** below in future years and this has informed the development of the BDTTs and informed the parameters used to determine the terminal works required as part of the Proposed Development.

Table 7.9: Projected busy hour passengers at the airport

Mppa	Arrivals	Departures
Phase 1 - 21.5 mppa	3,300	4,200
Phase 2a – 27 mppa	3,900	4,900
Phase 2b – 32 mppa	4,350	5,500

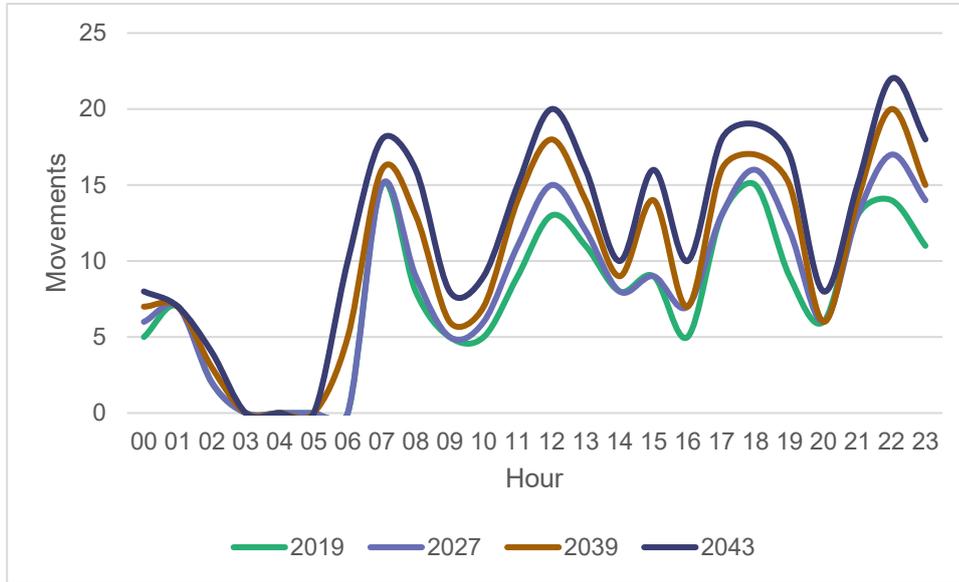
Source: York Aviation analysis of LLAOL data

7.6.36 In developing the BDTTs, account has been taken of the difference between scheduled times of operation and the actual passenger flows through the terminal as reflected in the above busy hour projections. Hence, the hourly passenger flows shown in the BDTTs do not precisely match historically derived benchmarks but are considered to be within a reasonable tolerance of error. The demand profiles for aircraft movements and passengers, based on scheduled times of arrival and departure, are set out in **Insets 7.20 to 7.24** below for the Core Planning Case¹⁷. To the extent that these hourly flows used for assessment purposes are higher than the historic benchmarks, this contributes to ensuring that a reasonable worst case for the impacts has been assessed.

¹⁷ These include only PATMs and their associated passengers and not freight and business aviation aircraft movements.

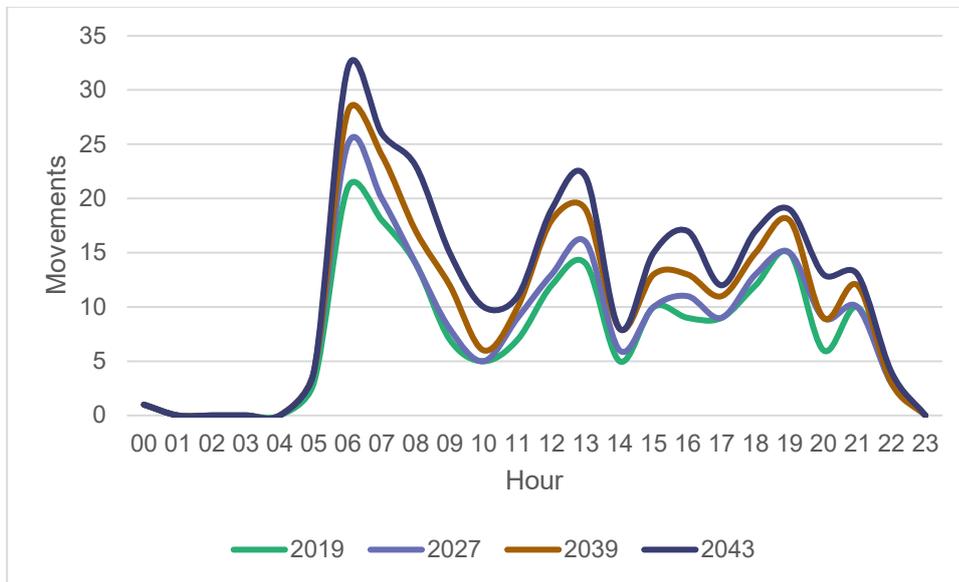
7.6.37 In developing both the Busy Day and October Day timetables, a load factor of 90% has been applied to all arriving and departing flights to determine passenger numbers. In practice, some flights will operate at higher load factors and others below. The resulting number of passengers on the Busy Day has been cross checked for consistency to the annual total.

Inset 7.20: Profile of scheduled arriving aircraft movements on a busy day



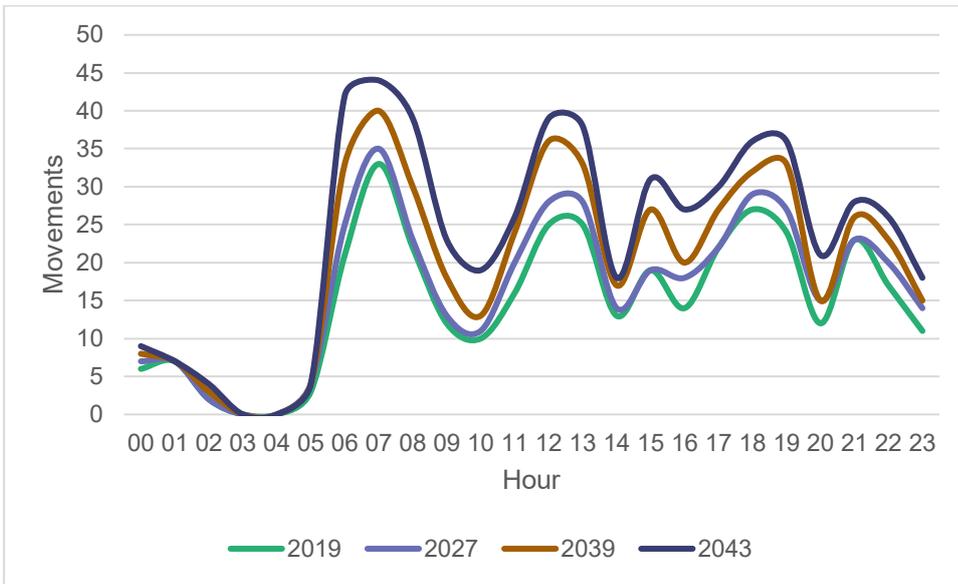
Source: York Aviation

Inset 7.21: Profile of scheduled departing aircraft movements on a busy day



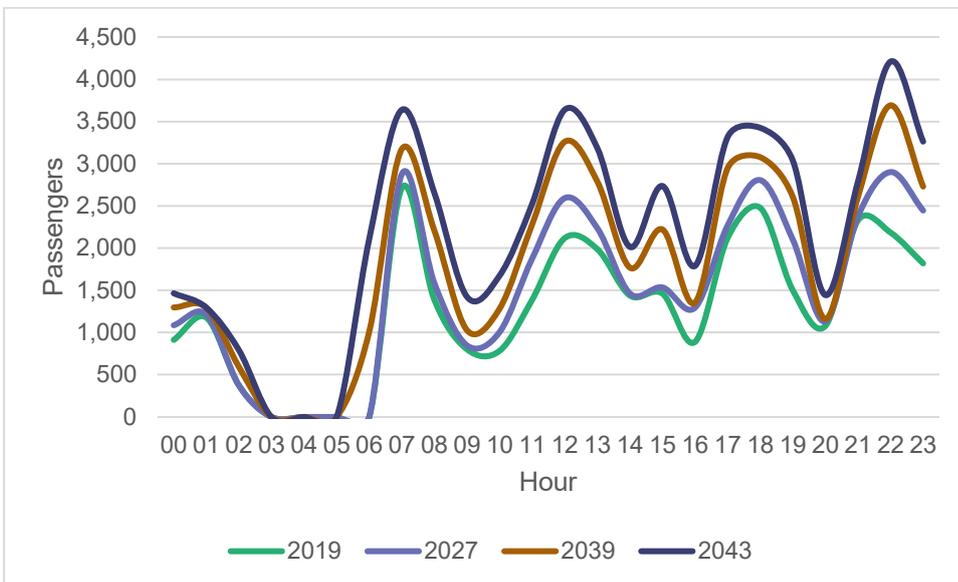
Source: York Aviation

Inset 7.22: Profile of two-way scheduled aircraft movements on a busy day



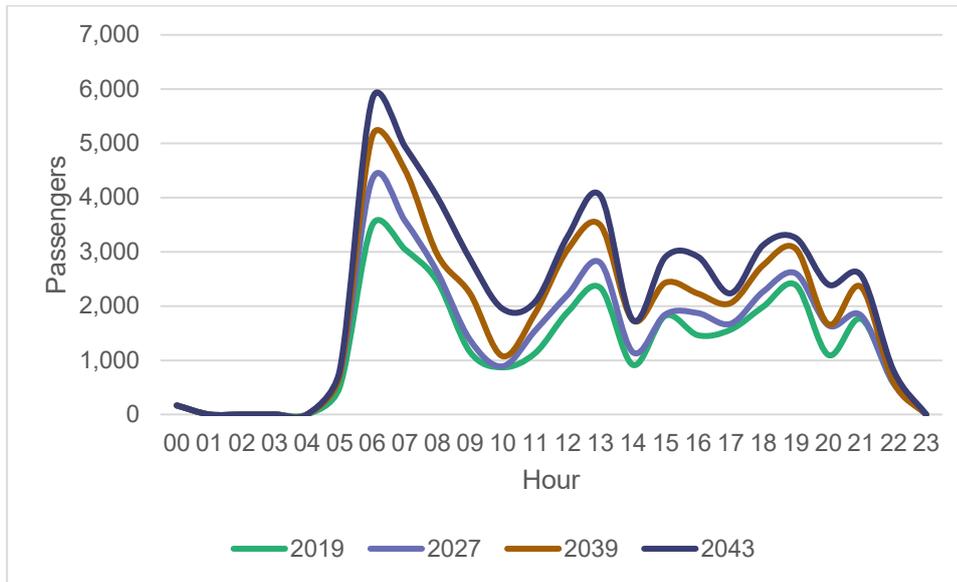
Source: York Aviation

Inset 7.23: Profile of scheduled arriving passengers on a busy day



Source: York Aviation

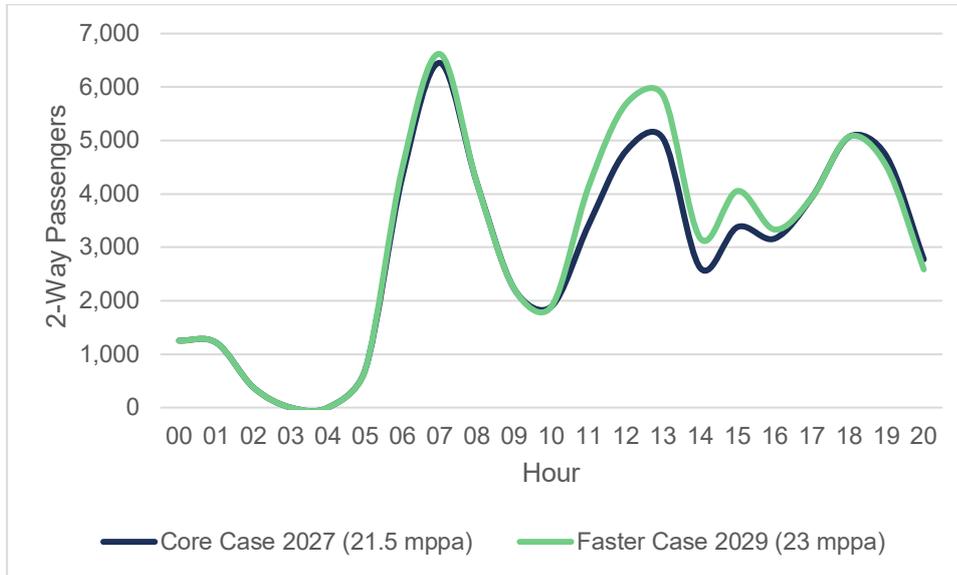
Inset 7.24: Profile of scheduled departing passengers on a busy day



Source: York Aviation

7.6.38 A busy day timetable was also derived for the Faster Growth case to ensure that the worst case impacts could be tested. This case assumes that, if faced with constraints on scheduling more movements in the commercially desirable busy hours as a result of the limited additional airport capacity being provided at Phase 1 and the timeframe before substantial additional capacity would be provided in Phase 2, airlines might be willing to operate a greater proportion of flights outside of the peaks, although this is not considered to be the most likely outcome. On this basis, the Faster Growth Case assumes that the Phase 1 infrastructure has the potential to support up to 23 mppa but without increasing demand in peak periods. The change in demand profile over the day is illustrated in **Inset 7.25** for 21.5 mppa (reached in 2027 in the Core Planning Case) and 23 mppa (reached in 2029 in the Faster Growth Case).

Inset 7.25: Comparison of Core and Faster Growth Case passengers on a busy day at Assessment Phase 1



Source: York Aviation

7.6.39 Busy Day and October Day timetables have not been developed for the Without Development Case because the surface access assessments, which use these detailed timetables, are based on actual traffic counts for recent years and pro-rata adjusted forward such that there was no requirement for BDTTs to support this assessment. Furthermore, the remaining outputs for the Without Development Case are derived by adjusting assumptions, such as fleet mix, consistent with the Core Planning Case, to produce future year annual fleet mixes and the 92-day fleet mixes for assessment purposes. These assumptions are described below.

Annual aircraft fleet mix

Passenger aircraft fleet mix

7.6.40 For the Core Planning Case, the annual fleet mix is determined by assuming that the fleet mix on the Busy Day is broadly representative of the fleet which will operate across the year. The starting point for the fleet has been to adjust the aircraft assumed within the BDTT based on expected changes in the fleets of typical airlines operating at the airport. To do this, a review of aircraft orders and statements by the carriers related to fleet renewals has been undertaken, as well as discussing future aircraft types with the core airlines at the airport.

7.6.41 It is important to note that the rate of growth of individual airlines at the airport will vary over the forecast period, new airlines will start to serve the airport and some existing airlines could cease operations. Hence, it is important to recognise that the assumptions around the fleet are not airline specific and that it is the overall split between current and new generation types that is key to the environmental assessments.

7.6.42 As BDTTs have not been developed for the Without Development Case, this instead relies on the fleet mix in each assessment year taken from the Core

Planning Case, and applying this pro-rata to the assumed total movements in the corresponding year for the Without Development Case. In doing this, only aircraft types operated by low fares and charter airlines are included because with capacity limited to 18 mppa, there would be no scope for growth of regional, full service or long haul operations at the airport.

7.6.43 The fleet mixes in the Core Planning Case and in the Without Development Case are shown for key years in **Table 7.10**. Interpolations between these years have been undertaken for the purposes of those environmental assessments that require a complete annual time series.

Table 7.10: Projected annual passenger aircraft fleet mixes

	Core Planning Case			Without Development Case		
	2027	2039	2043	2027	2039	2043
Airbus A320	21,570	0	0	18,420	0	0
Airbus A320Neo	51,140	71,400	75,640	43,690	60,790	60,790
Airbus A321	12,940	0	0	11,050	0	0
Airbus A321LR	0	630	630	0	0	0
Airbus A321Neo	16,640	43,840	54,210	14,210	26,710	26,710
Airbus A350-900	0	630	630	0	0	0
Boeing-737-800W	14,170	3,130	1,890	12,110	3,130	3,100
Boeing-737-900W	620	0	0	530	0	0
Boeing-737-Max10	0	2,510	5,040	0	0	0
Boeing-737-Max8	6,780	19,420	23,950	5,790	14,540	14,570
Boeing-737-Max9	0	630	630	0	630	630
Boeing-787-10	0	1,250	1,890	0	0	0
Boeing-787-8	0	1,880	4,410	0	0	0
Boeing-787-9	0	630	1,260	0	0	0
Dash-8-Q400	0	5,010	4,410	0	0	0
Embraer E190-E2	0	0	2,520	0	0	0

Source: York Aviation

7.6.44 In practice, a large number of the aircraft types shown in **Table 7.10** are only just being introduced into service currently and, therefore, are still the main area where fleet changes are expected based on current manufacturers' order books over the short to medium-term. By 2027, the Core Planning Case fleet mix assumes that 60% of the primary short haul aircraft types (Airbus A320 family/Boeing-737 family) will be new generation (Neo/Max) and 40% will be current generations of these aircraft types. By 2037 and 2043, it is anticipated that the split of core short haul aircraft (so excluding widebody and regional aircraft) will strongly favour new generation types at 98% of these key aircraft.

- 7.6.45 As outlined earlier, an alternative fleet mix has been developed for the Faster Growth Case, which reaches a higher throughput in 2029 of 23 mppa before a new terminal is open in the mid-2030s (compared to 21.5 mppa in 2027 in the Core Planning Case). The higher throughput in the early assessment year has a higher number of annual movements, as shown in **Inset 7.14**. Notwithstanding the later assessment year of 2029, the Faster Growth Case also reflects a slower transition to newer generation aircraft (Max and Neo types) over this timeframe so as to represent a reasonable worst case for assessment of the upper bounds of the environmental impacts resulting from the Proposed Development. On this basis, the split of new generation and current generation aircraft for the main short haul fleet at the airport is projected to be 50% each in 2029 (compared to 60% new generation in the Core Planning Case).
- 7.6.46 Over the longer term, it would be reasonable to expect that the two cases would converge due to the natural rate of aircraft replacement by the airlines, although a marginal difference remains at 27 mppa due to this throughput being reached one year earlier in the Faster Growth Case. The fleet mix for the key assessment years of the Faster Growth Case is shown in **Table 7.11**.

Table 7.11: Faster Growth Case fleet mix variant

Faster Growth Case			
	2029	2038	2042
Airbus A320	30,760	630	0
Airbus A320Neo	46,460	70,950	75,830
Airbus A321	19,460	1,260	0
Airbus A321LR	0	630	630
Airbus A321Neo	11,300	42,700	54,340
Airbus A350-900	0	630	630
Boeing-737-800W	15,690	3,140	1,900
Boeing-737-900W	630	0	0
Boeing-737-Max10	0	2,510	5,060
Boeing-737-Max8	7,530	19,470	24,010
Boeing-737-Max9	0	630	630
Boeing-787-10	0	1,260	1,900
Boeing-787-8	0	1,880	4,420
Boeing-787-9	0	630	1,260
Dash-8-Q400	0	5,020	4,420
Embraer E190-E2	0	0	2,530

Source: York Aviation

7.6.47 The aircraft assumed to be used within the BDTTs and, therefore, the annual fleet projections are based on the current latest generation aircraft (e.g. Airbus Neo aircraft) that are already entering the airline fleets, referred to as ‘New Generation’ aircraft. This represents a conservative fleet for the purposes of the environmental assessments over the longer term, and the split of these aircraft can be seen in **Table 7.12**. In the first instance, it should be recognised that each generation of new aircraft tends to bring improvements in environmental performance compared to the types they replace and that, over the period to 2043, there will almost certainly be another generation of aircraft developed and brought into service.

Table 7.12: Summary of fleet mixes

		Core Planning Case 21.5 mppa	Faster Growth Case 23 mppa	Core Planning Case 27 mppa	Faster Growth Case 27 mppa	Core Planning Case 32 mppa	Faster Growth Case 32 mppa
Core Narrowbody Aircraft	Current Generation	40%	50%	2%	3%	1%	1%
	New Generation	60%	50%	92%	90%	90%	90%
Regional Aircraft		0%	0%	3%	3%	4%	4%
Widebody Aircraft		0%	0%	3%	3%	5%	5%
Split of Core Narrowbody Aircraft	Current Generation	40%	50%	2%	4%	1%	1%
	New Generation	60%	50%	98%	96%	99%	99%

Source: York Aviation

7.6.48 Whilst the Core Planning Case fleet mix projections are based upon current and the latest generation of aircraft now entering service, a sensitivity text fleet mix scenario has also been developed to reflect the next generation of aircraft that may come forward over the period to 2043. This scenario has been developed by assuming development and entry into service of new technologies in line with the government’s emerging Jet Zero strategy which outlines the desire that some next generation aircraft will be powered by sustainable aviation fuels (SAFs) alongside development of more advanced aircraft zero emissions aircraft that may be powered by electric or hydrogen (among other possibilities). The

introduction of the new aircraft follows the principles laid out in the Jet Zero documentation^{cxxiv}, including:

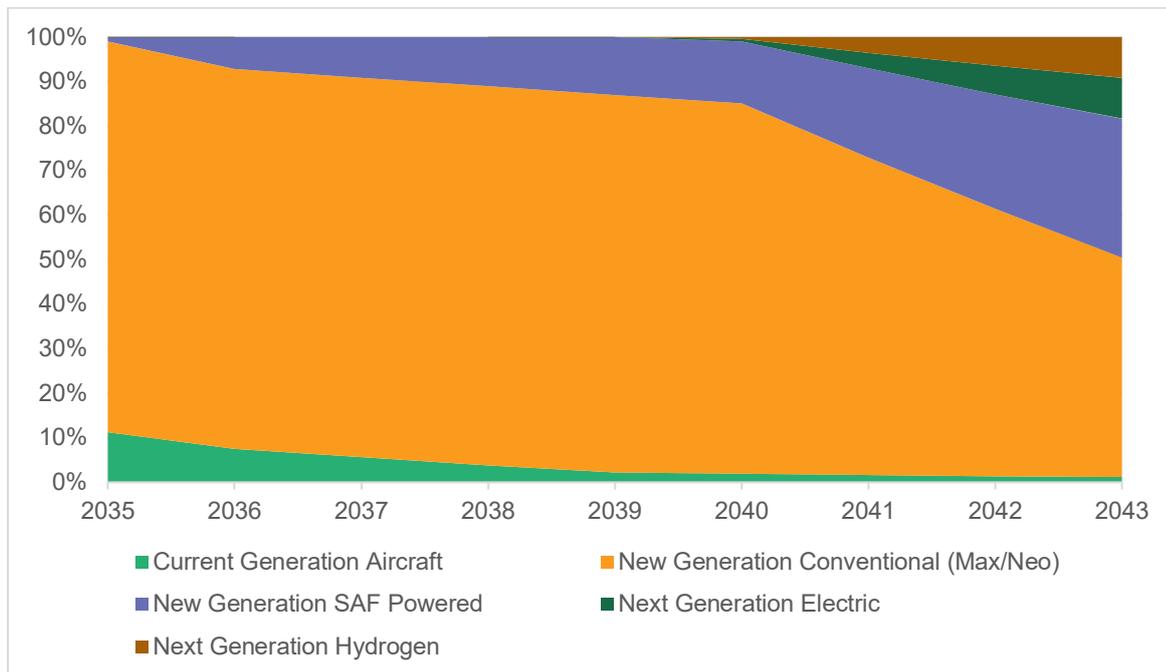
- a. Entry into service by smaller Class 1 and 2 aircraft (< 150 seats) in 2035;
- b. 50% of retiring class 3 aircraft (150-250 seats, the majority of future aircraft at Luton) from 2040 replaced by zero emission aircraft.

7.6.49 In addition, this sensitivity scenario assumes that, of aircraft not replaced by zero emission aircraft, 50% will be replaced by 100% SAF-powered aircraft. A number of aircraft engine manufacturers, including Rolls Royce in the UK, are aiming to develop engines which can be powered exclusively by SAFs.

7.6.50 These timescales may, in practice, be accelerated based on emerging aircraft design, with possible 100-seat aircraft operating with electric engines from the mid-2020s and plans for an all-electric 186-seat aircraft to enter service by 2030 (being developed in partnership with easyJet). However, for the purposes of the sensitivity fleet, a conservative approach has been taken which assumes the later service entry outlined in Jet Zero.

7.6.51 **Inset 7.26** illustrates the sensitivity fleet projection for the core Code C fleet at Luton (Boeing-737/Airbus A320 family types).

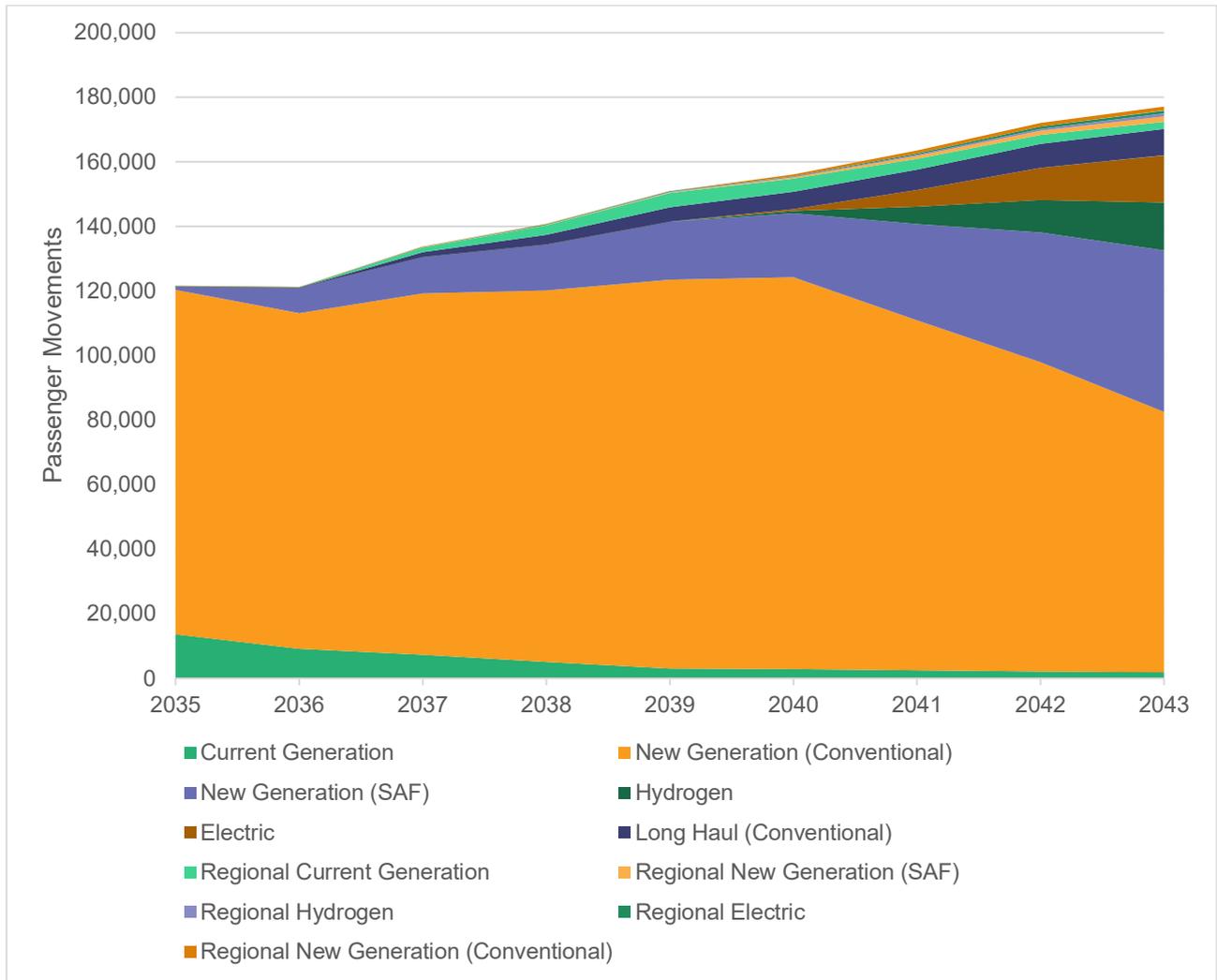
Inset 7.26: Core Code C aircraft fleet mix in Next Generation Sensitivity Test Case



Source: York Aviation

7.6.52 **Inset 7.27** goes on to illustrate the split of all aircraft types in the sensitivity fleet projection for Luton over the period from 2035.

Inset 7.27: Next Generation Sensitivity Test Case - broad fleet mix



Source: York Aviation

7.6.53 At this stage, the sensitivity test case assumes the same cargo and business aviation fleets as the Core Planning Case. This may be a conservative assumption for the business aviation fleet however, where new technologies may mirror those in the commercial aircraft market and may be introduced earlier reflecting the smaller aircraft typically operated. These fleets are considered in more detail below.

Cargo aircraft fleet mix

7.6.54 The cargo aircraft fleet projected forward is consistent in both the with development assessment cases (Core Planning and Faster Growth) and the Without Development Case and is based on a relatively simply adjustment to the current fleets. It is assumed that:

- a. where services are operated by Boeing-757-200F and Boeing-737-400F aircraft presently, these are replaced by converted Boeing-737-800W aircraft; and

- b. where services are presently operated by Airbus A300 aircraft presently these are replaced by Airbus A330-200F aircraft.

7.6.55 For commercial reasons, the relevant airlines have not been able to share their likely fleet replacement plans, but the assumptions above are based on replacements by current generation passenger aircraft which are being increasingly converted to cargo aircraft. This follows the typical pattern for many airlines operating dedicated cargo aircraft where their fleet remains one generation behind the passenger airlines by virtue of using these converted aircraft as they leave passenger service. **Table 7.13** shows the projected cargo fleet by aircraft type which are included in the forecasts.

Table 7.13: Projected cargo aircraft fleet mix

	2027	2039	2043
Airbus A300-600F	1,150	0	0
Airbus A330-200F	0	1,150	1,150
Boeing-737-800F	0	1,150	1,150
Boeing-737-400F	570	0	0
Boeing-757-200F	580	0	0

Source: York Aviation

Business aviation fleet mix

7.6.56 Currently, there are a significant number of different aircraft types operating business aviation flights at the airport and the fleet mix is not consistent from one year to the next. These types can range from helicopters and small turboprops to executive-configured Boeing-737 and Airbus A320 types.

7.6.57 With such a broad spectrum of aircraft, it is not possible to cover all possible permutations within a future fleet projection. Therefore, the fleet mix has been developed by reviewing the fleet operated in 2019 and selecting a representative fleet mix covering helicopters, small-, mid- and large-size business aircraft, focusing primarily on newer generation aircraft which are likely to dominate the fleet over the forecast period. The total of 30,000 business aviation movements expected has then been allocated across these representative types based on historical patterns related to these and similar aircraft types. The fleet mix for key assessment years is shown in **Table 7.14**.

Table 7.14: Projected business aviation fleet mix

	2027	2039	2043
Airbus A319CJ	150	0	0
Airbus A319Neo CJ	200	350	350
Augusta A139 Helicopter	600	600	600
Beechcraft King Air 350	550	550	550
Boeing-737-BBJ7	150	0	0
Boeing-737-BBJ Max7	200	350	350
Bombardier Global Express 6000	4,300	4,300	4,300
Canadair Challenger 605	4,050	4,050	4,050
Cessna 680 Sovereign	7,450	7,450	7,450
Dassault Falcon F8X	3,100	3,100	3,100
Embraer Legacy 650E	2,000	2,000	2,000
Embraer Phenom 300E	950	950	950
Gulfstream 400	2,550	2,550	2,550
Gulfstream 650	3,750	3,750	3,750

Source: York Aviation

7.6.58 As with the commercial passenger aircraft, these fleet projections do not yet factor in any next generation aircraft at this time as these are not clearly defined, and as such the fleet mix presented allows a conservative environmental assessment. It is more likely that new technologies, such as electric aircraft, will come forward at an earlier date within the business aviation fleet but this has not been factored into the assessments at this stage.

Noise assessment parameters

Night movement projections

7.6.59 This sub-section focuses on the 23:30-05:59 night control period during which the airport is currently controlled by an annual limit on the number of movements as well as a Quota Count (QC) limit. The current limits are explained further in the next section. Movement projections have also been considered in the 8-hour noise assessment period for the 92-day noise assessments as described further below.

7.6.60 The number of passenger aircraft movements in the night control period has been compiled through the following stages:

- a. development of a ratio between the number of movements in this period on a busy day to annual basis. This ratio was calculated for 2018 and 2019, and then averaged to allow for some variation from year to year;

- b. applying this averaged current ratio to the count of night time movements in the future projected BDTTs to establish planned night time movements across the year for the assessment years; and
- c. factoring up the annual night movement figure by 5% to allow for late arriving flights which are not scheduled in the night period, but which fall into this period due to delays.

7.6.61 The Applicant has committed to retaining the existing night time movement limit of 9,650 annual movements for the quota period in order to mitigate the impacts of growth^{CXXV}. Therefore, this acts as the key constraint and in so far as passenger movements use more of this allowance over time, so other activities may be squeezed out into the shoulder periods. A hierarchy has been applied to this process, favouring passenger movements within the 9,650 limit, followed by cargo aircraft and, then, finally business aviation. Where possible, retention of 1,550 cargo movements, as handled in 2019, has been sought due to the need for such operations in the night period to support early morning delivery of express goods. Movements displaced from the night quota period are assumed to be displaced into the shoulder period either side of the control period.

7.6.62 **Table 7.15** illustrates the projections of movements in the night movement control period in each assessment year in relation to the 9,650 limit. It should be noted that the figure available for Business Aviation does not mean that all of these slots will necessarily be used (and, indeed, have not been to date), but this simply indicates the balance of the night limit movements potential available for such activity after taking account of passenger and cargo movements.

Table 7.14: Projected annual night control period aircraft movements (23:30-05:59)

	2027	2039	2043
Passenger Movements	6,950	7,500	8,600
Cargo Movements	1,550	1,550	1,050
Sub-Total	8,500	9,050	9,650
<i>Available for Business Aviation</i>	<i>1,150</i>	<i>600</i>	<i>0</i>
Limit	9,650	9,650	9,650

Source: York Aviation

7.6.63 Taking this approach suggests that, by 2043, there will be no available capacity for night-time business aviation activity in the period 23:30-05:59, compared to scope for around 2,500 movements in 2019 (when around 1,550 were used). Furthermore, it is anticipated that all of the night quota period movement allowance will be used over time for passenger and cargo activity, up from around 8,900 such movements in 2019 (92% of the limit) to 9,650 movements in the medium to longer term. It is also anticipated that some cargo movements may be pushed into the shoulder periods over the longer term. On this basis, although the number of permitted night movements is expected to be fully taken up, it is anticipated that the quota count will remain well inside permitted QC limits. The noise implications and the quota count are addressed further in **Chapter 16** of the **PEIR**.

7.6.64 Although these controls apply to the night noise quota period, the environmental assessment for noise is based on the 8-hour 23:00-06:59 period and this provides for the continued operation of all cargo aircraft within the period regardless of how the night quota limit is allocated between types of operation. Hence, the effect of such operations has been taken into account in the assessment.

92-day movement projections

7.6.65 Noise assessment relies on the projection of movements over a 92-day summer period rather than the overall annual number so as to ensure that noise is assessed for the relevant busy period. The expected number of aircraft movements by type in the peak 92-day summer period is used for noise contour modelling (16 June to 15 September inclusive each year). These have been derived based on the current ratio of 92-day to annual movements of 28.6% and applied equally to all aircraft types in the overall annual fleet mix. Whilst there is expected to be some peak spreading of movements across the year, this is expected to include the early and later parts of the 92-day assessment period also (so proportionally more movements in June and September). As a result of this, the ratio of 92-day movements to annual is assumed to remain constant throughout the forecast period.

7.6.66 The overall fleet for the 92 days is then divided into the periods of the day used for noise assessment purposes:

- a. Daytime (07:00-18:59);
- b. Evening (19:00-22:59); and
- c. Night Period (23:00-06:59)

7.6.67 For commercial passenger aircraft movements, this division has been based on the busy day timetable profile for each specific aircraft type, split by arriving and departing aircraft.

7.6.68 For cargo aircraft movements, the current 92-day to annual ratio is assumed to apply in future, as is the same split of movements by time of day as present. In so far as some movements may be pushed out of the 23:30-05:59 period and into the 23:00-23:29 or 06:00-06:59 period, this makes no difference to the data used for the assessment of night noise as they are assumed to remain within the 8-hour night noise assessment period.

7.6.69 In terms of business aviation aircraft movements, the current ratio between the 92-day period and the annual number of such movements has been applied. However, as these movements are increasingly squeezed out of the night period due to the movement limit, displaced movements have redistributed back into the evening period of the day.

7.6.70 Based on the projections of movements by world region, the split of movements following each of the Standard Instrument Departure (SID) routes has been developed, with the results of this for 2043 are shown in **Table 7.16** below. This leads to an increase in the proportion of movements departing on the northerly SIDS (Olney) and a proportional decrease to the south compared to the current

pattern. This is driven in part by the assumption around routes to the USA developing over time.

Table 7.16: Split of annual aircraft movements by Standard Instrument Departure (SID) Route

	Olney	Compton	Detling
2019			
Runway 07 Departures	3%	11%	15%
Runway 25 Departures	8%	25%	37%
2043			
Runway 07 Departures	6%	9%	15%
Runway 25 Departures	14%	21%	35%

Source: LLAOL

7.7 Summary

- 7.7.1 This section has outlined the basis of the demand projections for the airport that underpin the proposed application for development consent.
- 7.7.2 The forecasts have been developed using robust econometric methodologies and, given the inherent uncertainties in forecasting airport demand over a long time period, reflect a reasonable range of potential forecasts, meaning that the timeframe over which the airport is expected to reach the 32 mppa for which consent is sought is between 2042 and 2046.
- 7.7.3 From these overall passenger demand forecasts, detailed outputs have been derived to inform the assessment of the impacts of the Proposed Development. These have been based to some degree on conservative principles so as to ensure that the assessments represent a reasonable worst case for the effects of the Proposed Development.

8 CURRENT AIRPORT CAPACITY AND FUTURE CAPACITY REQUIREMENTS

8.1 Introduction

8.1.1 This section sets out the background information on how the airport operates today and its existing capacity constraints.

8.2 Project Curium

8.2.1 In June 2014, planning permission was granted for capacity expansion works at the airport allowing for a capacity increase from 12 mppa up to 18 mppa. Implementation of this development, known as Project Curium has been ongoing since that time and comprises terminal, airfield, road access, car parking and ancillary improvement works. Passenger throughput is currently capped at 18 mppa by planning condition, along with other conditions limiting the noise exposure from the airport^{cxxvi}. As noted earlier, LLAOL has applied for a variation of the condition limiting passenger throughput to 19 mppa.

8.2.2 Project Curium comprised the following planned works:

- a. the dualling of Airport Way from the roundabout at the junction with the A1081 to the Central Terminal Area;
- b. improvements to the layout of the Central Terminal Area for public and private transport;
- c. expansion of the passenger terminal (Terminal 1);
- d. provision of additional aircraft stands to provide up to a total of 48 Code C stands for commercial passenger aircraft along with apron areas for business aviation and cargo aircraft;
- e. a new passenger boarding pier; and
- f. new taxiway infrastructure to support a runway aircraft movement rate of 40 movements per hour.

8.2.3 The proposed airport layout following the Project Curium works is illustrated in **Inset 8.1**. Most, but not all, of the enhancements have been completed with some apron works and a final section of extended taxiway at the eastern end of the runway still to be completed. It is intended that these works will be completed no later than 2026 and it is this layout that forms the baseline for the Proposed Development.

8.2.4 In addition, the Luton DART rapid transit link to Luton Airport Parkway station has been installed and will be operational in 2022, and an additional multi-storey car park built.

Inset 8.1: Project Curium Airport Layout

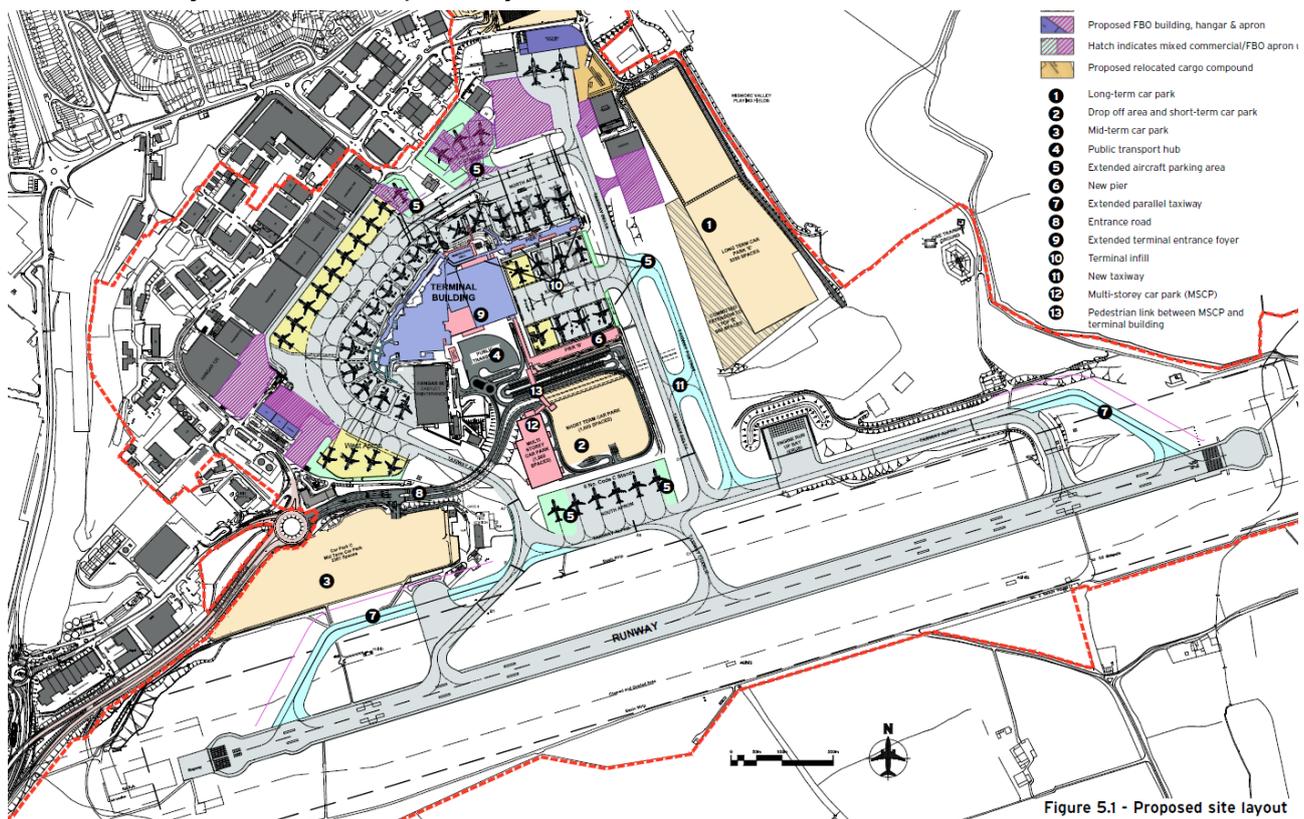


Figure 5.1 - Proposed site layout

Source: LLAOL

- 8.2.5 The Curium works were intended to be implemented over the period to 2026 and deliver capacity for 18 mppa and 157,000 annual aircraft movements, including 38,000 business aviation and cargo aircraft.^{cxxvii} This level of passenger demand and aircraft movements was expected to be reached in 2028 but was, in practice reached in 2019 prior to the pandemic.
- 8.2.6 Based on the Project Curium demand forecasts, the current passenger terminal is designed to accommodate just over 3,800 departing passengers and approximately 3,000 arriving passengers in the respective busy hours^{cxxviii}. This proved to be an accurate forecast of the busy hour passenger flows in 2019, when the airport handled the anticipated 18 mppa.
- 8.2.7 The passenger aircraft apron, where the aircraft are parked, refuelled, loaded and unloaded, and boarded by passengers is located around the Central Terminal Area (CTA). In 2019, there were 43 aircraft stands available for use by commercial passenger aircraft of up to Code C size. These stands primarily serve Code C aircraft (wingspan up to 36m, such as the B737 and A320 families of aircraft) although alternative stand centrelines provide the ability to accommodate a limited number of larger aircraft types up to Code E¹⁸. Code C aircraft are typical of those that dominate the short haul services operated from the airport. There are two piers enabling passengers to walk to the aircraft directly and a number of other aircraft stands are located adjacent to the older part of the

¹⁸ Code C and Code E are International Civil Aviation Organisation (ICAO) reference codes for aircraft, determined principally by the dimensions of the aircraft. These codes are used to designate the facilities required on the airfield and their dimensions.

passenger terminal. Currently 56% of these stands provide passenger contact service, where passengers can walk directly to the aircraft, with the remaining stands being remote from the terminal, including some in front of the maintenance hangars to the west, requiring passenger bussing operations to and from the terminal for arrivals and departures.

8.2.8 On completion of Project Curium, it is now intended that there will be 46 stands for commercial passenger aircraft use, reflecting the slightly larger aircraft now being used, with some areas of the existing apron dedicated for business aviation use, with some of the current stands re-allocated to be used by business aviation aircraft and replaced by reconfigured apron areas in and around T1. Hence, there are some minor adjustments to the 'Curium' layout shown in Inset 8.1 that will be implemented ahead of the Proposed Development.

8.3 Other Operational Features

8.3.1 In addition to facilities for commercial passenger flights, there are three terminals (FBOs¹⁹) for business aviation aircraft users operated by Signature Flight Support and Harrods Aviation. Some apron areas, in particular adjacent to the Signature FBO on Percival Way, are given over to use by business aviation aircraft other than for short periods of peak demand and there are additional aprons available for business aviation use to north and east in proximity to the Harrods FBO and hangars and Signature hangars. These apron areas are over and above the 46 stands to be provided for commercial passenger use.

8.3.2 There are also two cargo aircraft stands adjacent to a small cargo centre to the north of the CTA, accessed off President Way.

8.3.3 There are a number of hangars used for the storage and maintenance of aircraft for both commercial airlines and business aviation aircraft, including easyJet located adjacent to the existing passenger terminal, and TUI located on Percival Way. Both TUI and easyJet have their headquarters located at or in the vicinity of the airport, with easyJet co-located with their hangar and TUI adjacent to the airport on Wigmore Lane.

8.3.4 The airport operates 365 days a year and 24 hours a day but, as discussed in the previous section, there are limitations on how many aircraft can operate in the night period in order to minimise the impact of noise on local communities. These were put in place to comply with conditions associated with the granting of planning approval for Project Curium and were implemented from April 2015. These restrictions also prohibit certain types of noisier aircraft from operating at the airport during the night. There are also noise contour limits in force as explained further in the **Chapter 16** of the **PEIR**.

8.3.5 At the time when the Project Curium planning application^{cxxix} was submitted, a throughput of 18 mppa was not projected to be reached until 2028, by which time it was expected that quieter new generation aircraft would make up a large part of the airlines' fleets of aircraft. Whilst the shift to newer, quieter aircraft is still expected over this time-frame, the effect of the 18 mppa capacity being reached earlier has meant that the noise contour area has been exceeded in the short-

¹⁹ Fixed Base Operation – a terminal for use by business aviation aircraft.

term as fleet renewal has not kept pace with passenger growth. LLAOL submitted a planning application to the local planning authority to vary the noise contour condition as well as to increase the permitted annual passenger throughput to 19 mppa as set out earlier in this report. Further information relating to current and future noise impacts is contained in **Chapter 16** of the **PEIR**.

8.4 Slot coordination

- 8.4.1 The airport is a coordinated airport under EU Slot Allocation Regulation 95/93 as amended. As such, airlines and other operators need to apply to an independent slot coordinator²⁰ to obtain a time slot to operate to and from the airport. Slots are allocated against defined capacity parameters set by the airport, in consultation with the airlines and NATS.²¹
- 8.4.2 The capacity declaration for the summer season 2019^{cxxx} set out the following parameters as the basis for scheduling operations at the airport:
- a. Runway Capacity – up to 37 aircraft movements in the busiest hours, of which no more than 26 can be departing aircraft movements, with a total of no more than 121 movements over four hours;
 - b. Apron Capacity – 42 Code C passenger aircraft stands (with some limitations on aircraft variants by stand) reflecting use of the stands adjacent to the Signature FBO by business aviation aircraft; and
 - c. Terminal Capacity – 3,870 departing passengers an hour, with a limit of 6,845 passengers over two hours, and 2,800 international and 700 domestic arriving passengers an hour, with a two hour limit of 4,350 international arriving passengers.
- 8.4.3 In practice, the main current capacity limitation is the number of stands available for parking aircraft overnight, which was 42 available for commercial aircraft overnight in 2019. This acts as a constraint on airline scheduling and there is no effective buffer available for aircraft that are subject to delay.
- 8.4.4 In addition, strict constraints are imposed on the number and noise category (QC points) of aircraft scheduled to operate at night to ensure compliance with these limits as set out above. Furthermore, in order to mitigate the current short-term exceedance of the noise contour area, restrictions are placed on night time ad hoc business aviation movements during the summer.

8.5 Current and future capacity requirements

- 8.5.1 This section sets out the key requirements for new capacity and how these are addressed by the Proposed Development. Further information is provided in the **Works Description Report**.

²⁰ Airport Coordination Limited is appointed coordinator.

²¹ NATS – National Air Traffic Services which provides the air traffic control service at LTN.

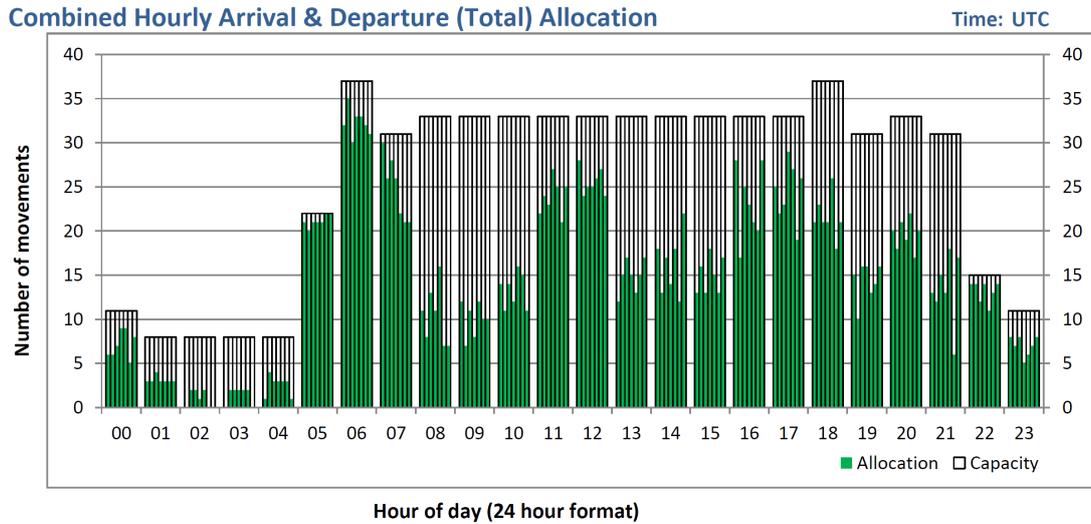
Runway

Current capacity

- 8.5.2 The airport has a single runway designated Rwy 07/25, running approximately east to west, which is 2,162m in length. It is not proposed to either extend or re-align the runway consistent with the government's MBU policy. The aerodrome is classified by the CAA and European Safety Agency (EASA) as code 4E^{cxxx}ⁱ based on the length of the runway and the wingspan of aircraft that are able to use it which, in the airport's case, comprises aircraft with a wingspan up to 65m wide, such as the Boeing 787 (B787) and Airbus A350 (A350), but not larger aircraft such as the B747 or A380, which are restricted principally due to the length of the runway. It has a CAT II/III precision instrument landing and approach system²² which can enable landings in low visibility conditions.
- 8.5.3 Runway usage statistics between 2014 and 2019 show an average split of 70%/30% between westerly (Rwy 25) and easterly (Rwy 07) direction operations respectively. This is because 70% of the time, on average, the prevailing wind blows from the west or southwest and, as aircraft typically need to land and take off into the wind, this determines the mode of runway operation.
- 8.5.4 The single runway is accessed by a parallel taxiway, but this does not run the full length of the runway today. Because of this physical constraint, many aircraft have to enter the runway then backtrack before taking off, occupying the runway longer than necessary and limiting the number of aircraft that can be handled each hour to a maximum of 37, with adjacent hours operating at 31 aircraft movements to deliver an average of 34 aircraft movements an hour over two consecutive hours. For the remainder of the day, the runway capacity is declared as 33 aircraft movements an hour^{cxxxii}.
- 8.5.5 In 2019, the available runway capacity was not fully used, in large part due to constraints on the availability of aircraft stands to below the target 46/47 commercial aircraft stands. The loop taxiway around the existing terminal (T1) and the limited taxiway infrastructure overall acts as a further limitation on capacity due to the potential for aircraft to be delayed between the runway and aircraft parking stands.
- 8.5.6 The allocation of runway slots for summer 2019, as produced by Airport Coordination Limited (ACL) is shown in **Inset 8.2** below. This shows that peak planned runway utilisation was 35 aircraft movements in the busiest hour.

²² A radio navigation system which provides aircraft with horizontal and vertical guidance just before and during landing and, at certain fixed points, indicates the distance to the reference point of landing, for further information.

Inset 8.2: Runway Slot Utilisation at the airport Summer 2019^{cxxxiii}



Source: Airport Coordination Limited

8.5.7 An extension of the taxiway closer to the western end of the runway was completed as part of Project Curium. A further extension towards the eastern end is yet to be completed. The runway has been assessed as having a latent capacity of around 40-42 movements per hour once the full Project Curium works have been completed as the extended taxiway will eliminate the need for most aircraft to backtrack on entering the runway to start their take-off roll. However, the attainable capacity will remain limited by stand availability in the short-term.

Future capacity requirements

8.5.8 The future runway capacity required to support growth in demand up to 32 mppa with the Proposed Development has been identified from the busy day profile of commercial passenger aircraft movement demand as shown in **Insets 7.20 and 7.21**. This is set out in **Table 8.1**.

Table 8.1: Required Runway Capacity at Passenger Capacity Phases

Annual Passenger Capacity by Phase	Scheduled Hourly Runway Movement Rate Required
Phase 1 - 21.5 mppa	36
Phase 2a - 27 mppa	43
Phase 2b - 32 mppa	45

Source: York Aviation

8.5.9 The Curium runway and taxiway layout described above, once complete, will provide sufficient runway capacity to support growth of the airport up to 21.5 mppa at Phase 1 of the Proposed Development.

8.5.10 In order to support the growth envisaged with Phase 2 of the development up to 32 mppa, additional taxiway infrastructure will be required to ensure that the runway capacity is adequate to meet demand. It is proposed that the parallel

taxiway be extended the full length of the runway, with two additional runway entry points, to avoid any need for aircraft to backtrack to use the full length of the runway, and to allow for optimum sequencing between departing aircraft based on their departure routes. A second parallel taxiway is proposed at the eastern end of the runway through the new development zone to provide separate taxiway routes for arriving and departing aircraft and to enable air traffic control to better sequence departing aircraft. This is essential to deliver the required runway capacity.

- 8.5.11 Rapid Exit Taxiways (RETs) are planned to enable landing aircraft to vacate the runway more quickly, so increasing the capacity of the runway. These fast turn-offs are likely to be needed to enable the runway to handle more than 40-42 aircraft movements an hour.
- 8.5.12 The capacity of the runway infrastructure proposed has been tested using fast time simulation modelling²³ based on the BDTT's as described in Section 7 for 32 mppa and the interim assessment throughput of 27 mppa. The modelling was carried out based on observations made on how the airport was operated in 2016, 2019 and 2020, with the existing terminal and apron area, and taking into account standard ATC practices for the new apron area.
- 8.5.13 For the purpose of capacity modelling no changes to flight paths in the immediate vicinity of the airport were assumed²⁴. Hence, capacity was constrained to some degree by the existing structure of departure routes with many aircraft following the same departure route for some distance following take-off from the runway, particularly in the westerly direction. This assumption is inherently conservative as, if future flightpaths enable an earlier divergence of the departure routes, this would increase effective runway capacity²⁵, albeit runway capacity is sufficient to enable the future forecast demand to be handled without specific changes to the routes in the vicinity of the airport.

²³ Using ArcPORT, which is a recognised simulation tool used for assessing airport capacity.

²⁴ *This reflects uncertainty regarding the potential timescale and impact over which airspace modernisation across the South East of England might take place.*

²⁵ It was also assumed that in the longer term, operations at LTN would not be constrained by the operations at other airports as this is an overarching objective of the government's Airspace Modernisation programme.

Inset 8.3: Illustration from Runway Capacity Simulation Modelling



Source: York Aviation

8.5.14 Simulation modelling, as illustrated in **Inset 8.3**, confirmed that, with the proposed infrastructure, the runway has sufficient capacity to accommodate demand up to 32 mppa and was capable of processing around 50 movements per hour at acceptable levels of delay²⁶. Modelling work confirmed that the RETs will be required to accommodate demand at the 27 mppa level and that the provision of the second parallel taxiway is essential to support the operation of T2. The final access taxiways at each end of the runway are required to ensure that at least 45 aircraft movements per hour can be handled once operations by larger Code E type aircraft operating long haul routes begin to grow in line with the forecasts for 27 and 32 mppa, as these aircraft would otherwise need to backtrack and occupy the runway for longer. Further simulation modelling has been carried out to verify the capacity for each of the proposed development phases and to test alternative taxiway configurations to confirm that the proposed enhancements to taxiway infrastructure are optimal.

8.5.15 Even at 32 mppa, there is spare runway capacity available to accommodate some business aviation aircraft movements in busy periods but growth of this sector will ultimately be limited by the apron space available to park such aircraft.

Apron

Current capacity

8.5.16 As noted earlier in this section, all but one of the available aircraft stands was used for parking scheduled passenger aircraft overnight at the airport in Summer 2019. This left no effective buffer for delays or aircraft undergoing long-term

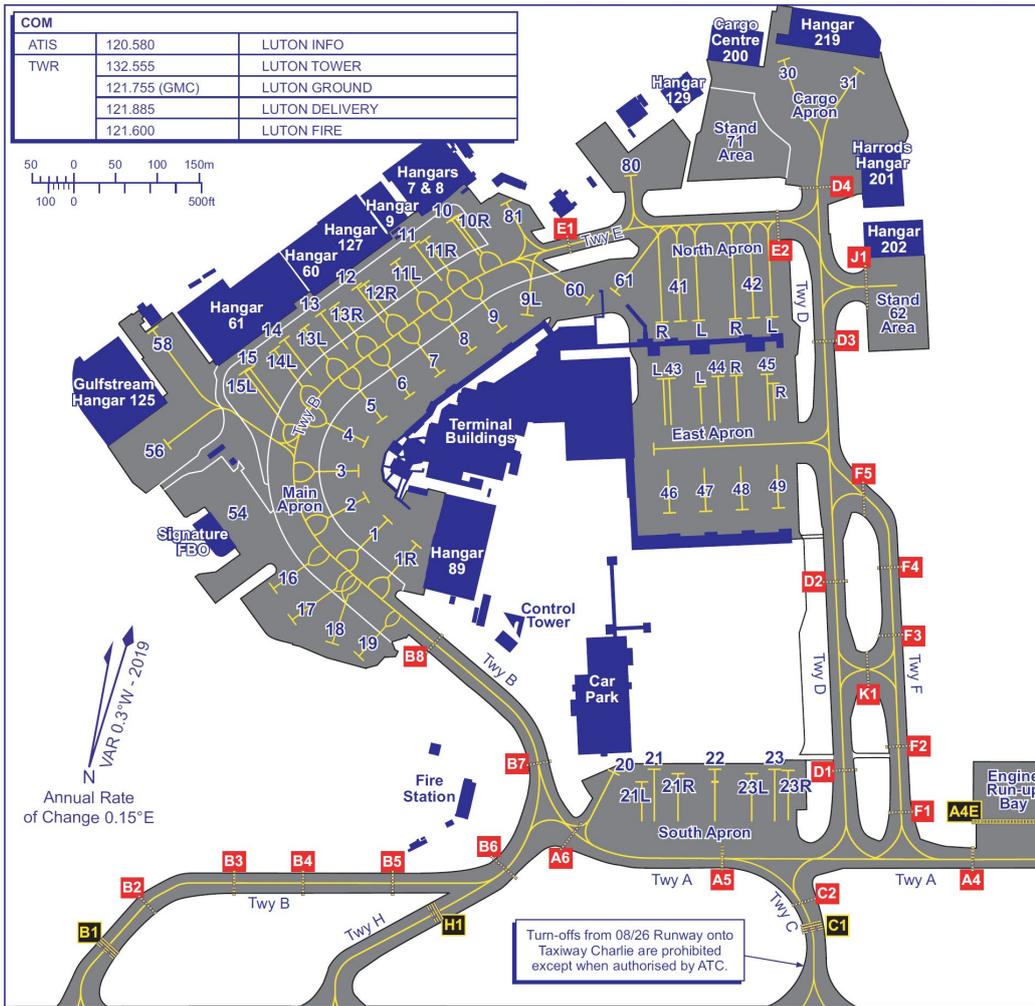
²⁶ The standard delay criteria, as commonly used for scheduling purposes, of no more than 10 minutes average delay on the airfield over a 3 hour busy period was adopted.

maintenance, either in the hangars or otherwise. Some of the apron was also used by business aviation aircraft for the remainder of the day.

- 8.5.17 The number of aircraft movements when the airport reached 18 mppa was fewer than assumed at the time when Project Curium was planned. This is because the size of aircraft, both for commercial passenger operations and for business aviation movements, was relatively larger than expected at that time, carrying more passengers per aircraft movement. The dimensions of the aircraft are also somewhat larger, in part due to more aircraft being equipped with 'sharklets' and, hence, with wider wingspans than expected resulting in a lower number of actual stands being available within the overall apron area. As a result, all of the apron areas envisaged under Project Curium are being fully used currently even though there are fewer aircraft movements overall than envisaged and the balance of apron allocated to commercial passenger aircraft and to business aviation aircraft varies somewhat from what was originally assumed.
- 8.5.18 The current apron stand layout at the airport is shown in **Inset 8.4**. In 2019, stands were used²⁷ as follows:
- a. stands 1-15, 20-23, 41-49 and 60-61 used by commercial passenger aircraft;
 - b. stands 16-19 used by commercial passenger aircraft in peak periods and then for business aviation for the remainder of the time;
 - c. stands 54-58, 62, 71, 80-81 used by business aviation aircraft and associated maintenance activities; and
 - d. stands 30-31 used by cargo aircraft.

²⁷ Some stands have multiple left (L) and right (R) centerlines dependent on the specific aircraft type so stand numbers do not necessarily equate to the precise number of aircraft that can be parked at any one time.

Inset 8.4: Current Stand Layout^{CXXXIV}



Source: UK AIP

- 8.5.19 Overall, there were 39 aircraft stands for Code C aircraft fully allocated for use by commercial passenger aircraft in 2019. A further three out of four stands (16-19) adjacent to the main Signature FBO on Percival Way were used for commercial passenger aircraft movements in the morning peak periods but then used by Signature Flight Support for business aviation movements for the rest of the day. These stands are now expected to be assigned to permanent use by business aviation aircraft and will be replaced by additional apron to be built adjacent to Taxiway D and north of Stands 41-42 to ensure that 46 aircraft stands are provided for commercial passenger aircraft, providing some buffer for resilience to delays and to ensure that stands are available to allow for aircraft access to the hangars adjacent to the commercial apron.
- 8.5.20 A further area of apron to the north of the airport (stands 80 and 81), which it had been intended to convert to use by commercial passenger aircraft by 2026, remains in use by business aviation aircraft. There have also been some adjustments to stand layout on the western part of the apron, in front of the hangars, resulting in one less aircraft stand being provided than originally planned.

- 8.5.21 In order to accommodate 18 mppa in 2019, the airport achieved very high utilisation of its available aircraft stands, with usage equivalent to c.428,000 passengers being handled through each commercial aircraft stand over the year, up from 407,000 passengers based on the number of stands actually used for operational aircraft in 2018, when the airport handled 16.7 mppa. The growth in passengers handled has in large part been driven by a step change in the size of aircraft being used by Wizz Air during 2019. The airport attains a more intensive use of available stands than commonly seen across UK airports with similar traffic.
- 8.5.22 Currently, 25 of the passenger aircraft stands are contact gates, i.e. where passengers can walk directly from the terminal to the aircraft without the requirement for bussing. This represents only 58% of the stands used for commercial passenger operations in the peak in 2019 being contact stands, which is not optimal for the low cost airlines that use the airport and their operational requirements for fast turnarounds²⁸.
- 8.5.23 Hence, the airport is considered to be at capacity currently in terms of its ability to park additional aircraft overnight, which is when the peak demand for aircraft stands occurs at the airport. Completion of the 46 stands now expected as part of Project Curium will provide that necessary resilience and ensure that demand up to 19 mppa (as applied for by LLAOL) can be accommodated.
- 8.5.24 The apron is the principal constraint on capacity at the airport today and, therefore, is the highest priority in terms of the requirement for additional capacity.

Future capacity requirements

- 8.5.25 The future requirements in terms of the number of Code C aircraft stands for passenger operations is set out in **Table 8.2**. The number of stands required has been assessed based on the number of passengers expected to be handled on a Code C aircraft stand per annum (see paragraph 8.5.21 above) and this number increased each year in line with the expected growth in aircraft size. It is based on the profiles of demand over the day as set out in **Section 7**. Allowance has also been made for a minimum of two spare stands, over and above those operationally required, to allow a buffer for aircraft that are delayed or long-stopping as is normal practice when planning apron areas at airports. No further changes are assumed to the allocation of aprons for business aviation or dedicated cargo aircraft use.

²⁸ The time from an aircraft arriving on stand and then departing again

Table 8.2: Future Code C aircraft stand requirements

Annual Passenger Capacity by Phase	Code C Aircraft Stands Required	
	T1	T2
Phase 1 - 21.5 mppa	52 ²⁹	
Phase 2a - 27 mppa	46	18 ²⁸
Phase 2b - 32 mppa	46	28 ³⁰

Source: York Aviation

- 8.5.26 Code E aircraft will be accommodated by using two Code C aircraft stands in a MARS configuration. Such aircraft movements are not considered likely to require overnight parking, unless related to activity in the maintenance hangars, and so will not detract from the number of stands available for overnight parking of Code C aircraft, which is the critical constraint.
- 8.5.27 New aircraft aprons will be located to the east of the T1 area, east of Taxiways D and F as shown on **Inset 8.5**. This will be within the T2 development zone. At Phase 1 and the initial stage of the T2 development, the Engine Run-up Bay (ERUB) will be used to provide the two stand buffer requirement until the full area of new apron is completed with the full Phase 2 works.
- 8.5.28 Because the new aircraft stands will be developed in the area to be occupied by T2 in future, once T2 is developed at Phase 2, these areas are expected to become contact gates for T2. This will impact on the throughput attainable through T1 due to the reduced number of stands available but the precise balance of capacity between the two terminals will depend on the allocation of airlines between the two terminals at the time when T2 becomes operational, but could see up to 12 mppa handled in T2 once it is fully developed.
- 8.5.29 Gating analysis³¹ has confirmed that the planned number of stands with the Proposed Development is sufficient to accommodate future demand based on the BDTT. Within the total number of stands required for commercial passenger aircraft, the Applicant has an aspiration for at least 70% of stands to be contact stands. This means that the majority of passengers would be handled on contact stands over the day, in line with the operational requirements of the main airline operators at the airport, with the balance of passengers bussed to and from/remote stands.

Terminal

Current capacity

- 8.5.30 As noted at paragraph 8.4.6, T1 at the airport was operating at its planned hourly capacity in 2019 at 18.2 mppa. Data from ACL shows that declared terminal capacity was close to fully allocated at peak periods in summer 2019^{CXXXV}.

²⁹ Including the use of the ERUB.

³⁰ Excluding use of the ERUB.

³¹ Gating Analysis is the provisional allocation of the busy day timetable to stands across the airport.

However, there is some latitude to increase the throughput of the terminal albeit with some degradation of the level of service. The scope for growth beyond this would require spreading of passenger demand outside of the peak periods.

8.5.31 LLAOL considers that it will be able to accommodate 19 mppa through the existing terminal infrastructure but growth beyond that will require incremental expansion of T1.

Future capacity requirements

8.5.32 As set out in **Table 7.9**, the busy hour passenger demand that the airport needs to handle at each phase has been derived from the forecasts. Once the airport operates with two terminals, a degree of ‘allocative inefficiency’ is expected as demand is split across the two terminals. This inefficiency arises because it is unlikely that the peak demands will arise precisely concurrently across the two terminals. Hence, the total hourly capacity required across two terminals will be somewhat greater than if all demand could be accommodated in a single terminal. Assuming 21.5 mppa using T1 at Phase 1, 20 mppa at Phase 2, with T2 handling 7 and 12 mppa respectively, the busy hour demand that would need to be accommodated in each terminal is set out in **Table 8.3** below.

Table 8.3: Busy Hour Capacity Required by Terminal

Annual Passenger Capacity by Phase	Busy Hour Terminal Capacity Parameters			
	T1		T2	
	Departures	Arrivals	Departures	Arrivals
Phase 1 - 21.5 mppa	4,200	3,300		
Phase 2a - 27 mppa	4,000	3,150	1,950	1,500
Phase 2b - 32 mppa	4,000	3,150	2,800	2,200

Source: York Aviation

8.5.33 As noted earlier, although it is intended that T1 be expanded to accommodate up to 21.5 mppa at Phase 1 based on the above hourly flows of passengers, it is possible that the terminal may be able to accommodate more passengers if the airlines were willing to change the pattern of their operations to increase the number of flights outside of peak periods without requiring additional overnight parking of aircraft but the scope for this is considered to be limited. This is considered less likely but has been considered as a sensitivity test in the assessment of the impacts of the Proposed Development as part of the Faster Growth Case, where the throughput of T1 increases to 23 mppa before T2 opens.

8.5.34 Once T2 opens, the capacity of T1 is expected to be limited by the operational stands assigned to it, as discussed above. Assuming these would comprise the available aircraft stands for scheduled passenger aircraft to the west of Taxiways D and F, T1 might be limited to a throughput of the order of 20 mppa once T2 is operational but this will depend on operational decisions made by the airport operator at the time when T2 is developed and the allocation of airlines between terminals.

8.5.35 The parameters set out in **Table 8.3** have been used to develop the detailed facility requirements for each terminal at each phase of development.

Other facilities

8.5.36 In addition to the core facilities for aircraft and passengers, the expanded airport will require a number of other operational facilities. These include:

- a. relocated engine run-up facilities;
- b. relocated fire training ground;
- c. an upgraded fuel supply, including provision for sustainable aviation fuels and future zero carbon technologies;
- d. ground handling accommodation;
- e. additional freight accommodation for bellyhold freight; and
- f. additional hangar space for aircraft maintenance.

8.5.37 Further information on the planned provision of these facilities is provided in **Chapter 4** of the **PEIR**.

8.5.38 In addition to airport operational requirements, the development of the airport to handle 32 mppa will create opportunities for additional commercial development. To a large extent, this will be accommodated in the recently permitted New Century Park development, near to the proposed second terminal. There will also be a requirement for additional hotel accommodation to serve a 32 mppa airport.

8.5.39 Further information on these other development requirements will be provided in the application for development consent documentation.

8.5.40 In addition to these facilities, there will also be a requirement for enhanced surface access, car parking, and an extension to the Luton DART. The requirements for these facilities have been informed by the passenger forecasts and are described in more detail in the **Transport Strategy Report** appended to **Chapter 18** of the **PEIR**.

8.6 Phasing proposals

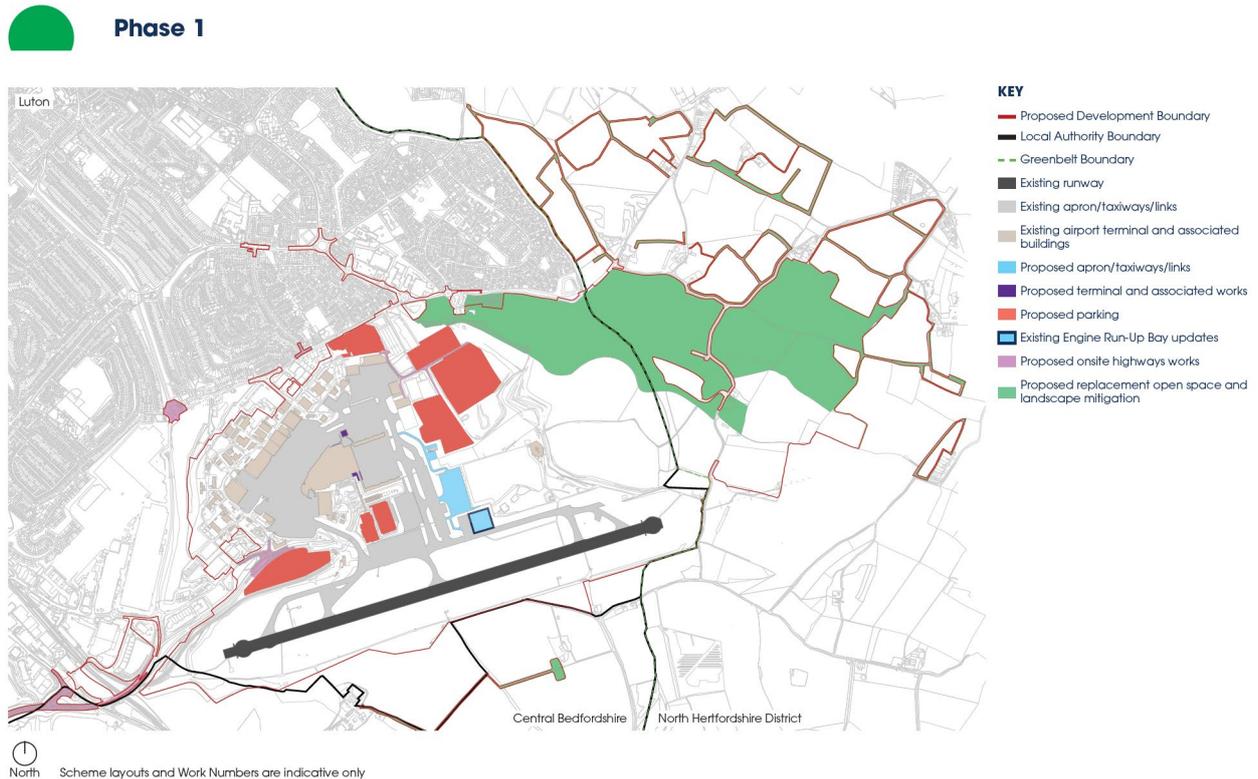
Phase 1

8.6.1 At Phase 1, a series of incremental expansions to T1 are proposed, comprising expansions to the arrivals immigration area and extensions to the check-in area and departure lounge. Further internal reconfiguration is envisaged to T1 to ensure capacity is sufficient to handle the expected passenger demand based on the busy hour flows in **Table 8.3**. The precise works will be determined dependent on the busy hour processing requirements but will not be more extensive than shown in **Inset 8.5**.

8.6.2 Five additional aircraft stands are required, over and above the 46 Code C aircraft stands expected to be provided as the final part of Project Curium. However, as these stands will be remote from the terminal on the east side of Taxiways D and

F, passengers will need to reach them by bus. In order to provide sufficient space for these additional bussing operations, it is proposed to provide an additional bus gate facility, which may be located on Stand 61 or elsewhere on or adjacent to the apron. On this basis, six new aircraft stands would be required to handle 21.5 mppa. These are shown, along with the zones of terminal expansion in **Inset 8.5**.

Inset 8.5: Phase 1 : Layout at 21.5 mppa



Source: Works Development Report

Phase 2

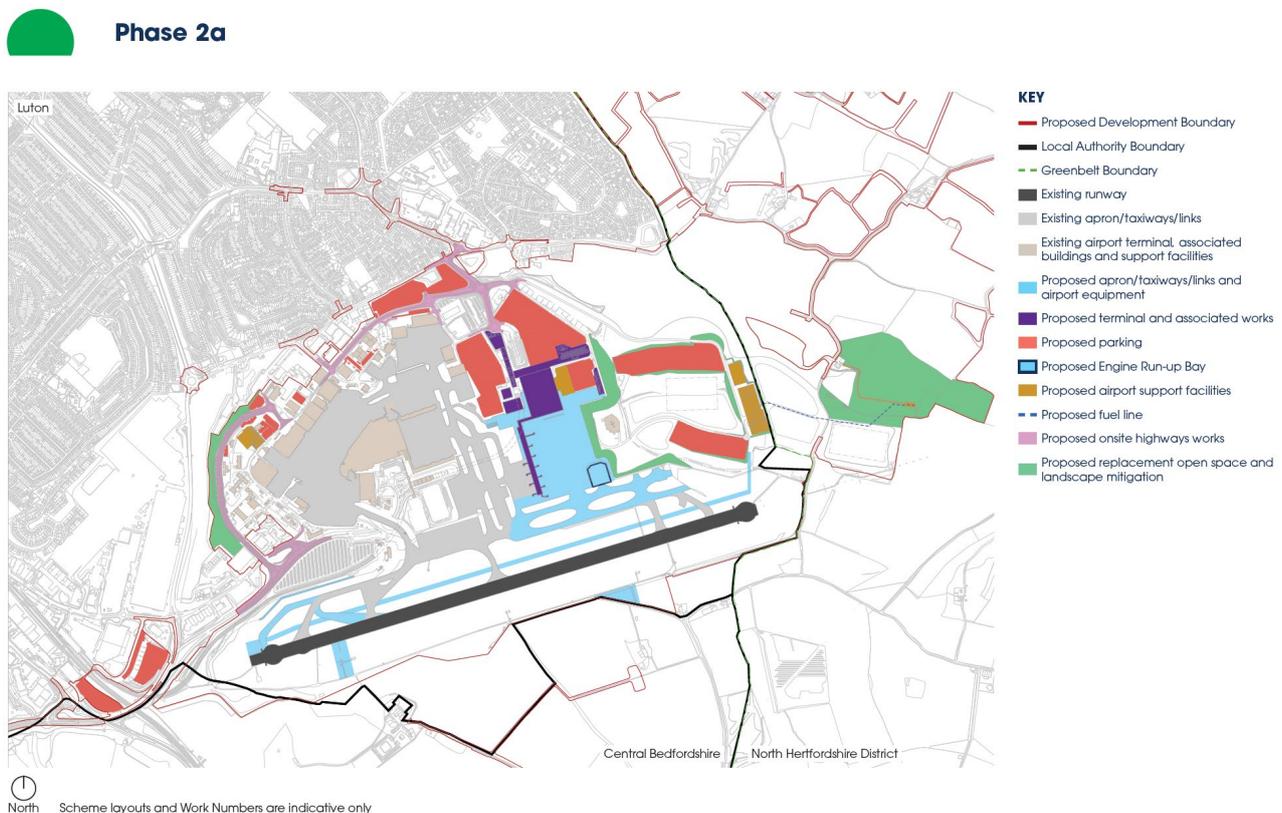
- 8.6.3 Phase 2 comprises the construction of T2 and associated aprons, along with other required infrastructure to support the operation of the terminal, and with enhancements to other airport infrastructure to enable 32 mppa to be handled.
- 8.6.4 Given that part of the apron required to support 21.5 mppa being handled through T1 will eventually become attached to T2, the capacity of T1 is expected to be effectively limited by the aircraft stands available to serve it at Phase 2.
- 8.6.5 On this basis, it is likely that the first phase of T2 would be constructed potentially to handle up to 7 mppa, consistent with relocating the operations of at least one of the main airlines using the airport to the new terminal and of a scale that would be commercially viable for retail and catering providers to match the services provided to passengers in T1. However, the precise allocation of airlines and flights between the two terminals will be a matter for commercial agreement between the airport operator and airlines nearer the opening date of the terminal.

Hence, the precise balance of terminal usage will necessarily remain subject to some flexibility in the early years dependent upon the allocation of airlines between terminals and the requirements of the business aviation sector for parking aircraft associated with their operations in and around T1 in order to at least maintain their current levels of activity.

Assessment Phase 2a

8.6.6 On the basis of a first full phase T2 to deliver 7 mppa, this would require 18 additional Code C aircraft stands east of Taxiways D and F, of which some will have been provided at Phase 1. Of these, three stands would be capable of accommodating Code E aircraft on a MARS configuration. The proposed additional works for 27 mppa airport layout are shown in **Inset 8.6**.

Inset 8.6: Phase 2a: Layout at 27 mppa



Source: Works Development Report

Assessment Phase 2b

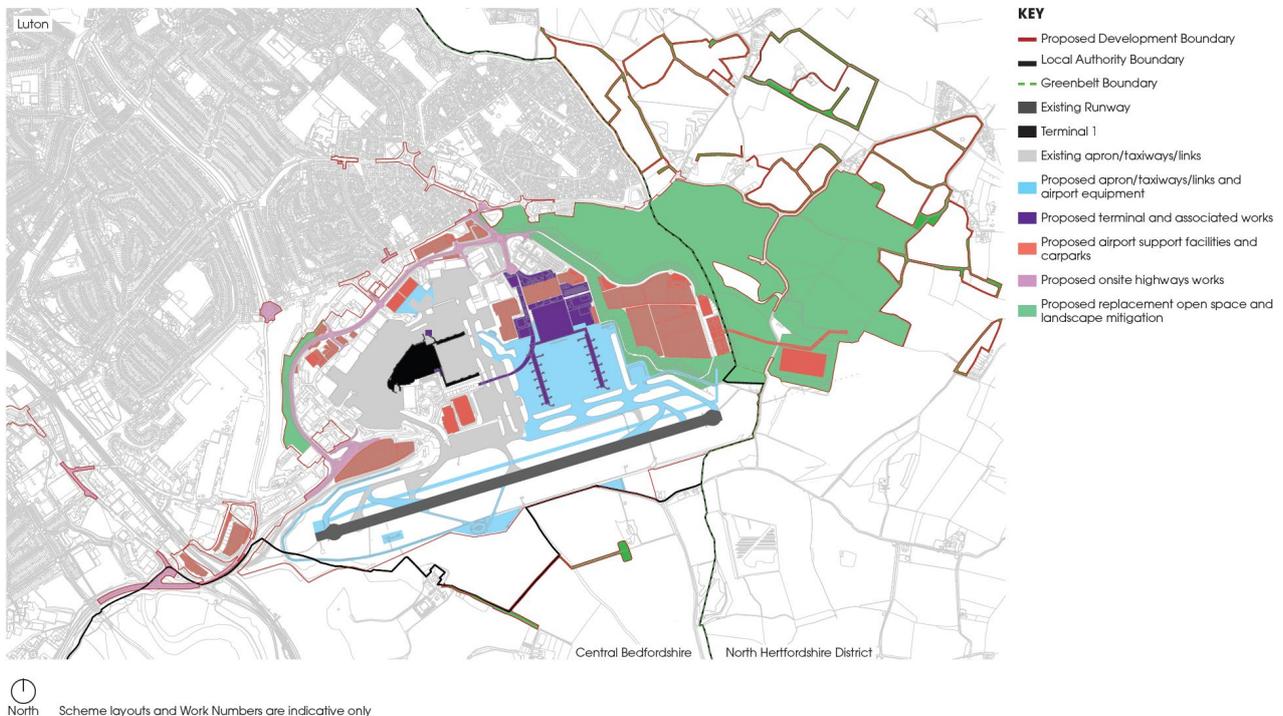
8.6.7 Beyond Phase 2, capacity will need to be provided incrementally to meet demand up to a total of 32 mppa. This will be provided through extension of T2 to a capacity of 12 mppa and additional aircraft stands adjacent to T2 to provide a total of 74 passenger aircraft stands across the whole of the airport along with additional parking areas for business aviation and cargo aircraft. The T2 apron will accommodate 28 Code C aircraft stands, of which 6 will be capable of accommodating Code E aircraft on MARS configuration. In overall terms, this meets the stand requirements as set out in **Table 8.2** above.

8.6.8 The proposed layout at 32 mppa is shown in **Inset 8.7** below.

Inset 8.7: Phase 2b: Layout at 32 mppa



Final Indicative Layout



Source: Works Development Report

8.7 Conclusion on capacity required

- 8.7.1 Additional airport capacity is urgently needed at the airport in order to keep pace with demand. The Proposed Development is aimed at ensuring an overall capacity at the airport of 32 mppa, divided between the two terminals. The Proposed Development comprises a second passenger terminal (T2), 28 new aircraft stands and appropriate operational and other support accommodation and facilities to accommodate up to 12 mppa.
- 8.7.2 The runway has been assessed as having a sustainable capacity of at least 50 aircraft movements an hour with the additional taxiway links proposed, which is sufficient to accommodate 32 mppa as part of the Proposed Development.
- 8.7.3 Specific parameters have been defined for the requirements of T2 and its associated apron area to meet the expected need for an initial development to accommodate c.7 mppa and for expansion to provide a total capacity of 12 mppa. These will require 18 additional aircraft stands to serve T2 at 7 mppa and 28 stands at 12 mppa.
- 8.7.4 The phasing of development has been defined in relation to the construction programme and the demand forecasts, as set out in **Section 7**, reflect the feasible construction timeline.

9 SOCIO-ECONOMIC BENEFITS OF THE DEVELOPMENT

9.1.1 The Proposed Development of the airport represents a major socio-economic opportunity for the sub-regions and regions around the airport. The importance of airports as economic drivers is well established and widely recognised in policy as set out in **Sections 3 and 4**. London Luton Airport is no different. It is already a major source of employment and prosperity for local communities and an important connector for local businesses and those wishing to visit the region. Growth to 32 mppa will enable the airport to enhance that economic role, providing more jobs to help address the very real issues of pockets of deprivation in the areas around the airport, and enhancing international connectivity to the area, making it a more attractive place to locate businesses, and, importantly, to live and work.

9.1.2 This section considers the economic benefits that will come forward as the airport grows in the future and how these benefits can support the economic aspirations of stakeholders in the regions around the airport.

9.2 The study areas for the assessment

9.2.1 The airport provides economic benefits across a wide area. It draws labour from not just Luton but a large area around the airport. It provides connectivity to businesses across the South East and East of England, and also to those located in London, building on its strong surface access links. Similarly, it acts as a gateway to a broad region for inbound leisure visitors.

9.2.2 For the purposes of assessing the economic benefits associated with the airport's development to 32 mppa, the principal study area is defined as the 'Three Counties' area, namely Hertfordshire, Buckinghamshire (including Milton Keynes), and Bedfordshire, which includes Luton. These Three Counties are included in the geographical remit of three LEAs: Buckinghamshire LEP, Hertfordshire LEP, and SEMLEP. The assessment has also provided quantitative impacts in terms of the effects of airport growth in Luton itself and across the UK as a whole.

9.2.3 In the context of the wider economic impacts of growth at the airport, the broader context of the 'Oxford-Cambridge Arc', which straddles Buckinghamshire and Bedfordshire and is an area of particular economic ambition, is an important consideration. This stems from the particularly international nature of the sectors that are expected to drive the Arc's economy in the future and the position of the airport as the only major airport located within the Arc. The wider Arc is largely represented by the 'Six Counties' study area, as defined in **Section 5**, which includes the Three Counties area plus Essex, Oxfordshire and Cambridgeshire.

9.2.4 It should also be noted that the area immediately adjacent to the airport has been designated as the London Luton Airport Enterprise Zone (EZ), providing a context for exploiting the wider economic potential offered by the airport.

9.3 Assessing the economic impacts of growth at London Luton Airport

- 9.3.1 The economic benefits of the airport have been assessed within a commonly used and well accepted framework for analysis that is considered best practice. This framework splits the economic impacts of the airport into a series of effects, which, in broad terms, can be classified as either relating to the operation of the airport as an economic activity providing air transport services and the functions that support the provision of those services, or wider economic impacts, which accrue to the users of air transport services (passengers or freight) from the connectivity offered by airport enabling them improved access to the regions around the airport. These wider economic impacts can manifest themselves through channels such as increased trade, more inward investment, agglomeration effects, labour market benefits or increased tourism making an area a more attractive place in which to live, work and establish a business. Both the direct benefits from the operation of the airport and the connectivity it provides flow through to the broader economy through supply chain (indirect) and induced effects.
- 9.3.2 The different economic impacts considered in this assessment are set out in **Table 9.1**.
- 9.3.3 The assessment has also considered broader socio-economic benefits associated with the development of the airport to passengers through an analysis of monetised journey time savings. While these effects cannot be combined with the GDP and employment impacts identified, they do provide a different perspective on the economic benefits of the development, through an assessment of its effect on socio-economic welfare. It is intended that these measures will be developed further for submission of the DCO application.

Table 9.1: Economic Impact Analysis Framework

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

Source: York Aviation/Oxford Economics

9.4 The operational economic impacts of London Luton Airport

9.4.1 The operational impacts of the airport are already a major influence on the economies around it and its future expansion offers significant potential to support increased employment and GDP through these effects, helping to address the policy and strategy aspirations described above.

Assessment methodology

9.4.2 The current operational impact of London Luton Airport and the potential impacts associated with expansion have been the subject of detailed assessment by Oxford Economics (OE)^{cxvvi}. This research sets out a comprehensive

assessment of the economic impact of the airport and robustly ensures that the 'true' airport related economic activity at the airport is identified as distinct from broader economic activity that is located at or in the immediate vicinity of the airport but that is not engaged in delivering air transport related services³².

- 9.4.3 The direct employment impact of the airport in 2019 has been estimated using data from a range of sources including a detailed telephone survey of on-site companies at the airport and analysis of the Inter Departmental Business Register (IDBR). The corresponding contribution to GDP has then been estimated by applying productivity estimates from OE's regional databank to the employment results for each sector.
- 9.4.4 The indirect and induced impacts associated with the operation of the airport have been estimated using data collected on supply chain purchases combined with OE's economic models, based on inter-regional input-output tables. This approach is based on established academic techniques initially developed by Flegg and Webber^{cxxxvii}. This approach involves constructing regional input-output models by applying Location Quotients (LQs) and regional size adjustments to the standard UK input-output tables. OE's regional model was used to provide data on LQ's and regional employment.
- 9.4.5 The future economic impact of operations at the airport has been assessed by OE based on the demand forecasts set out in **Section 7**. Different activities at the airport have been tied to growth in different types of demand, notably passenger numbers, air transport movements, cargo tonnage or business aviation movements. The drivers for different employment segments are summarised in **Table 9.2**.

³² This also means that the results of this study are not directly comparable with previous economic impact studies undertaken on the Airport to support the Project Curium planning application and considerable care should be taken in making comparisons.

Table 9.2: Summary of employment drivers

Employment Driver	Employment Category
Passengers	Passenger Airlines, Bus Services, Car Park Services, Taxis, Airport Facilities Maintenance, Border Force, Customs, Police, Ground Handling, In-flight Catering, Tourist Services, Retail, Hotels, Restaurants, Car Rental, Airport Management, Other Security
Freight Tonnage	Cargo Airline, Freight Forwarder, Warehousing
Air Transport Movements	Air Traffic Control, Fire Service, Aircraft Cleaning, Aviation Related Training, Fuelling Companies
MRO Space	Aircraft Maintenance, Repair and Overhaul, Aircraft Parts Supplier, Aviation Related Manufacturing
Business Aviation Movements	Aircraft Charter, Fixed Based Operator
Historic Trend in Administrative Employment	Head office related functions

Source: Oxford Economics/York Aviation

9.4.6 In estimating future employment levels, account has been taken of the effect of opening a second passenger terminal, with the consequent need for duplication of some facilities and functions. Hence, directly terminal related employment was increased by 15% in the year T2 is expected to open to account for some relative loss of staff productivity in the short-term.

The operational economic impact of the airport in 2019

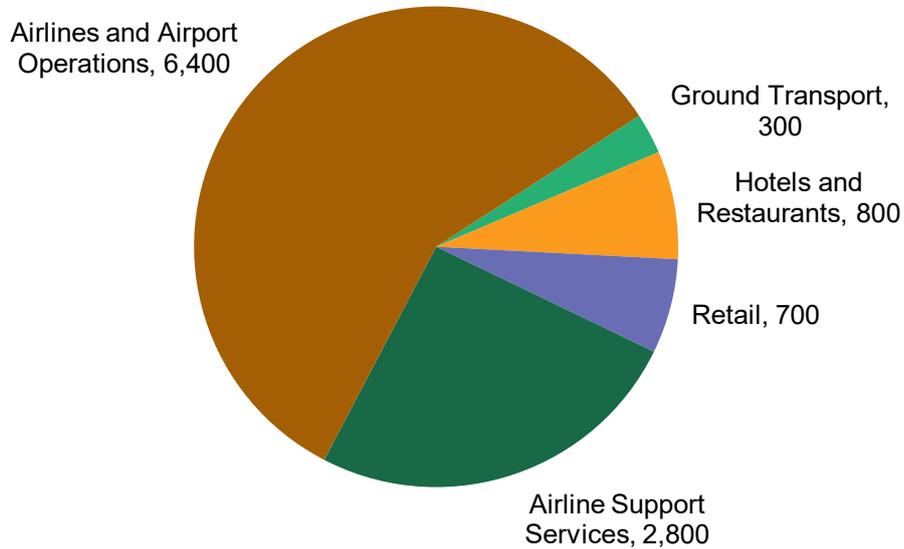
9.4.7 The current economic impact of operations at the airport is set out below, focussing on the impact on GDP and employment in Luton, the Three Counties and the UK.

9.4.8 In 2019, there were around 10,900 directly airport related jobs within the defined ‘airport employment area’. The airport is already a significant influence on employment in Luton and the Three Counties, providing job opportunities in a diverse range of roles to people from across the area. It accounted for around 12% of total jobs in Luton and 1% of total jobs across the Three Counties in 2019. The airport’s corresponding direct GDP contribution is estimated to be around £789 million.

9.4.9 Around 58% of workers, or 6,400 jobs, are employed by airlines in head office functions of aviation-related companies, or in airport operations. Around 2,800 jobs or 25% of workers work in airline support services, particularly maintenance, repair and overhaul (MRO), ground handling and fixed based operators. Shops,

hotels and restaurants together support employment for around 1,100 workers. Employment by category is shown in **Inset 9.1**.

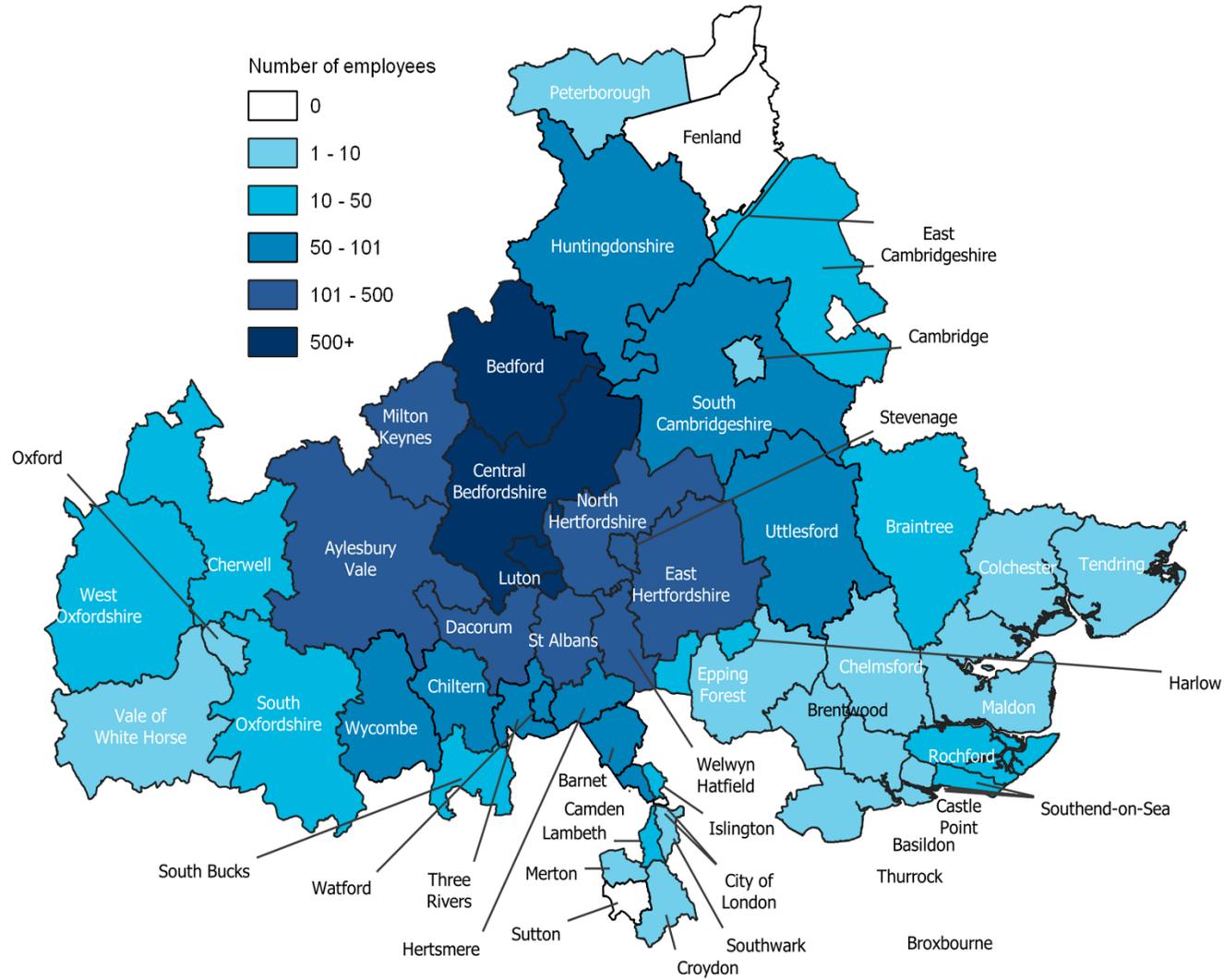
Inset 9.1: Direct employment at the airport by broad activity in 2019



Source: Oxford Economics

9.4.10 The geographic distribution of direct employees shows that the largest number of employees live in Bedfordshire (6,300), where the airport is located, with particular concentrations in Luton (3,100) and Central Bedfordshire (around 2,200 employees). The airport is already a significant employer, providing jobs for people across the Three Counties area. In total, around 80% of direct employees live in the Three Counties area. It is particularly worth noting that the airport provides significant numbers of jobs in districts which include areas of significant deprivation, such as Luton, Bedford and Stevenage. A map showing the distribution of direct employment is shown in **Inset 9.2**.

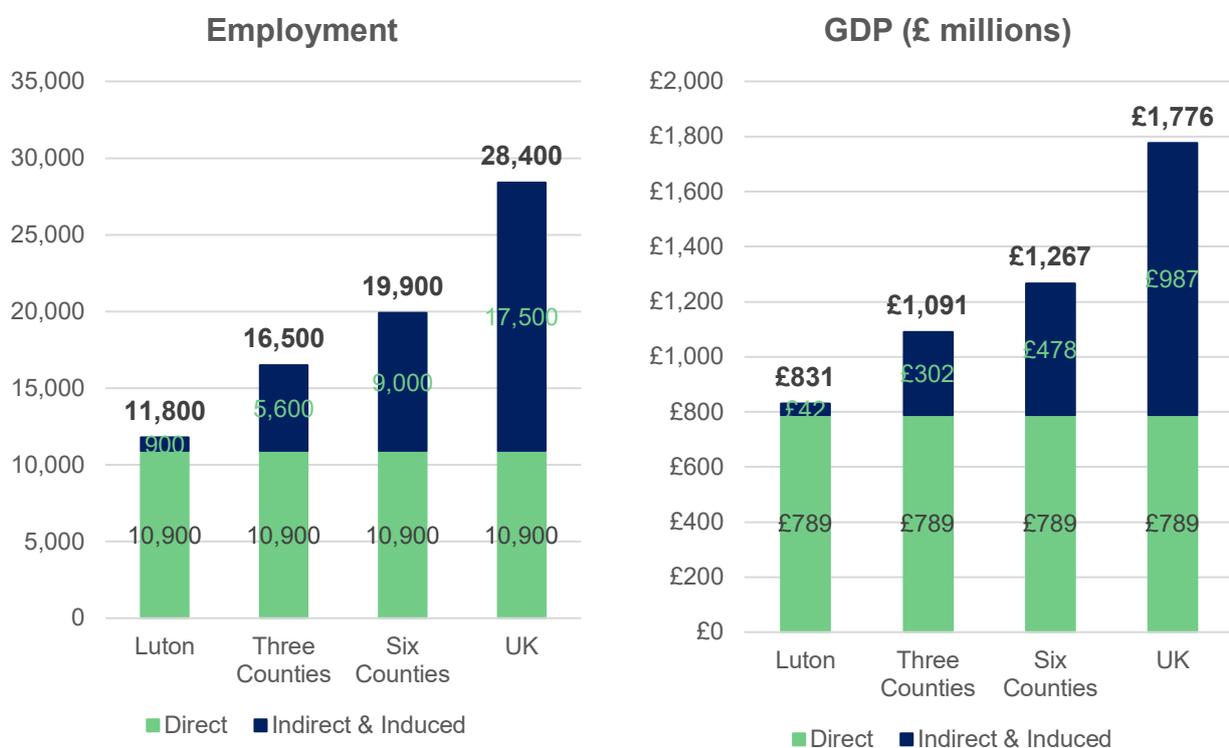
Inset 9.2: Place of residence of direct employees at the airport in 2019



Source: Oxford Economics

9.4.11 The airport’s direct impact is magnified by its indirect and induced impacts. The airport’s total impact, once indirect and induced effects are included, is estimated to be around £831 million in Luton, £1.1 billion in the Three Counties and £1.8 billion across the UK as a whole. This again demonstrates the importance of the airport in supporting prosperity in Luton and the Three Counties. The analysis also highlights the high added value nature of aviation activities in the round, generating GDP per job in excess of £65,000 in Luton and the Three Counties, substantially above the UK average. This total operational impact is summarised in **Inset 9.3**.

Inset 9.3: The operational impact of the airport in 2019



Source: Oxford Economics

Future operational impacts

9.4.12 The growth of the airport to handle 32 mppa offers significant operational economic benefits. It will enable the airport to substantially expand its role as an employer in Luton and the Three Counties in particular. This will enable the airport to support the efforts of stakeholders to generate jobs, address deprivation and improve prosperity. If the airport cannot expand, then this opportunity will be lost and the airport’s economic role as an employer will diminish as productivity gains in the future erode the need for labour with growth stifled.

9.4.13 The economic impact assessment has examined future growth in operational economic benefits in relation to three growth scenarios, as outlined in Section 7, the Core Planning Case, a Slower Growth Case and a Faster Growth Case. It has also considered the Without Development Case, which represents the future

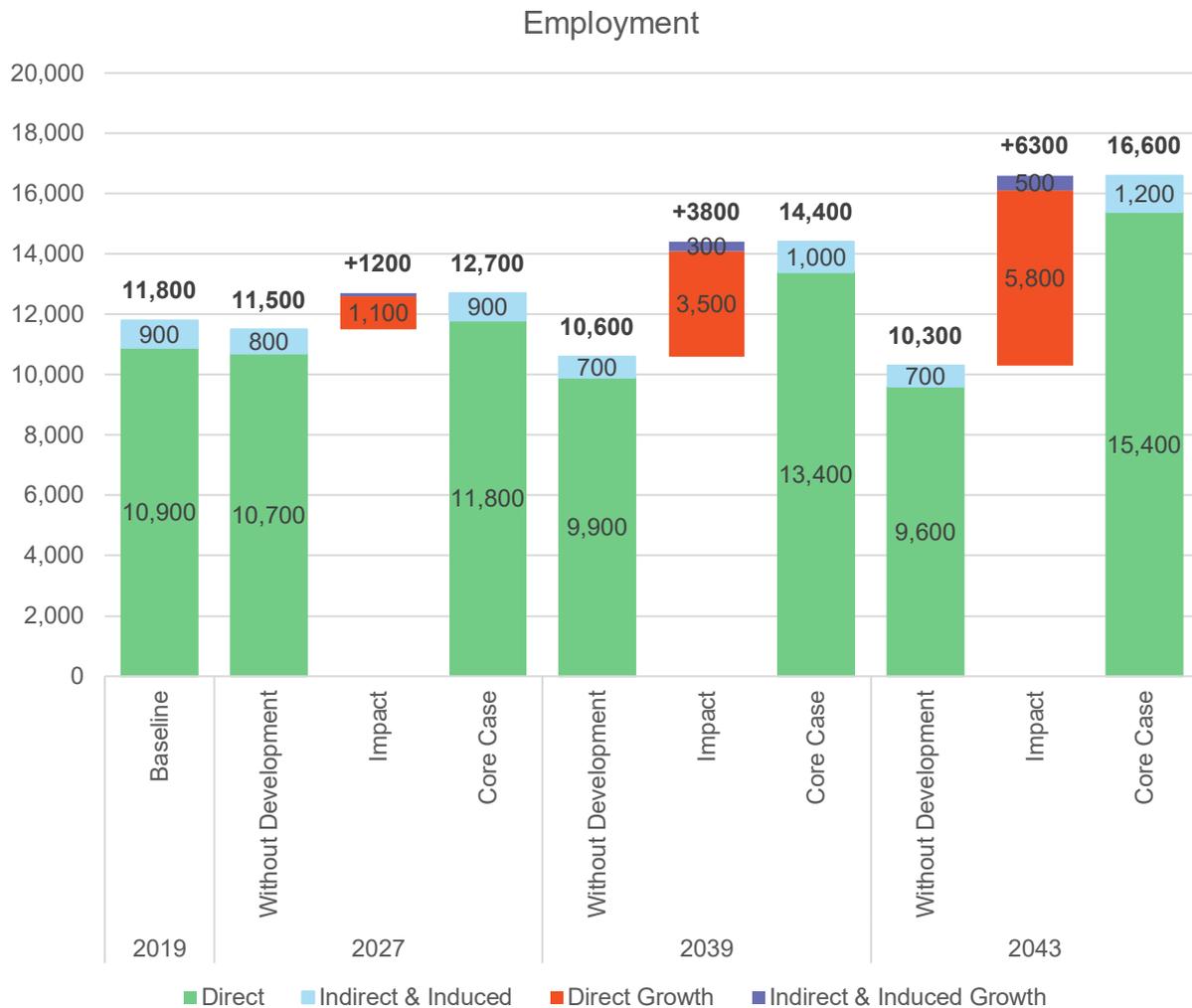
baseline against which the benefits of proposed development can be compared. The additional operational economic benefits associated with the Proposed Development are represented by the difference between the relevant growth case and the Without Development Case.

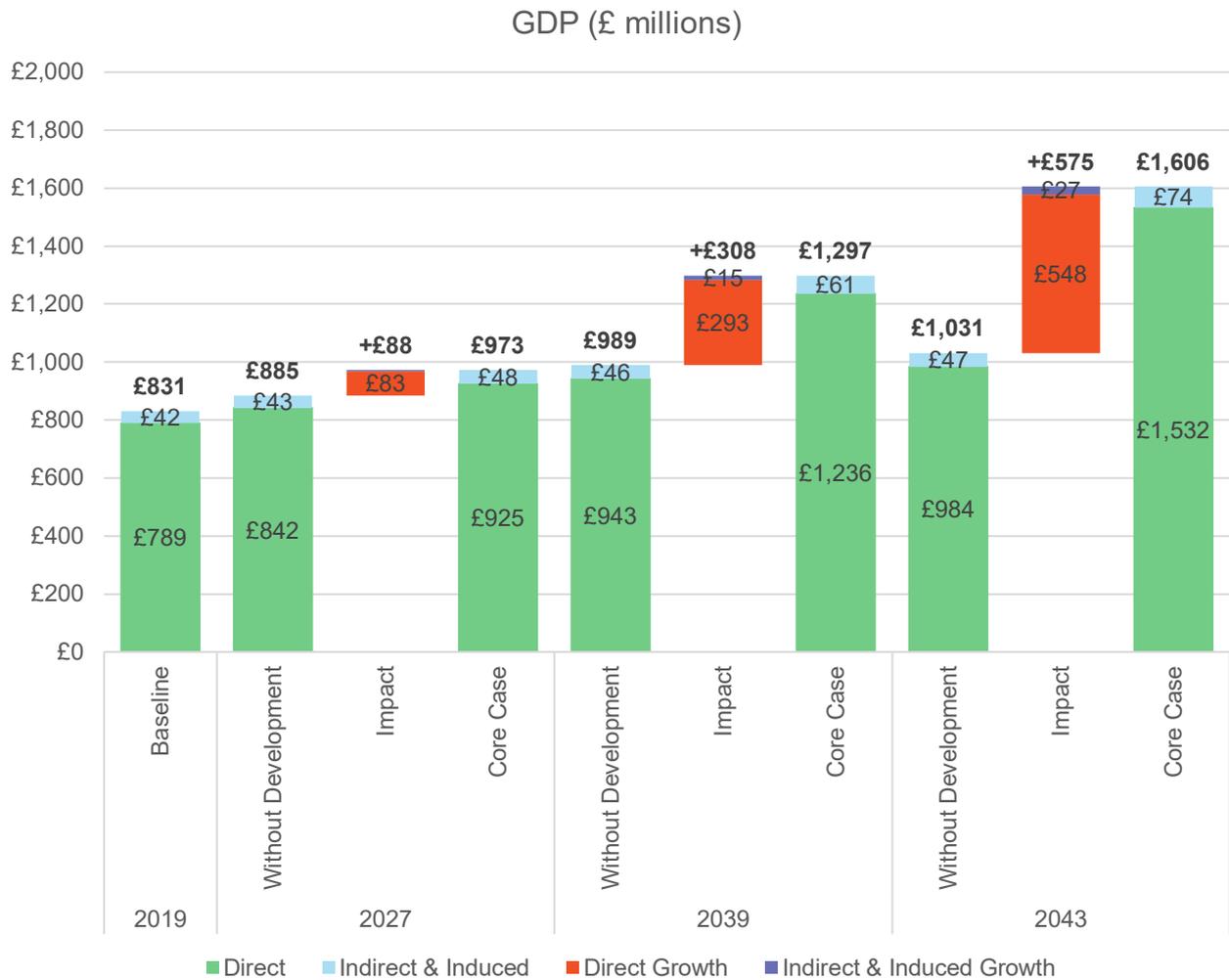
The Core Planning Case

Luton

9.4.14 **Inset 9.4** sets out the operational economic impacts of the Core Planning Case, the Without Development Case and the corresponding employment and GDP impact in Luton. The analysis is shown from three assessment years that represent the thresholds as to when the airport reaches 21.5 mppa, 27 mppa and 32 mppa.

Inset 9.4: Operational economic impacts in Luton – Core Planning Case





Source: Oxford Economics

9.4.15 Developing the airport to handle 32 mppa would result in it supporting substantially more jobs in Luton than it does now. This will be supported by the **Employment and Training Strategy**, which will help to ensure that the jobs supported by the airport will be accessible to local residents. Direct jobs at the airport are forecast to increase from around 10,900 in 2019 to around 15,400 by 2043. There are also expected to be significant increases in indirect and induced impacts. By 2043, indirect and induced employment supported by an expanded airport is forecast to grow to around 1,200 jobs in Luton. The total employment supported by the airport in Luton in the Core Planning Case in 2043 is, therefore, 16,600 jobs in Luton, an increase of 4,800 jobs over 2019.

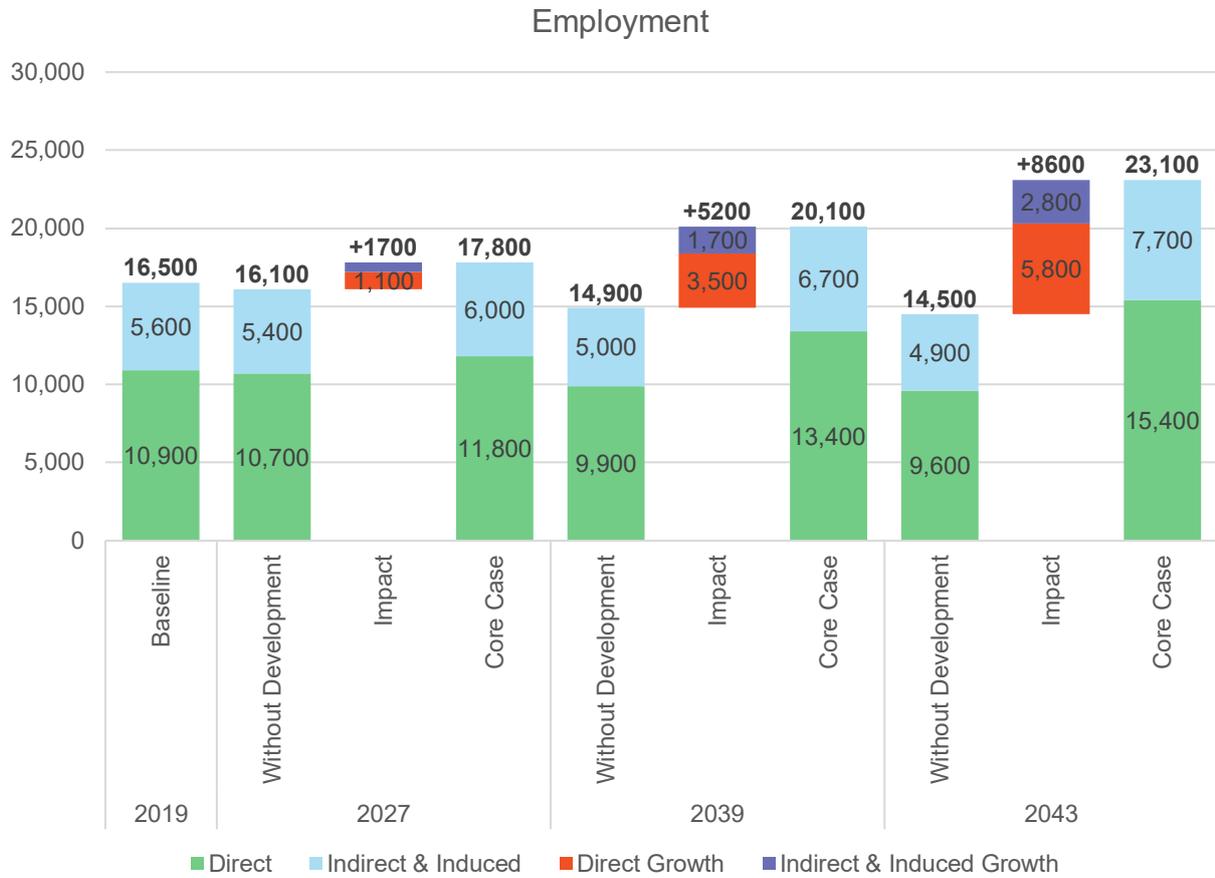
9.4.16 This expansion, in line with the Core Planning Case, offers significant additional operational employment benefits compared to the Without Development Case, with around 6,300 additional jobs supported in Luton in 2043. This difference is, in part, fuelled by the erosion of employment at the airport in the Without Development scenario as the airport stagnates and future productivity gains come into effect enabling existing passenger numbers to be handled with fewer staff.

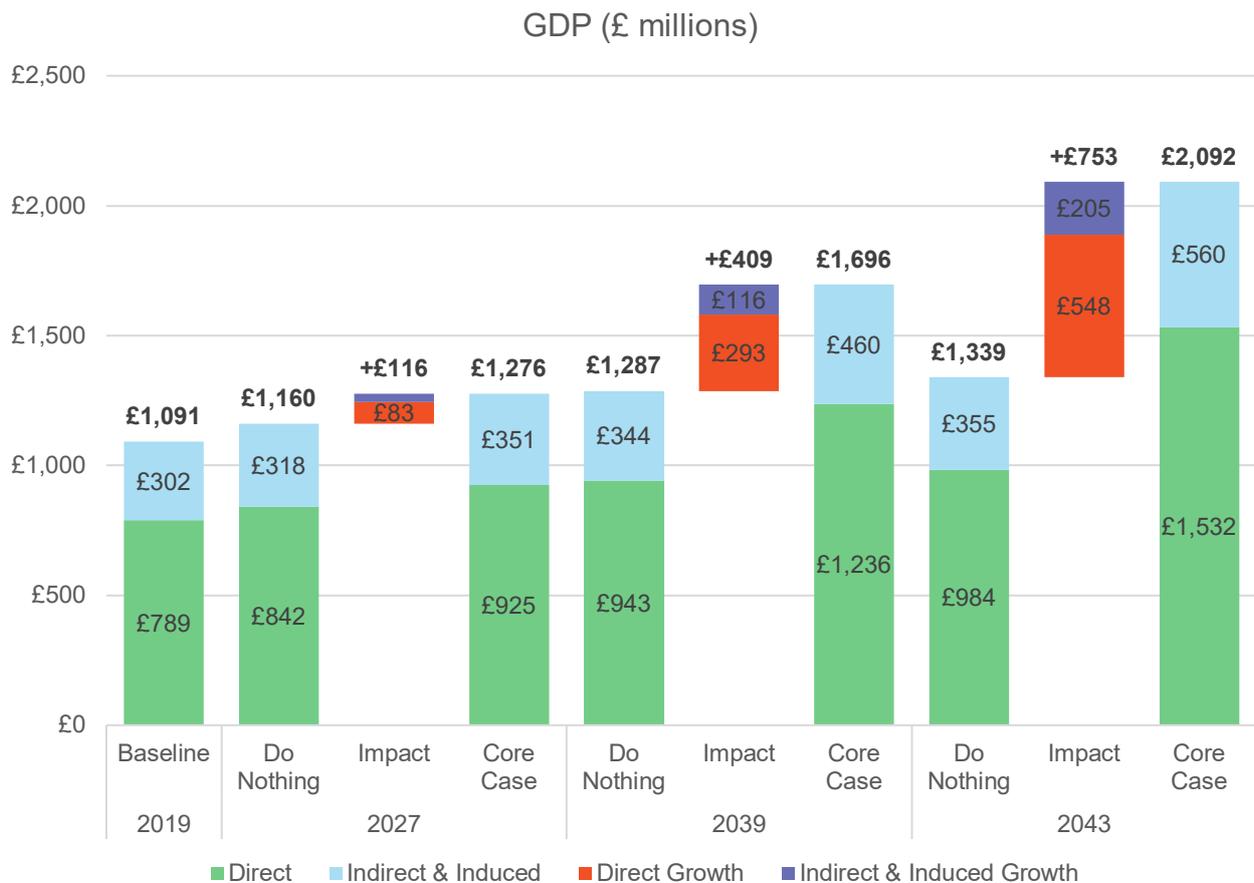
- 9.4.17 Alongside the employment impacts in Luton are significant increases in the level of GDP supported by the airport. The direct GDP supported by the airport in the Core Planning Case is forecast to grow from around £789 million to around £1.5 billion in 2043. When indirect and induced effects are included, the total annual GDP supported by the airport in Luton in 2043 is estimated to be around £1.6 billion, an increase of £775 million compared to 2019. Compared to the Without Development Case in 2039, this is an increase of around £575 million.
- 9.4.18 The Proposed Development, therefore, offers a substantial socio-economic opportunity for Luton, an area which has been identified as suffering from significant levels of deprivation. As has been noted above, the Levelling Up Fund has identified Luton as a Level 1 Priority Area and the Index of Multiple Deprivation identifies that over a quarter of the SOAs in Luton are within the top 20% most deprived in England. This establishes the strong need for regeneration and economic stimulus in Luton. To aid in securing the economic benefits of the Proposed Development for Luton, a detailed comprehensive **Employment and Training Strategy** is currently being developed.

Three Counties

- 9.4.19 **Inset 9.5** sets out the operational economic impacts of the Core Planning Case, the Without Development Case and the corresponding employment and GDP impact in the Three Counties. The analysis is shown from three assessment years that represent the thresholds as to when the airport reaches 21.5 mppa, 27 mppa and 32 mppa.

Inset 9.5: Operational economic impacts in the Three Counties – Core Planning Case





Source: Oxford Economics

9.4.20 Developing the airport to handle 32 mppa would again result in it supporting substantially more jobs in the Three Counties. The total operational employment supported by the airport in the Three Counties in the Core Planning Case in 2043 is 23,100 jobs, an increase of 6,600 jobs over 2019. It is also 8,600 more jobs than are supported by the Without Development Case in 2043.

9.4.21 Alongside the employment impacts in the Three Counties there are significant increases in the level of GDP supported by the airport. The total annual GDP supported by the airport in the Three Counties in 2043 is estimated to be around £2.1 billion, an increase of £1 billion compared to 2019. Compared to the Without Development Case in 2043, this is an increase of £753 million.

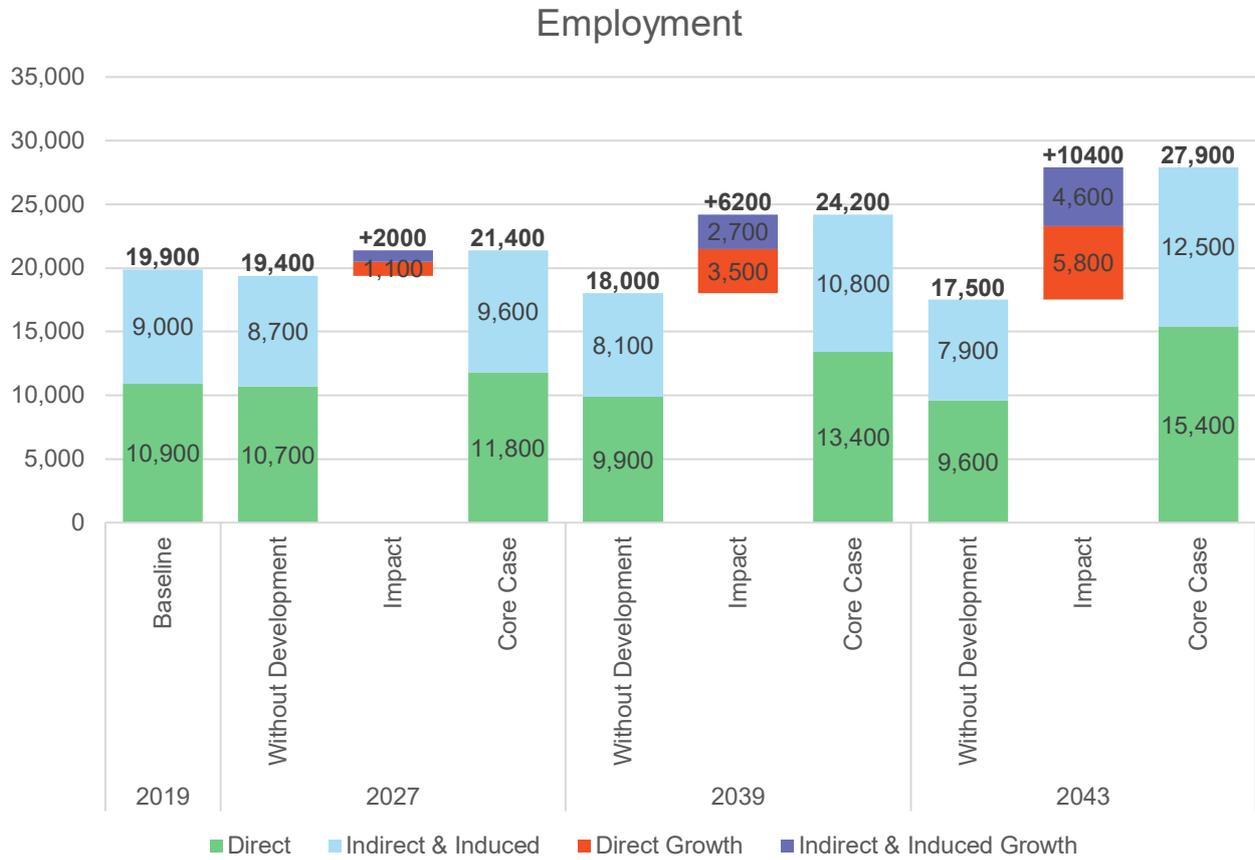
9.4.22 Again, the GDP and employment impacts from the Proposed Development offer a substantial opportunity for the Three Counties. While, there is a general perception that this area is prosperous, there are still significant areas of deprivation, as has been recognised by the designation of areas such as North Hertfordshire and Bedford as Level 2 Priority areas for the Levelling Up Fund. Securing these benefits in these areas is again a focus for the **Employment and Training Strategy** for the Proposed Development.

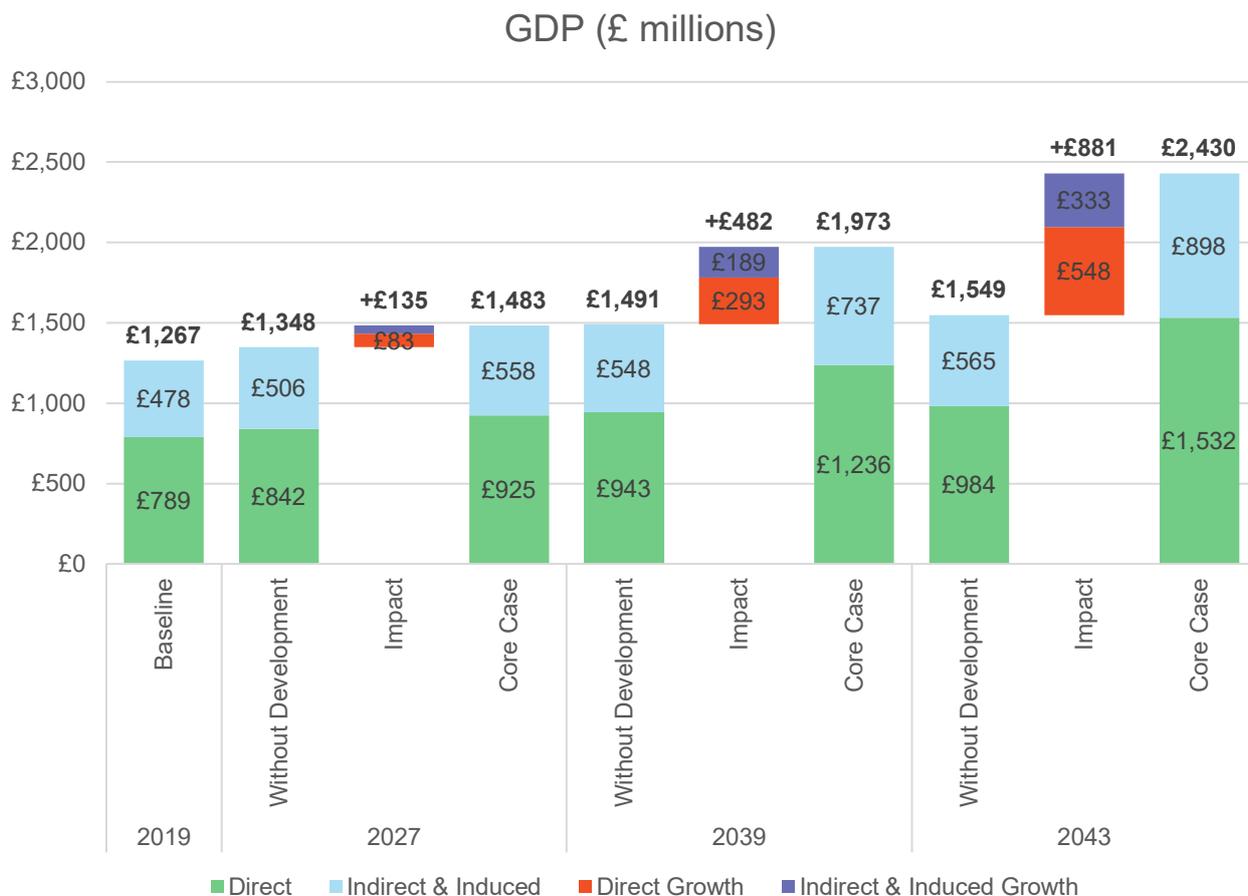
Six Counties

9.4.23 **Inset 9.6** sets out the operational economic impacts of the Core Planning Case, the Without Development Case and the corresponding employment and GDP

impact in the Six Counties. The analysis is shown from three assessment years that represent the thresholds as to when the airport reaches 21.5 mppa, 27 mppa and 32 mppa.

Inset 9.6: Operational economic impacts in the Six Counties – Core Planning Case





Source: Oxford Economics

9.4.24 Developing the airport to handle 32 mppa would again result in it supporting substantially more jobs in the Six Counties. The total operational employment supported by the airport in the Six Counties in the Core Planning Case in 2043 is 27,900 jobs, an increase of 8,000 jobs over 2019. It is also 10,400 more jobs than are supported by the Without Development Case in 2043.

9.4.25 Alongside the employment impacts in the Six Counties there are significant increases in the level of GDP supported by the airport. The total annual GDP supported by the airport in the Six Counties in 2043 is estimated to be around £2.4 billion, an increase of £1.2 billion compared to 2019. Compared to the Without Development Case in 2043, this is an increase of £881 million.

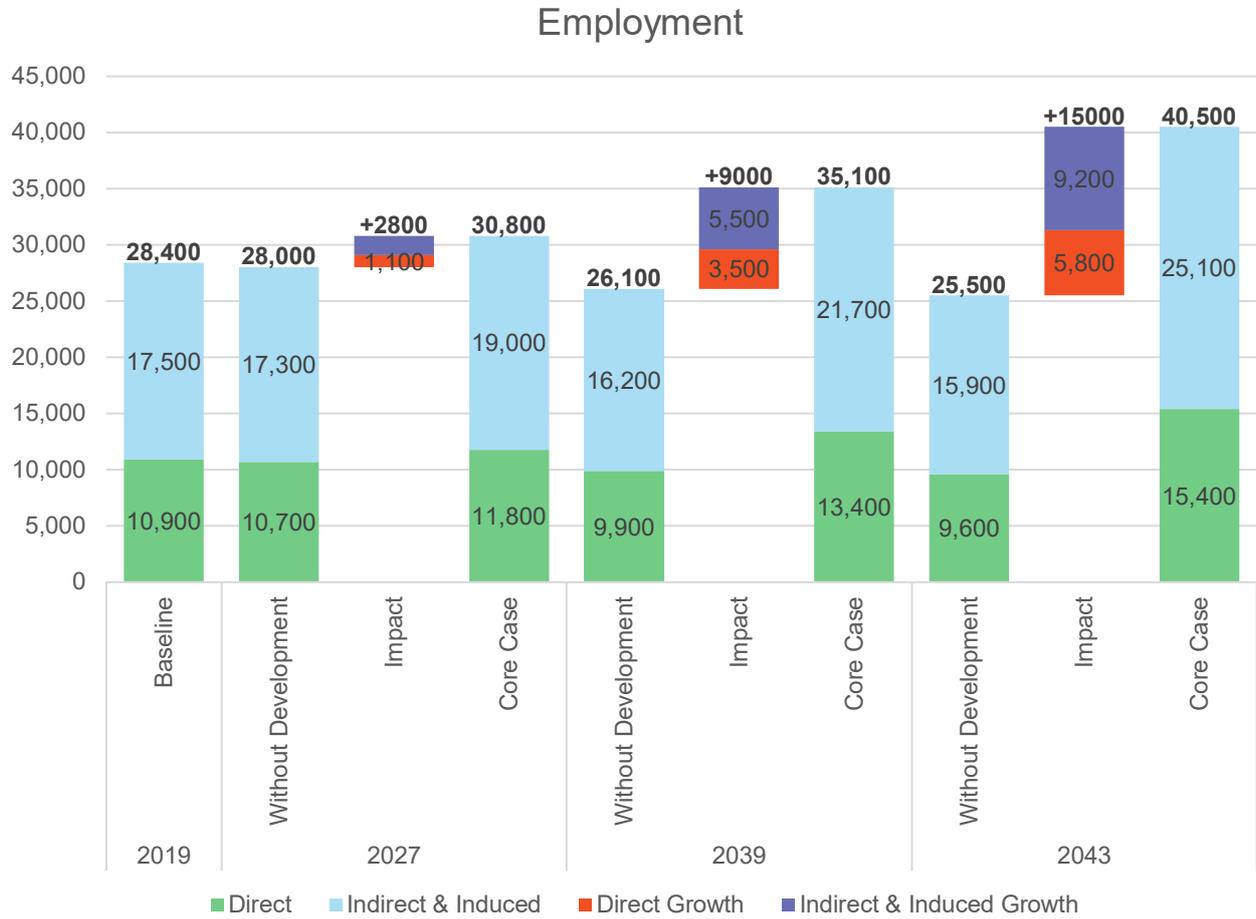
9.4.26 This analysis highlights the potential importance of socio-economic opportunity offered by the Proposed Development for areas across the Six Counties. In the context of this broader area, while direct impacts remain important, the indirect (supply chain) opportunities are increasingly greater factor in impact, reflecting the opportunities to supply goods and services to companies on-site as it grows.

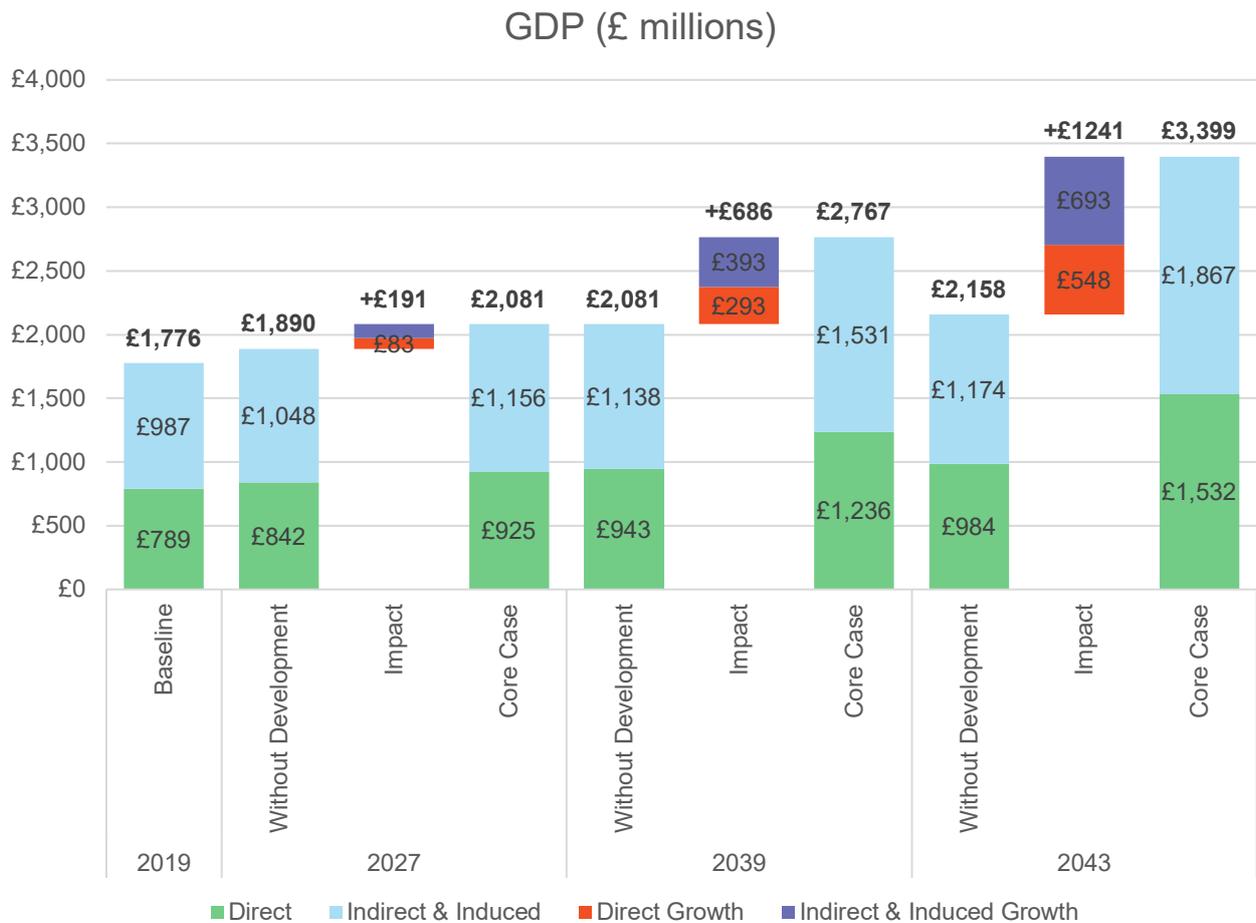
United Kingdom

9.4.27 **Inset 9.7** sets out the operational economic impacts of the Core Planning Case, the Without Development Case and the corresponding employment and GDP impact across the UK. The analysis is shown from three assessment years that

represent the thresholds as to when the airport reaches 21.5 mppa, 27 mppa and 32 mppa.

Inset 9.7: Operational economic impacts in the UK – Core Planning Case





Source: Oxford Economics

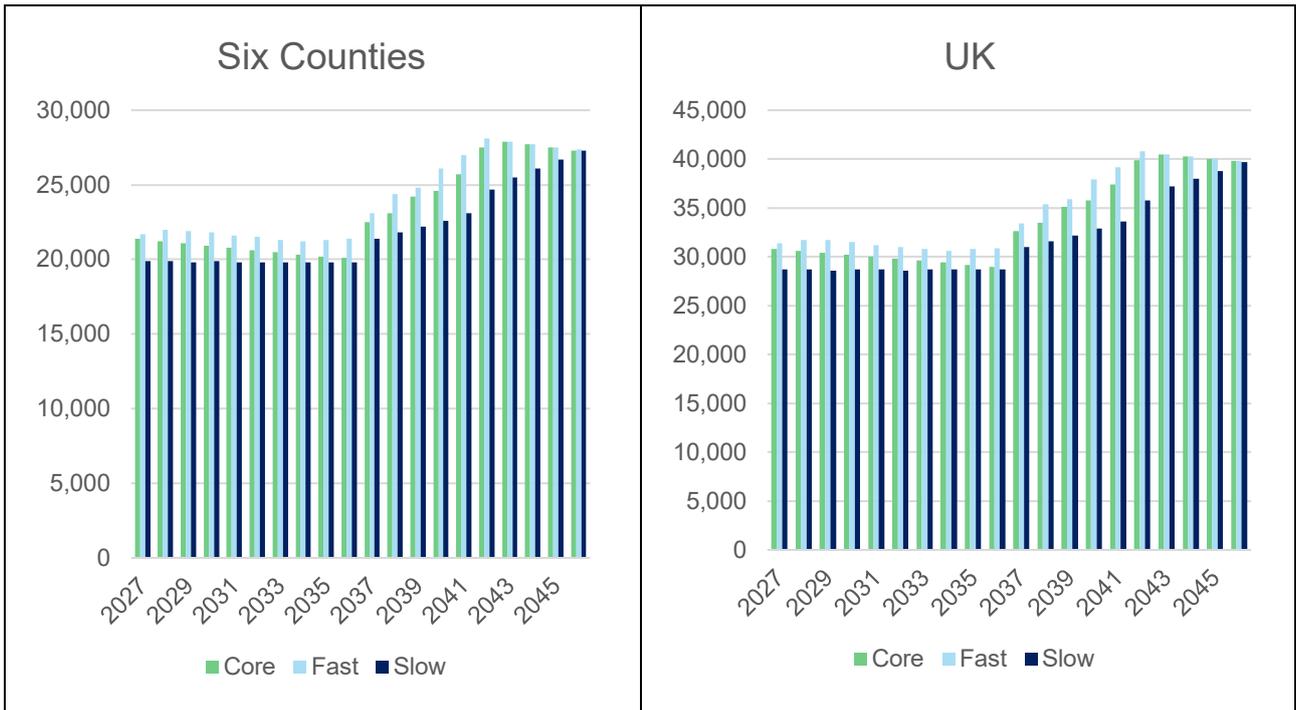
- 9.4.28 Developing the airport to handle 32 mppa would again result in it supporting substantially more jobs in the UK. The total operational employment supported by the airport in the UK in the Core Planning Case in 2043 is 40,500 jobs, an increase of 12,100 jobs over 2019. It is also 15,000 more jobs than are supported by the Without Development Case in 2043.
- 9.4.29 Alongside the employment impacts in the UK there are significant increases in the level of GDP supported by the airport. The total annual GDP supported by the airport in the UK by 2043 is estimated to be around £3.4 billion, an increase of £1.6 billion compared to 2019. Compared to the Without Development Case in 2043, this is an increase of over £1.2 billion.
- 9.4.30 The growth in employment and GDP across all study areas represents a significant economic opportunity to support prosperity and job creation in local, sub-regional and regional economies around the airport. The contribution at the UK level is also material due to wider supply chain effects from growth. This growth will provide a wide range of opportunities that will suit many different people with different needs. Access to these employment opportunities will, be supported by the **Employment and Training Strategy**, which will work with individuals, companies and stakeholders to ensure that these opportunities are accessible to all.

Faster and Slower Growth Cases

9.4.31 The economic assessment has also considered the operational GDP and employment impacts of the Faster and Slower Growth Cases compared to the Without Development Case. Ultimately, the Faster and Slower Growth Cases see the airport attain the core passenger thresholds described above but in either earlier or later years. This does affect the level of operational impacts delivered but this effect is limited, as, ultimately, the primary driver of impact, air traffic, is the same. The differences between the total employment and GDP impact in each of the study areas compared to the Core Planning Case impacts are shown in **Insets 9.8** and **9.9**. This demonstrates quite clearly the convergence of impacts over time.

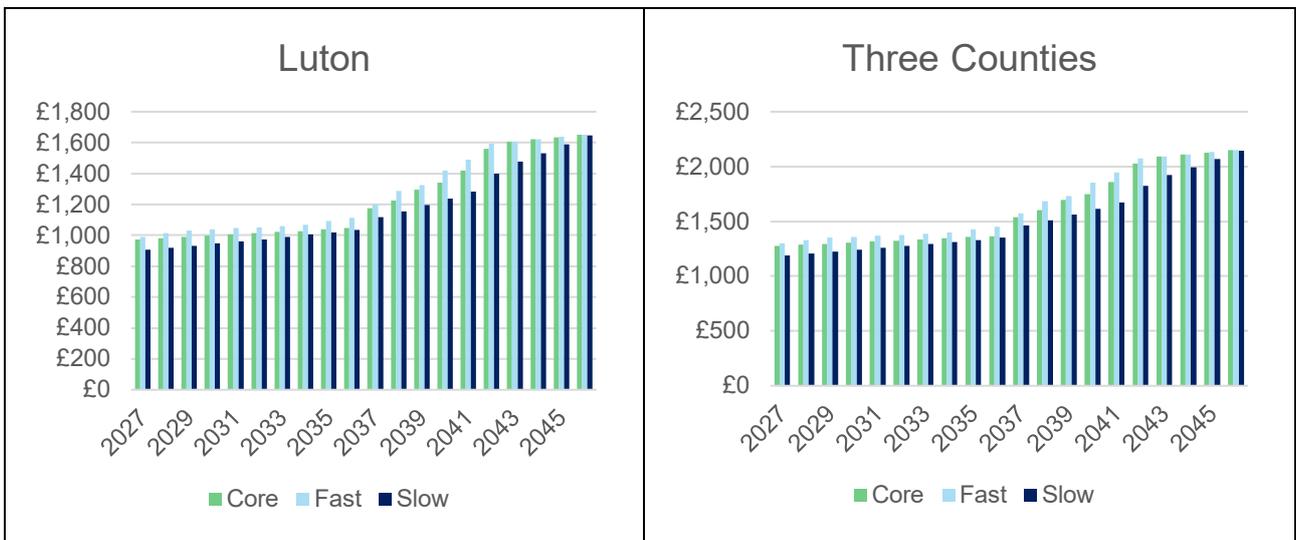
Inset 9.8: Difference in operational employment impacts between the Faster and Slower Growth Cases and the Core Planning Case

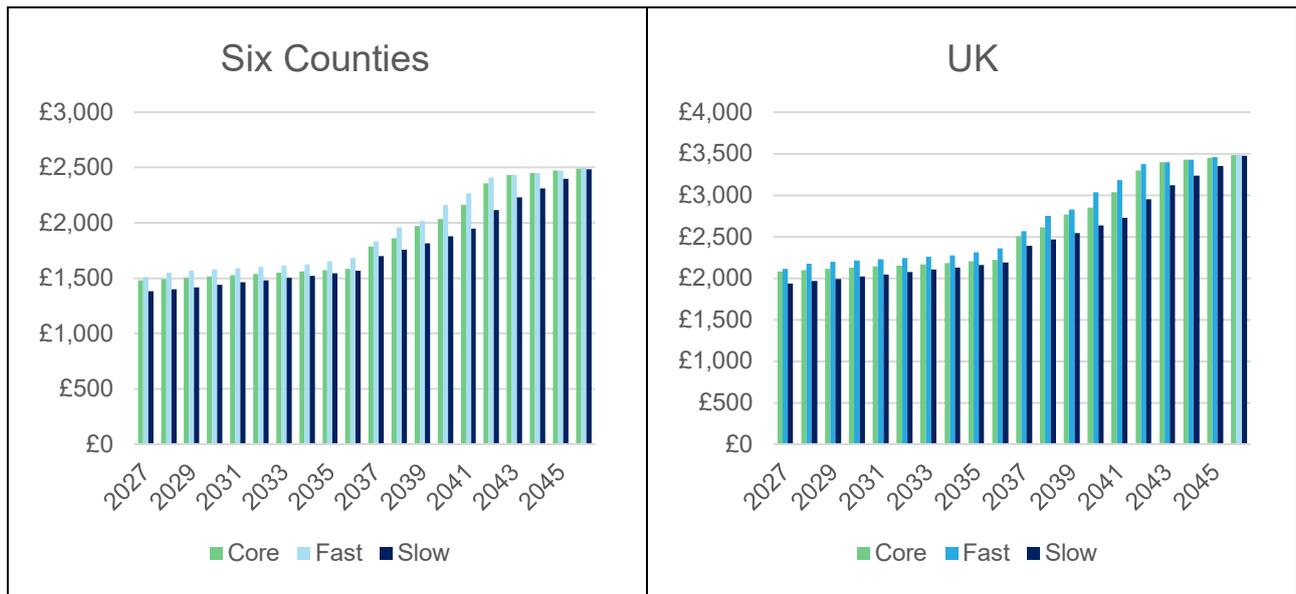




Source: Oxford Economics

Inset 9.9: Difference in operational GDP impacts between the Faster and Slower Growth Cases and the Core Planning Case





Source: Oxford Economics

9.5 Wider economic impacts

9.5.1 The wider economic impacts associated with the Proposed Development stem from the greater connectivity that the expanded airport will offer to passengers and freight users. This increased connectivity will:

- a. support international businesses operating in the areas around the airport to trade more and more efficiently;
- b. make the regions around the airport more attractive to investors, helping to retain and grow the global business base;
- c. enhance competition by increasing the transparency of markets;
- d. help the development of internationally focussed clusters, facilitating agglomeration effects;
- e. attract high skilled people to come and live and work in the area; and
- f. increase the number of inbound tourists using the airport.

9.5.2 As has been described in **Section 3**, this role is central to the economic aspirations of stakeholders in the areas around the airport. It is particularly pertinent given the focus on the internationally significant Oxford-Cambridge Arc initiative, for which the airport is a key international gateway.

9.5.3 The assessment of these wider economic impacts has focussed on three areas:

- a. the strategic role of the airport;
- b. business productivity impacts; and
- c. inbound tourism impacts.

Strategic role of the airport in the sub-region and beyond

9.5.4 International connectivity is seen as one of the key regional strengths, which policy seeks to support and leverage. This is reflected in the focus within policy

on the international economy and global companies, as set out in **Section 3**. Hence, the airport has the potential to make a substantially greater contribution if expanded in line with the Proposed Development. This is particularly the case in relation to the areas around the airport within the Three and Six Counties.

9.5.5 It is also important to recognise, the airport plays a role in supporting London, with 37% of passengers having surface origins or destinations within Greater London. In this context, even with a third runway at Heathrow, London's airports are expected to be heavily constrained by the 2040s^{cxxxviii}, increasing the importance of the airport being able to expand to handle its share of demand.

9.5.6 Consultations with sub-regional economic development stakeholders are ongoing to gather further evidence of the way in which the connectivity offered by the airport supports the achievement of broader economic strategies and how these effects can be maximised in future with the Proposed Development. This will be reported in the final Need Case to be submitted with the application for development consent. To some degree, the impacts assessed here are conservative as they are based on the current patterns of usage of the airport and, hence, do not reflect the extent to which the improved air connectivity will stimulate wider economic growth and business activity within the area, particularly in those more deprived areas of Luton and the neighbouring areas. This is particularly relevant in terms of the aspiration for growth at the airport to leverage additional investment within the EZ and surrounding areas of Luton.

Business connectivity benefits

9.5.7 In addition to the GDP and employment impacts supported through the direct, indirect and induced impacts, the airport supports economic activity by providing connectivity to the passengers that use it. Quantifying these wider benefits in terms of contributions to GDP or employment is highly complex and estimates around these should be seen as broader in nature than those for direct, indirect and induced effects. However, they do provide a strong evidential base for the order of magnitude of effects in the wider economy.

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

9.5.9 The potential wider impacts stemming from increased business travel through the airport as a result of the expansion project are shown in **Table 9.3**. These impacts are based on the Core Planning Case. These impacts have been estimated based on a generalised cost model that examines the number of business passengers that are solely reliant on connectivity via the airport. This has been combined with an econometric relationship developed by OE^{cxxxix} that relates the level of business air travel and air cargo in the UK economy to the level of

productivity. This says that a 10% increase in business travel and cargo relative to GDP will raise productivity by around 0.5%.

Table 9.3: Business Connectivity GDP and Employment Impact – Core Planning Case

		Core Planning Case		Without Development Case		Impact	
		Jobs	GDP (£m)	Jobs	GDP (£m)	Jobs	GDP (£m)
2027	Luton	10	£15	10	£15	0	£0
	Three Counties	630	£160	530	£135	100	£25
	Six Counties	1,150	£215	970	£180	180	£35
	UK	5,410	£660	4,630	£565	780	£95
2039	Luton	10	£20	10	£15	0	£5
	Three Counties	710	£200	470	£135	240	£65
	Six Counties	1,280	£270	860	£180	420	£90
	UK	6,280	£865	4,110	£565	2,170	£300
2043	Luton	10	£25	10	£15	0	£10
	Three Counties	800	£235	450	£135	350	£100
	Six Counties	1,460	£320	820	£180	640	£140
	UK	7,280	£1,045	3,950	£565	3,330	£480

Source: York Aviation

9.5.10 In addition to the GDP and employment impacts supported through the direct, indirect and induced impacts, the airport supports economic activity by providing connectivity to the passengers that use it. Quantifying these wider benefits in terms of contributions to GDP or employment is highly complex and estimates around these should be seen as broader in nature than those for direct, indirect and induced effects. However, they do provide a strong evidential base for the order of magnitude of effects in the wider economy.

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

confidence knowing that they will be able to manage and grow their overseas operations. The result is a more open, competitive and productive local economy.

- 9.5.12 This analysis suggests that GDP and job impacts stemming from increased connectivity supporting business travel in the Core Planning Case in 2043 would be:
- a. around £10 million in GDP in Luton;
 - b. around £100 million in GDP and 350 jobs in the Three Counties;
 - c. around £140 million in GDP and 640 jobs in the Six Counties; and
 - d. around £480 million in GDP and 3,330 jobs across the UK.
- 9.5.13 These impacts demonstrate the potential role that an expanded the airport can play in supporting growth in the wider economy, providing access to international markets and helping to attract investment. As has been demonstrated in **Section 3**, stakeholders within the broad area served by the airport, and notably within the Oxford-Cambridge Arc, are strongly focussed on the development of the international economy to drive prosperity and develop high valued added sectors of the economy. This analysis helps to demonstrate the potential importance of the Proposed Development in achieving these aspirations, which in turn could mean that more of the benefit would be realised locally.
- 9.5.14 As with operational economic impacts, the Faster and Slower Growth Cases result in similar impacts to the Core Case. This is not surprising given that the volumes of passengers are the same. However, the effects of productivity over time do mean that there are differences in employment impacts.
- 9.5.15 The differences in employment impacts versus the Without Development Case in the Core, Faster and Slower Growth Cases are shown in **Table 9.4**. These differences are shown at the three passenger demand thresholds being considered, 21.5 mppa, 27 mppa and 32 mppa, rather than by years. Ultimately, the differences are matters of timing rather than impact at 32 mppa.

Table 9.4: Difference between business productivity employment impacts by scenario

		Core Case	Faster Growth Case	Slower Growth Case		
		Jobs	Jobs	Difference	Jobs	Difference
21.5 mppa	Luton	0	n/a	n/a	0	0
	Three Counties	50	n/a	n/a	10	-40
	Six Counties	180	260	80	200	20
	UK	340	n/a	n/a	-80	-420
27 mppa	Luton	0	0	0	0	0
	Three Counties	240	230	-10	230	-10
	Six Counties	420	430	10	420	0
	UK	2,170	2,200	30	2,120	-50
32 mppa	Luton	0	0	0	0	0
	Three Counties	350	350	0	340	-10
	Six Counties	640	650	10	620	-20
	UK	3,330	3,360	30	3,230	-100

Source: York Aviation

Inbound tourism

9.5.16 The growth of the airport and the connectivity it offers will also enable more visitors to use the airport to come to the UK. These visitors will support GDP and employment via an expenditure injection into the economy. These impacts have been assessed using analysis of the *CAA Passenger Survey*, VisitBritain data on typical visitor expenditures and ONS data on the tourism sector’s characteristics. The results of this analysis for the Core Planning Case are set out in **Table 9.5**.

Table 9.5: Inbound tourism related GDP and jobs impacts – Core Case

		Core Planning Case		Without Development Case		Impact	
		Jobs	GDP (£m)	Jobs	GDP (£m)	Jobs	GDP (£m)
2027	Luton	160	£10	140	£10	20	£0
	Three Counties	1,650	£100	1,380	£85	270	£15
	Six Counties	2,910	£190	2,440	£160	470	£30
	UK	21,410	£1,290	17,920	£1,080	3,490	£210
2039	Luton	180	£10	120	£5	60	£5
	Three Counties	1,790	£125	1,190	£85	600	£40
	Six Counties	3,160	£230	2,100	£155	1,060	£75
	UK	23,190	£1,575	15,460	£1,050	7,730	£525
2043	Luton	200	£15	110	£5	90	£10
	Three Counties	2,030	£150	1,140	£85	890	£65
	Six Counties	3,590	£275	2,020	£155	1,570	£120
	UK	26,400	£1,870	14,850	£1,050	11,550	£820

Source: York Aviation

9.5.17 This analysis suggests that GDP and job impacts stemming from increased connectivity supporting inbound tourism in the Core Planning Case in 2043 would be:

- a. around £10 million in GDP and 90 jobs in Luton;
- b. around £65 million in GDP and 890 jobs in the Three Counties;
- c. around £120 million in GDP and 1,570 jobs in the Six Counties; and
- d. around £820 million in GDP and 11,550 jobs across the UK.

9.5.18 The extent to which these tourism effects are likely to be subject to displacement effects is still being considered at this stage but will be considered further in the application.

9.5.19 Again, this stimulus to the inbound tourism economy will support the aspirations of stakeholders in the areas around the airport to develop the tourism industry and, particularly, to increase inbound international expenditure in the airport's catchment area.

9.5.20 Again, the Faster and Slower Growth Cases result in slightly different employment effects given the differing passage of time and consequent effect of productivity. The differences in employment impacts between the Core, Faster and Slower Growth Cases and the Without Development Case are set out in **Table 9.6**. These differences are ones of timing rather than the ultimate effect once 32 mppa is reached.

Table 9.6: Difference between inbound tourism employment impacts by scenario

		Core Case	Faster Growth Case		Slower Growth Case	
		Jobs	Jobs	Difference	Jobs	Difference
21.5 mppa	Luton	20	n/a	n/a	30	10
	Three Counties	270	n/a	n/a	280	10
	Six Counties	2,910	3,050	140	2,660	-250
	UK	3,490	n/a	n/a	3,550	60
27 mppa	Luton	60	60	0	60	0
	Three Counties	600	610	10	580	-20
	Six Counties	3,160	3,210	50	3,070	-90
	UK	7,730	7,870	140	7,590	-140
32 mppa	Luton	90	90	0	80	-10
	Three Counties	890	900	10	860	-30
	Six Counties	3,590	3,630	40	3,490	-100
	UK	11,550	11,670	120	11,210	-340

Source: York Aviation.

9.5.21 The potential effect on GDP and employment from outbound tourism has not been quantified. This reflects the fact that there are considerable uncertainties around the effect of airport's expansion on GDP or employment from outbound tourism:

- a. it seems likely that any outbound tourism effects are likely to be subject to significant displacement, either through passengers simply using another UK airport to fly or through passengers reducing the number of trips taken but increasing the length of those trips;
- b. in addition, it should also be recognised that outbound trips from the UK also support significant economic activity in the UK, for instance through travel agency operations or through retail expenditure on goods or

services relating to overseas trips. This knock-on effect would need to be considered for any assessment of outbound tourism impacts;

- c. it is far from certain that any reduction in outbound tourism as a result of airport capacity constraints would result in the capturing of more expenditure in the UK economy. Given the discretionary nature of expenditure on overseas holidays or leisure trips, it is quite possible that individuals would choose to save the money they would have spent or potentially spend it on another import of some sort; and
- d. overseas leisure travel does, in itself, have important quality of life benefits, which would not be reflected in such an analysis. The availability of leisure travel is a vital factor in making an area an attractive place to live and work, which ultimately will impact on GDP and employment. However, estimating this effect would be highly complex.

9.5.22 It would seem reasonable to suggest that outbound tourism will, therefore, have an offsetting effect on the positive impacts from inbound tourism but this is likely to be relatively limited.

9.5.23 Overall, the development of the airport will provide substantial wider economic benefits to Luton, the Three Counties and the Six Counties, supporting the aspirations for the development of the international economy and the visitor economy in the regions around the airport. The impacts at the UK level are also reported.

9.6 Benefits to individual passengers - journey time savings

9.6.1 Another way to look at the potential benefits of the Proposed Development to passengers is to consider the impact that it might have on their socio-economic welfare in terms of passenger journey times to access air services. If the airport is not able to expand in line with the Proposed Development, then an increasing number of passengers will either be forced to use a different, potentially more distant, airport or to not fly at all. This analysis presented here estimates the time cost associated with passengers having to use an alternative airport. Time has been monetised based on guidance on the value of time for business and leisure travellers for air travellers taken from the Airports Commission Final Report.^{cxl} The present value of journey time savings over a 60-year period from 2021 are set out in **Table 9.7**. It should be noted that the ability to 'fly local' also has further benefits in terms of reduced surface access emissions but these have not been quantified at this time.

Table 9.7: 60 Year Present Value of Journey Time Savings (£ million) – Core Case

Study Area	UK Passengers	Foreign Passengers	All Passengers
Luton	£51	£22	£73
Three Counties	£386	£101	£487
Six Counties	£388	£160	£548
UK	£274	£57	£331

Source: York Aviation

9.6.2 The Core Case is expected to result in:

- a. £73 million in discounted journey time savings over a 60-year period from 2018 for passengers travelling to or from Luton;
- b. £487 million in discounted journey time savings over a 60-year period for passengers travelling to or from the Three Counties;
- c. £548 million in discounted journey time savings over a 60-year period for passengers travelling to or from the Six Counties; and
- d. £331 million in discounted journey time savings over a 60-year period for passengers travelling to or from destinations across the UK.

9.6.3 This analysis shows the positive effects for passengers of expansion at the airport. The development will enable them to save time, making the market as a whole operate more efficiently.

Benefits during the construction phase

9.6.4 The permanent benefits of the Proposed Development the airport that stem from its on-going operation have been considered above. However, the development will also be a major construction project, which will support employment and GDP while it is on-going, again offering opportunities for people in the areas around the airport and aiding in addressing the pockets of deprivation close to the airport site. The **Employment and Training Strategy** that is being developed will provide a strong framework for ensuring that these jobs are accessible to local people and that the right training and infrastructure is in place to ensure that benefits are felt in the areas that need it. Further information on construction employment is contained in **Chapter 11** of the **PEIR**.

9.7 Conclusions on economic benefits

9.7.1 The airport is central to the economy of Luton, the Three Counties and the Six Counties area and is an important connectivity asset for the broader region it serves. It's important role in serving the London market should also not be forgotten.

9.7.2 The future economic strategy for Luton is seeking to secure significant economic growth, including through the development of the London Luton Airport EZ. It is seeking to develop higher value added employment, more job opportunities and

to clawback current out-commuting to higher paid jobs. The potential of the aerospace sector and aviation, including the airport, to support these aspirations is well recognised as well as opportunities to attract green technology enterprises to the local area. This is fundamental to the objective to reduce levels of deprivation in the local area and the growth at the airport with the Proposed Development can play a major role both through direct job generation during the construction and operational phases as well as acting as a catalyst to attracting new businesses and making it easier for existing businesses to trade internationally and expand.

- 9.7.3 More broadly, the LEP areas around the airport and the Oxford-Cambridge Arc have a focus on the growth of high value sectors and the development of the international economy. The connectivity of the region is a key strength in this regard and further development of the airport will be important in achieving these aspirations.
- 9.7.4 The airport is already a significant economic driver in terms of its operations, supporting 11,800 jobs in Luton, 16,600 jobs in the Three Counties, 19,900 jobs in the Six Counties and 28,400 jobs in the UK through direct, indirect and induced impacts. The airport's total impact on GDP once indirect and induced effects are included is estimated to be around £831 million in Luton, £1.1 billion in the Three Counties, £1.3 billion in the Six Counties and £1.8 billion across the UK as a whole.
- 9.7.5 The development of the airport to handle 32 mppa would offer substantial operational employment benefits compared to a Without Development scenario in 2043, with the Core Planning Case supporting an additional:
- a. 6,300 jobs in Luton;
 - b. 8,600 jobs in the Three Counties;
 - c. 10,400 jobs in the Six Counties; and
 - d. 15,000 jobs in the UK.
- 9.7.6 The Core Planning Case will also support additional annual operational GDP of:
- a. £575 million in Luton;
 - b. £753 million in the Three Counties;
 - c. £881 million in the Six Counties; and
 - d. £1.2 billion in the UK.
- 9.7.7 These operational GDP and employment benefits offer substantial socio-economic opportunity to address deprivation and 'level up' areas that surround the airport. The need for this stimulus has been firmly established by stakeholders and has been demonstrated in Section 3. The designation of Luton as a Priority 1 area for the Levelling Up Fund and a number of other areas as Priority 2 areas, clearly demonstrates this need for regeneration. These benefits will be secured through the Employment and Training Strategy that will support the Proposed Development.

- 9.7.8 The development also has the potential to support wider economic benefits through improved connectivity for business travellers and increased inbound tourism. In the Core Planning Case, business traveller productivity effects could support:
- a. around £10 million in GDP in Luton;
 - b. around £100 million in GDP and 350 jobs in the Three Counties;
 - c. around £140 million in GDP and 640 jobs in the Six Counties; and
 - d. around £480 million in GDP and 3,330 jobs across the UK.
- 9.7.9 Growth in inbound tourism could support:
- a. around £10 million in GDP and 90 jobs in Luton;
 - b. around £65 million in GDP and 890 jobs in the Three Counties;
 - c. around £120 million in GDP and 1,570 jobs in the Six Counties; and
 - d. around £820 million in GDP and 11,550 jobs across the UK.
- 9.7.10 These wider economic impacts strongly support the aspirations of stakeholders across the airport's catchment area to drive the international economy to increase productivity, grow prosperity and, ultimately, improve quality of life for the population in Luton, the Three Counties, Six Counties and across the Oxford-Cambridge Arc.
- 9.7.11 Increased airline competition enabled by additional airport capacity has the potential to deliver lower air fares and wider consumer benefits, in addition to an estimated £487 million of journey time saving benefits for passengers to and from the Three Counties. These impacts will strongly support the economic strategies for the area, particularly in terms of supporting employment growth in some areas and the development of the international economy.

10 CONCLUSIONS

10.1.1 This document has set out the need for the expansion of London Luton Airport (the Proposed Development) and addresses both the strategic and aviation policy context for the Proposed Development, as well as setting out the role of the airport today, the forecasts of future demand and the broader economic impacts of the growth in passenger numbers projected to use the airport with development.

10.2 The strategic economic case for aviation growth

10.2.1 National, regional and sub-regional economic strategy is strongly focussed on building economic growth around linkages with the global economy. This is reflected in the government's recent Build Back Better strategy

10.2.2 The importance of international connectivity is reinforced by the Oxford-Cambridge Arc initiative, which is seeking to build on the world class academic and economic assets located there as a lever to deliver improved productivity and economic growth. As the only major airport within the Arc, a growing London Luton Airport will be central to achieving these aspirations through its ability to facilitate trade, investment and tourism.

10.2.3 The airport's role is also vital in the context of the government's 'levelling up' agenda. Luton is identified as a highest priority area for the Levelling Up Fund and has recently been awarded £20m from the Fund. The role of the airport in supporting regeneration in many of these areas is already recognised and future growth in line with Proposed Development will substantially increase this role.

10.2.4 It is these economic imperatives that provide the context within which the need for the Proposed Development has to be assessed as one of the principal means by which the competitiveness of the regional economy can be maintained and to support the levelling up agenda through the direct and indirect economic contribution that its growing operation can make.

10.3 National aviation policy

10.3.1 There is clear government policy support for aviation growth and for airports making best use of their runways, as set out by the government in June 2018 (MBU policy) alongside the proposals for a new runway at Heathrow set out in the Airports National Policy Statement (ANPS). These policies remain in force, as confirmed in the government's July 2021 Jet Zero consultation. This support is intrinsically linked to the economic role that aviation connectivity plays alongside the direct economic contribution of the aviation sector.

10.3.2 Alongside the ANPS, government aviation policy remains as set out in the Aviation Policy Framework 2013 (APF), which made clear that growth is supported "*within a framework which maintains a balance between the benefits of aviation and its costs, particularly its contribution to climate change and noise*". The APF is expected to be replaced by a new Aviation Strategy in the near future.

10.3.3 The Green Controlled Growth (GCG) approach put forward as part of the Proposed Development is designed to ensure that the impacts of growth can be

mitigated and controlled whilst delivering the anticipated economic benefits that growth at the airport can bring.

10.4 Economic context

- 10.4.1 The airport is situated at the heart of the Oxford-Cambridge Arc. The area is home to concentrations of economic sectors that are demonstrably reliant on air travel and that offer significant opportunities for future growth. The international nature of the economy within the airport's 'home' region is demonstrated by the high levels of exports from the region and the high and growing proportion of regional GVA that is supported by foreign owned companies. The sub-region and region around the airport contain many businesses with a high dependence on air travel.
- 10.4.2 More broadly, the Local Enterprise Partnership areas around the airport and the Oxford-Cambridge Arc have a focus on the growth of high value sectors and the development of the international economy. The connectivity of the region is a key strength in this regard and further development of the airport will be important in achieving these aspirations.
- 10.4.3 At the same time, there are very real pockets of deprivation around the airport, notably in Luton itself, Bedford, Stevenage and Milton Keynes. In this context, the growth of the airport to 32 mppa is of dual economic importance. It is needed to ensure that the areas around the airport continue to have access to a strong and, crucially, growing base of connectivity to support their international economies, by supporting the retention and growth of existing companies and also through attracting new investment. At the same time, growth at the airport represents a significant opportunity to create jobs directly and through its supply chain.

10.5 London Luton Airport's current market performance

- 10.5.1 The airport has grown rapidly in recent years and there is increasing evidence of its economic importance in terms of providing opportunities for business travel and inbound tourism, specifically to/from Europe.
- 10.5.2 The airport commands a high market share of the passenger demand in the areas around it, specifically the Three Counties of Bedfordshire, Buckinghamshire and Hertfordshire and also extending into North London along the Thameslink corridor.
- 10.5.3 Growth at the airport has the potential to greatly enhance the connectivity that the airport will be able to offer and to increase its wider economic contribution. The Proposed Development will enable the airport to provide some long haul services to points in the USA and Middle East, primarily.

10.6 Future demand forecasts

- 10.6.1 Projections of the future demand to use the airport have been developed using robust econometric methodologies and, given the inherent uncertainties in forecasting airport demand over a long time period, reflect a reasonable range of potential forecasts. A number of underlying demand growth scenarios have been

set out, taking into account economic recovery from the pandemic, carbon costs and other future drivers of the cost of air travel. Demand is expected to reach 2019 traffic levels (18 mppa) again by 2024. Different scenarios for the development of new runways at Heathrow, Gatwick and a combination of the two have also been tested. This provides a range for the demand that London Luton Airport could handle if capacity is expanded.

- 10.6.2 A further factor has been the anticipated phasing of development, which means that growth would initially be restricted below the demand that the airport could attract on the basis of the 'most likely' scenario. Taking the potential phased delivery of the proposed new infrastructure, specifically Terminal 2, into account, the airport is expected to reach the 32 mppa, for which consent is sought, between 2042 and 2046, with 2043 being the most likely date. This most likely case forms the Core Planning Case and Faster and Slower Growth Cases have also been developed for assessment purposes demonstrating that, ultimately, the airport will reach 32 mppa within a reasonable timeframe.
- 10.6.3 Detailed outputs have been derived from these forecasts to inform the assessment of the impacts of the Proposed Development, including the future fleet mix, the expected profile of demand over the year and over the day. These have been based to some degree on conservative principles so as to ensure that the assessments represent a reasonable worst case for the effects of the Proposed Development.

10.7 Current airport capacity and future capacity requirements

- 10.7.1 In the light of the growth projections, notwithstanding the impact of Covid-19 restrictions on travel in the short-term, additional airport capacity is urgently needed at the airport in order to keep pace with demand. The requirements for new capacity have been derived from the detailed demand forecasts in terms of runway, apron and terminal capacity. The Proposed Development is aimed at ensuring an overall capacity at the airport of 32 mppa, divided between the two terminals. The Proposed Development comprises initial enhancements to Terminal 1 (T1) to increase its capacity as an interim step (Phase 1) before the construction of Terminal 2 (T2), associated with 28 new aircraft stands and appropriate operational and other support accommodation and facilities to accommodate up to 12 mppa at Phase 2.
- 10.7.2 The runway has been assessed as having a sustainable capacity of at least 50 aircraft movements an hour with the additional taxiway links proposed, which is sufficient to accommodate 32 mppa envisaged under the Proposed Development.
- 10.7.3 Specific parameters have been defined for the requirements of T2 and its associated apron area to meet the expected need for an initial development to accommodate c.7 mppa and for expansion to provide a total capacity of up to 12 mppa. These will require 18 additional aircraft stands to serve T2 at 7 mppa and 28 stands at 12 mppa.
- 10.7.4 The phasing of development has been defined in relation to a feasible construction programme with the aim of responding to the demand as forecast.

10.8 Economic benefits of the development

- 10.8.1 The airport is central to the economy of Luton, the Three Counties and the Six Counties area and is an important connectivity asset for the broader region it serves, including parts of London
- 10.8.2 The future economic strategy for Luton is seeking to secure significant economic growth with the aim of reducing deprivation. It is seeking to develop higher value added employment, more job opportunities and to clawback current out-commuting to higher paid jobs. The potential of the aerospace sector and aviation, including the airport, to support these aspirations is well recognised as well as opportunities to attract green technology enterprises to the local area. Growth at the airport, with the Proposed Development, can play a major role both through direct job generation during the construction and operational phases as well as acting as a catalyst to attracting new businesses and making it easier for existing businesses to trade internationally and expand.
- 10.8.3 The airport is already a significant economic driver in terms of its operations, supporting 11,800 jobs in Luton, 16,600 jobs in the Three Counties, 19,900 jobs in the Six Counties and 28,400 jobs in the UK through direct, indirect and induced impacts. The airport's total impact on GDP once indirect and induced effects are included is estimated to be around £0.8 billion in Luton, £1.1 billion in the Three Counties, £1.3 billion in the Six Counties and £1.8 billion across the UK as a whole.
- 10.8.4 The development of the airport to handle 32 mppa would offer substantial operational employment benefits compared to a Without Development scenario in 2043, with the Core Planning Case supporting an additional:
- a. 6,300 jobs in Luton;
 - b. 8,600 jobs in the Three Counties;
 - c. 10,400 jobs in the Six Counties; and
 - d. 15,000 jobs in the UK.
- 10.8.5 The Core Planning Case will also support additional annual operational GDP of:
- a. £0.6 billion in Luton;
 - b. £0.8 billion in the Three Counties;
 - c. £0.9 billion in the Six Counties; and
 - d. £1.2 billion in the UK.
- 10.8.6 These operational GDP and employment benefits offer substantial socio-economic opportunity to address deprivation and 'level up' areas that surround the airport.
- 10.8.7 The development also has the potential to support wider economic benefits through improved connectivity for business travellers and increased inbound tourism.

10.8.8 These wider economic impacts strongly support the aspirations of stakeholders across the airport's catchment area to drive the international economy to increase productivity, grow prosperity and, ultimately, improve quality of life for the population in Luton, the Three Counties, Six Counties and across the Oxford-Cambridge Arc.

10.8.9 Increased airline competition enabled by additional airport capacity has the potential to deliver lower air fares and wider consumer benefits, in addition to an estimated £487 million of journey time saving benefits for passengers to and from the Three Counties. These impacts will strongly support the economic strategies for the area, particularly in terms of supporting employment growth in some areas and the development of the international economy.

10.9 Summary

10.9.1 Overall, there is a strong need for the development. The principle of development to make best use of the airport's existing runway is supported in policy. The area served by the airport is highly international and these businesses need enhanced aviation connectivity in order to remain globally competitive and deliver growth in productivity and output.

10.9.2 Notwithstanding Covid-19, there is expected to be strong growth in demand for air travel, with the market recovering to 2019 levels by around 2024. This growth is expected to continue and additional capacity will be required at London Luton Airport shortly thereafter if it is to continue to deliver the aviation connectivity that the area around it requires.

10.9.3 Expansion of the airport will deliver tangible economic benefits in terms of jobs and a boost to economic activity in the local area, which will be very valuable in the context of the government's 'levelling up' agenda and support other initiatives to grow the economy in Luton and beyond.

GLOSSARY

Term	Definition
Bottom Up Forecasts	Bottom up forecasts based on the specific services that airlines are expected to operate are typically used to derive more detailed short-term forecasts up to 5 years ahead
Busy Day Timetable	An indicative schedule of flights for a future year that is used to inform the assessment of airport capacity
Catalytic Impact	The wider impact on the economy around an airport due to the connectivity that it offers which acts to attract other investment, economic activity and tourism into an area
Code C aircraft	An aircraft of wingspan between 24 and 36m
Code E aircraft	An aircraft of wingspan between 52 and 65m
CORSA	A carbon offsetting scheme under which airlines are required to offset their carbon emissions above 2019 level and applies to all international flights to/from the UK connecting to other participating countries. This will include all but a small number of exempt countries from 2027
Direct Employment	Employment directly related to the operation of the airport and the flights operating from it
Domestic Air Services	Air services within the United Kingdom
Global and World Cities Network (GaWC)	This is a research network based at the University of Loughborough that focuses upon research into the external relations of world cities and is the leading thinktank on cities and globalisation
Gross Domestic Product	The total monetary value of all final goods and services produced (and sold on the market) within a country during a period of time (typically 1 year)
Gross Value Added	A measure of economic productivity that measures the contribution of a corporate subsidiary, company, or municipality to an economy, producer, sector, or region

Indirect Employment	Employment created through the airport's supply chain
Induced Employment	Employment generated through secondary rounds of spending as a consequence of direct and indirect employment associated with the airport
Jet Zero	The government's policy proposals for achieving net zero aviation by 2050
Long Haul Air Services	Air services mainly beyond Europe
Monte Carlo Simulation	A mathematical technique based on probabilities of occurrence of the various input assumptions
Multinomial Logit Model	A logit model is a form of statistical regression that predicts the discrete outcomes based on the performance of a number of other variables
Multiple Aircraft Ramp System	Aircraft stands laid out in such a manner that two (or more) smaller aircraft can occupy a stand designed for a larger aircraft
Project Curium	The project underway by LLAOL to increase the capacity of the Airport from 12 mppa to 18 mppa as approved in 2014
Short Haul Air Services	Air services principally within Europe and the North Mediterranean
Socio-economic Welfare	Relates to how economic efficiency and income distribution affect the overall well-being of people in the economy to achieve beneficial social and economic outcomes for all of society.
Top Down Forecasts	Top down forecasts start with a projection of overall demand across the UK and in the catchment area of the airport and examine the share of the market that the particular airport is likely to attract over the medium to long-term
WebTAG	The Department for Transport's suite of guidance on how to assess the expected impacts of transport policy proposals and projects.

APPENDICES

APPENDIX A: GaWC World Cities

Alpha Cities		Beta Cities		Gamma Cities	
London	Alpha ++	Washington DC	Beta +	San Jose	Gamma +
New York	Alpha ++	Dallas	Beta +	Kolkata	Gamma +
Hong Kong	Alpha +	Bogota	Beta +	Charlotte	Gamma +
Singapore	Alpha +	Miami	Beta +	St Louis	Gamma +
Shanghai	Alpha +	Rome	Beta +	Pune	Gamma +
Beijing	Alpha +	Hamburg	Beta +	Antwerp	Gamma +
Dubai	Alpha +	Houston	Beta +	Rotterdam	Gamma +
Paris	Alpha +	Berlin	Beta +	Adelaide	Gamma +
Tokyo	Alpha +	Chengdu	Beta +	Porto	Gamma +
Sydney	Alpha	Dusseldorf	Beta +	Baku	Gamma +
Los Angeles	Alpha	Tel Aviv	Beta +	Guadalajara	Gamma +
Toronto	Alpha	Barcelona	Beta +	Ljubljana	Gamma +
Mumbai	Alpha	Budapest	Beta +	Qingdao	Gamma +
Amsterdam	Alpha	Doha	Beta +	Algiers	Gamma +
Milan	Alpha	Lima	Beta +	Suzhou	Gamma +
Frankfurt	Alpha	Copenhagen	Beta +	Belfast	Gamma +
Mexico City	Alpha	Atlanta	Beta +	Glasgow	Gamma +
Sao Paulo	Alpha	Bucharest	Beta +	Medellin	Gamma +
Chicago	Alpha	Vancouver	Beta +	Cologne	Gamma +
Kuala Lumpur	Alpha	Brisbane	Beta +	Phnom Penh	Gamma +
Madrid	Alpha	Cairo	Beta +	Islamabad	Gamma +
Moscow	Alpha	Beirut	Beta +	Phoenix	Gamma +
Jakarta	Alpha	Auckland	Beta +	Riga	Gamma +
Brussels	Alpha	Ho Chi Minh City	Beta	Tbilisi	Gamma +
Warsaw	Alpha -	Athens	Beta	Kunming	Gamma +
Seoul	Alpha -	Denver	Beta	Ahmedabad	Gamma +
Johannesburg	Alpha -	Tianjin	Beta	Dar Es Salaam	Gamma +
Zurich	Alpha -	Abu Dhabi	Beta	Hefei	Gamma +
Melbourne	Alpha -	Perth	Beta	Orlando	Gamma +
Istanbul	Alpha -	Casablanca	Beta	Baltimore	Gamma +
Bangkok	Alpha -	Kiev	Beta	Durban	Gamma
Stockholm	Alpha -	Montevideo	Beta	Vilnius	Gamma
Vienna	Alpha -	Oslo	Beta	Gothenburg	Gamma
Guangzhou	Alpha -	Helsinki	Beta	San Juan	Gamma
Dublin	Alpha -	Chennai	Beta	Nantes	Gamma
Taipei	Alpha -	Hanoi	Beta	Ankara	Gamma
Buenos Aires	Alpha -	Nanjing	Beta	Santo Domingo	Gamma

Alpha Cities		Beta Cities		Gamma Cities	
San Francisco	Alpha -	Philadelphia	Beta	Wroclaw	Gamma
Luxembourg	Alpha -	Cape Town	Beta	Ottawa	Gamma
Montreal	Alpha -	Hangzhou	Beta	Dakar	Gamma
Munich	Alpha -	Nairobi	Beta	Malmo	Gamma
Delhi	Alpha -	Seattle	Beta	Bristol	Gamma
Santiago	Alpha -	Manama	Beta	Tirana	Gamma
Boston	Alpha -	Karachi	Beta	Colombo	Gamma
Manila	Alpha -	Rio De Janeiro	Beta	Turin	Gamma
Shenzhen	Alpha -	Chongqing	Beta	Valencia (Spain)	Gamma
Riyadh	Alpha -	Panama City	Beta	Guayaquil	Gamma
Lisbon	Alpha -	Wuhan	Beta -	Taizhong/Tai chung	Gamma
Prague	Alpha -	Manchester	Beta -	Managua	Gamma
Bangalore	Alpha -	Geneva	Beta -	La Paz	Gamma
		Osaka	Beta -	Nashville	Gamma
		Stuttgart	Beta -	Tegucigalpa	Gamma
		Belgrade	Beta -	Haikou	Gamma
		Calgary	Beta -	Wellington	Gamma
		Monterrey	Beta -	Port Louis	Gamma -
		Kuwait City	Beta -	Accra	Gamma -
		Caracas	Beta -	Asuncion	Gamma -
		Changsha	Beta -	Bilbao	Gamma -
		Bratislava	Beta -	Maputo	Gamma -
		Sofia	Beta -	Douala	Gamma -
		San Jose (CR)	Beta -	Nassau	Gamma -
		Zagreb	Beta -	Harare	Gamma -
		Dhaka/Jahangir Nagar	Beta -	Poznan	Gamma -
		Xiamen	Beta -	Luanda	Gamma -
		Tampa	Beta -	Cleveland	Gamma -
		Zhengzhou	Beta -	Fuzhou	Gamma -
		Tunis	Beta -	Nagoya	Gamma -
		Almaty	Beta -	Kansas City	Gamma -
		Shenyang	Beta -	Katowice	Gamma -
		Lyon	Beta -	Malaga	Gamma -
		Minneapolis	Beta -	Queretaro	Gamma -
		Nicosia	Beta -	Harbin	Gamma -
		San Diego	Beta -	Milwaukee	Gamma -
		Amman	Beta -	Penang	Gamma -

Alpha Cities		Beta Cities		Gamma Cities	
		Xi'an	Beta -	Salt Lake City	Gamma -
		Guatemala City	Beta -	Columbus (Ohio)	Gamma -
		Dalian	Beta -	Kaohsiung	Gamma -
		St Petersburg	Beta -	Limassol	Gamma -
		Lagos	Beta -	Sacramento	Gamma -
		Quito	Beta -	Belo Horizonte	Gamma -
		Jinan	Beta -	Lausanne	Gamma -
		San Salvador	Beta -	Taiyuan	Gamma -
		Kampala	Beta -	Edmonton	Gamma -
		George Town (Cayman)	Beta -		
		Muscat	Beta -		
		Detroit	Beta -		
		Edinburgh	Beta -		
		Jeddah	Beta -		
		Hyderabad	Beta -		
		Lahore	Beta -		
		Austin	Beta -		

APPENDIX B: Forecasting Assumptions

UK GDP Growth

Scenario Name	OBR Central	OBR Upside	OBR Downside	IMF Central	HM Treasury Review of Independent Average	HM Treasury Review of Independent High	HM Treasury Review of Independent Low	OECD Single Hit, then OECD Central post Covid-19	OECD Double Hit, then OECD Central post Covid-19
Source	OBR	OBR	OBR	IMF	HM Treasury	HM Treasury	HM Treasury	OECD	OECD
Probability	15%	5%	10%	15%	15%	5%	10%	15%	10%
2020	-12.4%	-10.6%	-14.3%	-6.5%	-9.1%	-6.5%	-12.9%	-11.5%	-14.0%
2021	10.1%	16.9%	5.4%	4.7%	7.2%	11.6%	1.2%	10.5%	5.8%
2022	5.1%	2.2%	6.2%	5.1%	5.1%	2.2%	6.2%	5.1%	6.2%
2023	2.4%	1.4%	3.7%	2.4%	2.4%	1.4%	3.7%	2.4%	3.7%
2024	2.2%	1.6%	2.8%	2.2%	2.2%	1.6%	2.8%	2.0%	2.0%
2025	1.8%	1.9%	1.7%	1.8%	1.8%	1.9%	1.7%	2.0%	2.0%
2026	1.8%	1.9%	1.7%	1.8%	1.8%	1.9%	1.7%	2.0%	2.0%
2027	1.7%	1.9%	1.7%	1.7%	1.7%	1.9%	1.7%	2.1%	2.1%
2028	1.7%	1.8%	1.7%	1.7%	1.7%	1.8%	1.7%	2.1%	2.1%
2029	2.4%	2.6%	2.2%	2.4%	2.4%	2.6%	2.2%	2.2%	2.2%
2030	2.4%	2.6%	2.2%	2.4%	2.4%	2.6%	2.2%	2.2%	2.2%
2031 to 2040	2.3%	2.5%	2.2%	2.3%	2.3%	2.5%	2.2%	2.2%	2.2%
2041 to 2050	2.3%	2.4%	2.1%	2.3%	2.3%	2.4%	2.1%	2.2%	2.2%

	Europe GDP Growth			OECD GDP Growth			Newly Industrialised Countries GDP Growth			Least Developed Countries GDP Growth		
Scenario Name	Central	High	Low	Central	High	Low	Central	High	Low	Central	High	Low
Source	York Aviation analysis of OECD and IMF	York Aviation analysis of OECD and IMF	York Aviation analysis of OECD and IMF	York Aviation analysis of OECD and IMF	York Aviation analysis of OECD and IMF	York Aviation analysis of OECD and IMF						
Probability	60%	10%	30%	60%	10%	30%	60%	10%	30%	60%	10%	30%
2020	-8.4%	-6.8%	-10.1%	-7.5%	-6.0%	-9.0%	-2.3%	-1.8%	-2.7%	-5.5%	-4.4%	-6.6%
2021	5.2%	6.3%	4.2%	4.4%	5.3%	3.5%	6.0%	7.2%	4.8%	4.2%	5.1%	3.4%
2022	3.5%	4.2%	2.8%	3.2%	3.9%	2.6%	5.2%	6.2%	4.2%	4.0%	4.8%	3.2%
2023	2.4%	2.8%	1.9%	2.4%	2.8%	1.9%	4.5%	5.5%	3.6%	3.9%	4.6%	3.1%
2024	1.7%	2.0%	1.3%	1.7%	2.1%	1.4%	4.0%	4.8%	3.2%	3.7%	4.5%	3.0%
2025	1.7%	1.8%	1.5%	1.8%	2.0%	1.6%	3.4%	3.7%	3.0%	3.4%	3.8%	3.1%
2026	1.7%	1.8%	1.5%	1.9%	2.0%	1.7%	3.3%	3.6%	3.0%	3.3%	3.7%	3.0%
2027	1.7%	1.8%	1.5%	1.9%	2.1%	1.7%	3.2%	3.5%	2.9%	3.2%	3.5%	2.9%
2028	1.7%	1.8%	1.5%	1.9%	2.1%	1.7%	3.1%	3.4%	2.8%	3.1%	3.4%	2.8%
2029	1.7%	1.8%	1.5%	1.9%	2.1%	1.7%	3.0%	3.3%	2.7%	3.0%	3.4%	2.7%
2030	1.7%	1.8%	1.5%	1.9%	2.1%	1.7%	2.9%	3.2%	2.6%	3.0%	3.3%	2.7%
2031 to 2040	1.6%	1.8%	1.4%	2.0%	2.2%	1.8%	2.5%	2.8%	2.3%	2.6%	2.8%	2.3%
2041 to 2050	1.7%	1.8%	1.5%	2.1%	2.3%	1.9%	2.0%	2.2%	1.8%	2.0%	2.2%	1.8%

Scenario Name	Carbon Prices			Oil Price			
	Low	Central	High	Low	Central	High	Low/Central
Source	Department for Business, Energy and Industrial Strategy	Department for Business, Energy and Industrial Strategy	Department for Business, Energy and Industrial Strategy	BEIS Fossil Fuel Price Assumption 2019	BEIS Fossil Fuel Price Assumption 2019	BEIS Fossil Fuel Price Assumption 2019	YAL analysis of recent fuel price
Probability	13%	75%	13%	10%	30%	10%	50%
2020	£0	£14	£28	\$35	\$54	\$89	\$35
2021	£4	£21	£37	\$37	\$56	\$90	\$37
2022	£8	£27	£46	\$38	\$57	\$93	\$44
2023	£12	£34	£56	\$39	\$60	\$95	\$52
2024	£16	£41	£65	\$40	\$62	\$98	\$62
2025	£20	£47	£74	\$40	\$64	\$100	\$64
2026	£24	£54	£84	\$41	\$66	\$102	\$66
2027	£28	£61	£93	\$43	\$68	\$105	\$68
2028	£32	£67	£103	\$44	\$71	\$106	\$71
2029	£36	£74	£112	\$45	\$72	\$109	\$72
2030	£40	£81	£121	\$46	\$74	\$111	\$74
2035	£59	£118	£178	\$52	\$85	\$122	\$85
2040	£78	£156	£234	\$52	\$85	\$122	\$85
2045	£97	£193	£290	\$52	\$85	\$122	\$85
2050	£115	£231	£346	\$52	\$85	\$122	\$85

Air Passenger Duty									
	Domestic			Europe			Other Areas		
Scenario Name	Current Rates - No real change	Temporary Waiver	2.5% per annum real increase	Current Rates - No real change	Temporary Waiver	2.5% per annum real increase	Current Rates - No real change	Temporary Waiver	2.5% per annum real increase
Source	HMRC	York Aviation	York Aviation	HMRC	York Aviation	York Aviation	HMRC	York Aviation	York Aviation
Probability	70%	20%	10%	70%	20%	10%	70%	20%	10%
2020	£26	£26	£26	£13	£13	£13	£80	£80	£80
2021	£26	£0	£27	£13	£0	£13	£80	£0	£82
2022	£26	£26	£27	£13	£13	£14	£80	£80	£84
2023	£26	£26	£28	£13	£13	£14	£80	£80	£86
2024	£26	£26	£29	£13	£13	£14	£80	£80	£88
2025	£26	£26	£29	£13	£13	£15	£80	£80	£91
2026	£26	£26	£30	£13	£13	£15	£80	£80	£93
2027	£26	£26	£31	£13	£13	£15	£80	£80	£95
2028	£26	£26	£32	£13	£13	£16	£80	£80	£97
2029	£26	£26	£32	£13	£13	£16	£80	£80	£100
2030	£26	£26	£33	£13	£13	£17	£80	£80	£102
2035	£26	£26	£38	£13	£13	£19	£80	£80	£116
2040	£26	£26	£43	£13	£13	£21	£80	£80	£131
2045	£26	£26	£48	£13	£13	£24	£80	£80	£148
2050	£26	£26	£55	£13	£13	£27	£80	£80	£168

REFERENCES

-
- i HM Treasury. (2021). Build Back Better: Our Plan for Growth, Page 94.
- ii Ibid, Page 98.
- iii Ibid, Page 98.
- iv Ibid, Page 8
- v Ibid, Page 32.
- vi Ibid, Page 32.
- vii Ibid, Page 12.
- viii Ibid, Page 71.
- ix Ibid, Page 75.
- x HM Treasury, Budget 2016, Table 1.7.
- xi National Infrastructure Commission (2017), Partnering for Prosperity: A New Deal for the Cambridge – Milton Keynes – Oxford Arc, Part One.
- xii Ibid, Figure 1.
- xiii The Arc Leadership Group, The Oxford-Cambridge Arc Economic Prospectus 2020, Page 5.
- xiv Ibid, Pages 23 to 27.
- xv National Infrastructure Commission (2017), Partnering for Prosperity: A New Deal for the Cambridge – Milton Keynes – Oxford Arc, Page 7.
- xvi Central Bedfordshire, Pre-submission Local Plan 2015-2035 (2018), Page 29.
- xvii Buckinghamshire Local Enterprise Partnership, Buckinghamshire Local Industrial Strategy (2019), Page 14.
- xviii Cambridgeshire & Peterborough Combined Authority, Cambridgeshire and Peterborough Local Industrial Strategy (2019), Page 43.
- xix Luton Borough Council, Luton Local Plan 2011-2031 (2017), Page 10.
- xx Ibid, Page 13.
- xxi Ibid, Page 14.
- xxii Luton Borough Council, Luton 2020-2040 A Place to Thrive (2020), Pages 6 to 7.
- xxiii Ibid, Page 21.
- xxiv Growing Luton Together, The Final Report of the Luton Inclusive Growth Commission (2019).
- xxv Luton Borough Council, 2020-2040 Inclusive Economy Strategy (2020), Page 1.
- xxvi Luton Borough Council, 2020-2040 Strategic Vision - A Place to Thrive, Page 27.
- xxvii Luton Borough Council, The Luton Investment Framework (2018), Page 2.
- xxviii Ibid, Page 13.
- xxix Ibid, Page 4.
- xxx Ibid, Page 5.
- xxxi Ibid, Page 5.
- xxxii Luton Borough Council, The Luton Investment Framework, Page 4.
- xxxiii South East Midlands Local Enterprise Partnership (SEMLEP), Strategic Economic Plan (2017), Page 19.
- xxxiv South East Midlands Local Enterprise Partnership (SEMLEP), Local Industrial Strategy (2019), Page 101.
- xxxv Hertfordshire LEP, Hertfordshire Local Industrial Strategy Draft for Consultation (2019), Page 15.
- xxxvi North Hertfordshire District Council, Local Plan 2011-2031 Proposed Submission (2016), Page 13.
- xxxvii Buckinghamshire LEP, Buckinghamshire Economic Recovery Plan (2020), Page 24.
- xxxviii Ibid, Page 9.
- xxxix Buckinghamshire Thames Valley LEP, Strategic Economic Plan 2012-2031 (2012), Page 36.
- xl Buckinghamshire LEP, Strategic Economic Plan, Page 8.
- xli Buckinghamshire County Council, Buckinghamshire's Local Transport Plan 4 2016-2036 (2016), Page 33.
- xliv Buckinghamshire LEP, Local Industrial Strategy (2019), Page 30.
- xlvi Central Bedfordshire, Economic Strategy Building Local Prosperity (2021), Page 7.
- xliv Oxfordshire LEP (OxLEP), The Oxfordshire Investment Plan (2020), Page 9.
- xlvi Cambridgeshire & Peterborough Combined Authority, Local Industrial Strategy (2019), Page 7.
- xlvi Central Bedfordshire, Economic Strategy Building Local Prosperity (2021), Page 7.
- xlvi Dacorum Borough Council, Shaping the Future of Dacorum – Our Growth and Infrastructure Strategy to 2050 (2019), Page 22.
- xlvi South East Midlands Local Enterprise Partnership (SEMLEP), Local Industrial Strategy (2019), Page 59.

-
- ^{xlix} Hertfordshire LEP, Hertfordshire County Council and Hertfordshire Infrastructure and Planning Partnership. (2020) Key Employment Sites, Page 15.
- ^l Stevenage Borough Council. (2019), Future Town, Future Transport 2019, Page 25.
- ^{li} Ibid, Page 54.
- ^{lii} Hertfordshire LEP, Hertfordshire Local Skills Report (2021), Page 42.
- ^{liii} Buckinghamshire County Council, Buckinghamshire's Local Transport Plan 4 2016-2036 (2016), Page 15.
- ^{liv} Oxfordshire LEP (OxLEP), Oxfordshire Skills Strategy (undated), Page 45.
- ^{lv} Cambridgeshire & Peterborough Independent Economic Review, Final Report (2018), Page 38.
- ^{lvi} The London Plan 2021, Page 439.
- ^{lvii} Ibid, Page 438, Policy T8.
- ^{lviii} Mayor of London, The London Plan (2021), Paragraph 10.8.3, Page 439.
- ^{lix} Mayor of London, The London Plan (2021), Paragraph 10.8.6, Page 440.
- ^{lx} Department for Transport, Jet Zero Consultation, A consultation on our strategy for net zero aviation, July 2021, Foreword.
- ^{lxi} Section 104(2) of the Planning Act 2008.
- ^{lxii} Department for Transport, Airports National Policy Statement, paragraph 1.41.
- ^{lxiii} Ibid.
- ^{lxiv} Department for Transport, Aviation Policy Framework, March 2013.
- ^{lxv} Department for Transport, Future of Aviation White Paper, December 2003, para. 11.89.
- ^{lxvi} Department for Transport, Aviation Policy Framework, March 2013, Executive Summary.
- ^{lxvii} Ibid, para. 1.2.
- ^{lxviii} Ibid, para. 9.
- ^{lxix} Ibid, para 10.
- ^{lxx} Ibid, para. 1.12
- ^{lxxi} Ibid, para. 1.24.
- ^{lxxii} Ibid, March 2013, paragraph 5.
- ^{lxxiii} Ibid, paragraph 3.12.
- ^{lxxiv} Airports Commission, Final Report, June 2015, Foreword.
- ^{lxxv} Ibid, Executive Summary.
- ^{lxxvi} Ibid, para. 16.41.
- ^{lxxvii} Ibid, para. 16.46.
- ^{lxxviii} Airports Commission, Interim Report, December 2013, para. 5.130.
- ^{lxxix} Department for Transport, Airports National Policy Statement, paragraph 1.41.
- ^{lxxx} Ibid, paragraph 1.39.
- ^{lxxxii} Ibid, para. 1.42.
- ^{lxxxiii} Ibid, paragraph 5.82.
- ^{lxxxiv} Department for Transport, Letter on behalf of the Secretary of State for Transport of 6th September 2021.
- ^{lxxxv} Department for Transport, Beyond the horizon: The future of UK Aviation; Making Best Use of existing runways, June 2018, paragraph 1.29.
- ^{lxxxvi} Department for Transport, Jet Zero Consultation, A consultation on our strategy for net zero aviation, July 2021.
- ^{lxxxvii} Appeal Decision, Appeal Ref: APP/C1570/W/20/3256619 London Stansted Airport, Essex, May 2021, paragraph 153.
- ^{lxxxviii} Department for Transport, Aviation 2050 – the future of UK aviation, December 2018.
- ^{lxxxix} Department for Transport, Aviation 2050, December 2018, Background.
- ^{lxxxix} Ibid, Foreword.
- ^{xc} Ibid, Executive Summary
- ^{xc} Ibid.
- ^{xcii} Ibid, paragraphs. 1.5-1.7.
- ^{xciii} Ibid, paragraph. 3.6 and reiterated at paragraph. 4.3.
- ^{xciv} Ibid, paragraph 3.3.
- ^{xcv} <https://www.lutonrising.org.uk/Documents/Luton-Airport-sustainability-strategy.pdf>
- ^{xcvi} Green Controlled Growth Consultation Document
- ^{xcvii} Department for Transport, Aviation 2050, December 2018, paras 3.77-3.93.
- ^{xcviii} Further details on the Community First Fund can be found in the Draft Compensation Measures and Policies document.
- ^{xcix} Department for Transport, Aviation 2050, December 2018, para. 4.49.

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- ^c Ibid, para. 7.17. Note: this policy is retained in the updated NPPF 2021.
- ^{ci} Ibid, para. 7.23.
- ^{cii} Ibid, paras. 3.15-3.18. This is addressed further in Section 8 of the main Consultation Brochure.
- ^{ciii} Department for Transport, Jet Zero Consultation, A consultation on our strategy for net zero aviation, July 2021.
- ^{civ} Ibid, Endnote 39.
- ^{cv} Ibid, paragraph 1.1.
- ^{cvi} Ibid, page 4.
- ^{cvi} Ibid, paragraph 3.41.
- ^{cvi} Department for Transport, Beyond the horizon: The future of UK Aviation; Making Best Use of existing runways, June 2018, paragraph 1.29.
- ^{cix} Ibid, March 2013, paragraph 5.
- ^{cx} Oxford Economic Forecasting, The Contribution of the Aviation Industry to the UK Economy, Appendix E.
- ^{cx} ONS (2020), Supply and Use Tables 1997 to 2018
- ^{cxii} Department for International Trade: Inward Investment Results 2019
- ^{cxiii} Further detail is provided in the Draft Employment and Training Strategy
- ^{cxiv} CAA Airport Statistics
- ^{cxv} London Luton Airport Operations Limited, Planning Supporting Statement, Nov 2012.
- ^{cxvi} Online Airline Guide (OAG).
- ^{cxvii} GaWC (2020), The World According to GaWC 2020.
- ^{cxviii} Department for Transport, UK Aviation Forecasts, October 2017
- ^{cxix} Department for Transport, UK Aviation Forecasts, October 2017, Section 2.
- ^{cx} Department for Business, Enterprise and Industrial Strategy. (2019) Updated Short-Term Traded Carbon Values Used for UK Public Policy Appraisal.
- ^{cx} Department for Business, Enterprise and Industrial Strategy. (2021) Valuation of Greenhouse Gas Emissions: For Policy Appraisal and Evaluation.
- ^{cx} Department for Transport. (2021). Jet Zero Consultation: Evidence and Analysis. Page 11.
- ^{cx} Eurocontrol, 2021-2017 Forecast, October 2021
- ^{cx} Department for Transport, Jet Zero Consultation, A consultation on our strategy for net zero aviation, July 2021.
- ^{cx} FutureLuToN, Making the Best Use of Our Runway Consultation, June 2018, Page 56
- ^{cx} See **PEIR Chapter 16**.
- ^{cx} London Luton Airport Limited, Planning Statement and ES Appendix N(3), Table N(3) -3, November 2012.
- ^{cx} Information provided by LLAOL for the busy hours – 30th busiest hours in the year commonly used as the basis of terminal design.
- ^{cx} Planning Application to Luton Borough Council, reference 12/01400/FUL.
- ^{cx} Airport Coordination Limited, London Luton Airport Scheduling Declaration for Summer 2019. Airlines schedule their flights according to seasons: Summer – April to October, Winter – November – March, with summer typically being the busier season
- ^{cx} European Union Aviation Safety Agency, Easy Access Rules for Aerodromes (Regulation (EU) No 139/2014), May 2019, CS ADR-DSN.A.005 Aerodrome reference code (ARC).
- ^{cx} Airport Coordination Limited, London Luton Airport Scheduling Declaration for Summer 2019.
- ^{cx} Airport Coordination Limited, Luton Airport (LTN), Summer 2019 (S19) Start of Season Report.
- ^{cx} UK Integrated Aeronautical Information Package – Aerodrome Information for London Luton.
- ^{cx} Airport Coordination Limited, Luton Airport, Summer 2019, Start of Season Report.
- ^{cx} The Economic Impact of London Luton Airport – Oxford Economics (2021), Appendix 11.1 to the PEIR.
- ^{cx} Flegg A. T. and Webber C. D. (1997) On the appropriate use of location quotients in generating regional input-output tables: reply, Reg. Studies 31, 795–805.
- ^{cx} UK Aviation Forecasts 2018 – Department for Transport (2017), Page 104.
- ^{cx} Impacts on the UK Economy through the Provision of International Connectivity – Oxford Economics for Transport for London (2013).
- ^{cx} Economy: Transport Economic Efficiency Impacts – Airports Commission (2015).