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Oxford Economics The Economic Impact of London Luton Airport (2021)

OXFORD ECONOMICS

THE ECONOMIC IMPACT OF LONDON LUTON AIRPORT

DECEMBER 2021

Luton Rising
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December 2021

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To discuss the report further please contact:

Andrew P Goodwin: apgoodwin@oxfordeconomics.com

Oxford Economics

Four Millbank, Westminster, London, SW1P 3JA, UK

Tel: +44 203 910 8000

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EXECUTIVE SUMMARY

£1.8 billion

Total contribution to UK GDP supported by London Luton Airport in 2019.

For every £1 the airport directly contributed to UK GDP itself, it created a further £1.30 elsewhere in the UK economy.

This report presents updated estimates of the economic impact of London Luton Airport in 2019. We outline our findings for the airport's impact on the UK economy as a whole, for the surrounding Three Counties sub-region, for the wider Six Counties sub-region, for the London Thameslink Corridor, and for individual local authority areas. This is an update of Oxford Economics' previous studies of the economic impact of the airport, the most recent which was completed in 2019 and estimated the airport's impact in 2017. Differences between our latest results and those from the 2019 study are discussed in Appendix 2: Comparison of results to 2019 study.

CONTRIBUTION TO THE UK ECONOMY

In 2019, the economic activity supported by London Luton Airport contributed some £1.8 billion to UK GDP. Almost half of this contribution came directly from the activities of firms which form an integral part of the airport's operations. The rest came through their supply chains, and as those working at the airport and in its supply chain spent their wages. This means that for every £1 the airport directly contributed to UK GDP itself, it supported another £1.30 elsewhere in the UK economy. The airport therefore had a "GDP multiplier" of 2.3 across the UK as a whole.

The airport is estimated to have sustained a total of 28,400 jobs across the UK in 2019. This comprised 10,900 "direct" jobs at firms which formed an integral part of the airport's operations; 8,600 jobs within those firms' supply chains; and 8,900 "induced" jobs that were supported by workers' spending. So, for every job directly supported by the operations of the airport, another 1.6 were supported elsewhere in the UK economy. This means that the airport's "employment multiplier" was 2.6 across the UK as a whole.

28,400 jobs

Total UK employment supported by London Luton Airport in 2019.

For every worker employed directly by the airport's operations, a further 1.6 jobs were supported elsewhere in the economy.

CONTRIBUTION TO THE SURROUNDING SUB-REGIONS AND LOCAL AREA

London Luton Airport plays an important role in the economy of the local area and surrounding sub-regions. Within the Three Counties area, which includes Bedfordshire (defined in this study to include the Luton Unitary Authority area), Buckinghamshire and Hertfordshire, the airport supported a £1.1 billion contribution to GDP and sustained 16,500 jobs in 2019, including through indirect and induced multiplier effects. For the wider Six Counties area, which also includes Cambridgeshire, Essex, and Oxfordshire, the airport supported a £1.3 billion contribution to GDP and sustained 19,900 jobs.

The greatest economic impacts were felt in the immediate vicinity of the airport, with the largest sub-regional impact occurring in Bedfordshire (defined to include the Luton Unitary Authority area for the purposes of this study). The airport delivered a total GDP contribution of £923 million in Bedfordshire in 2019. This reflects the direct economic impact that arises from the airport's location within the county, its supply chain linkages within the

county, and that 58% of those employed at the airport live—and are therefore assumed to spend their wages—in the county.

Within the Luton Unitary Authority area itself, the airport supported an £831 million contribution to GDP and 11,800 jobs in 2019. The latter figure included 10,900 jobs at the airport, and a further 800 that were supported in the airport's extended supply chain and by workers' spending.

£3.4 billion

Total contribution to UK GDP supported by London Luton Airport in 2043.

The airport will also support 40,500 jobs in 2043.

IMPACT OF THE AIRPORT'S GROWTH

With substantial changes to the capacity of London Luton Airport planned, this study also forecasts how its economic impact will evolve in the years to 2043. We examine the future economic contribution of London Luton Airport to include the opening of a second terminal in 2037, which will enable the airport to accommodate passenger numbers significantly above the existing permitted capacity of 18 million passengers per annum (mppa).

Adding a second terminal would increase capacity for further passenger growth and therefore for further growth in the airport's economic contribution. Forecasts provided by York Aviation suggest that developing a second terminal could enable passenger numbers to grow by 75% between 2019 and 2043, reaching 32 mppa by the end of this period.

Following the expansion of capacity, our forecast suggests that London Luton Airport's total contribution to UK GDP would reach £3.4 billion in 2043 (in 2019 prices), and its total employment contribution would increase to 40,500 in 2043. These results include the economic impacts attributed to the supply chain and worker spending effects, as well as the direct contribution of airport activities.

The airport's total GDP contribution to the Three Counties sub-region is forecast to reach £2.1 billion and sustain 23,100 jobs in 2043. For the Luton Unitary Authority area, our forecasts suggest a total GDP contribution of £1.6 billion and a total employment contribution of 16,600 in 2043.

For the wider Six Counties sub-region, the GDP contribution of the airport is forecast to reach £2.4 billion and sustain 27,900 jobs in 2043.

Fig. 1. Current and future economic impact of London Luton Airport

	2019	2027	2039	2043
Passengers (millions)	18	21.5	27	32
GDP (£ millions, 2019 prices)				
Direct impact	789	925	1,236	1,532
Total impact (Luton Borough)	831	973	1,297	1,606
Total impact (Three Counties)	1,091	1,276	1,696	2,092
Total impact (Six Counties)	1,267	1,483	1,973	2,430
Total impact (UK)	1,776	2,081	2,767	3,399
Employment (headcount)				
Direct impact	10,900	11,800	13,400	15,400
Total impact (Luton Borough)	11,800	12,700	14,400	16,600
Total impact (Three Counties)	16,500	17,800	20,100	23,100
Total impact (Six Counties)	19,900	21,400	24,200	27,900
Total impact (UK)	28,400	30,800	35,100	40,500

At the time of writing in Autumn 2021 the aviation industry was still subject to an abnormally high degree of uncertainty due to the disruption caused by the Covid-19 pandemic. For this reason, the baseline for our assessment is 2019—the most recent year unaffected by the pandemic.

For the most part, including in the table above, we focus on a central ”core planning” scenario for passenger growth. Nonetheless, given broader uncertainties around carbon costs, economic recovery, and the delivery of capacity at other London airports, economic impacts under faster or slower growth scenarios are considered in Section 4.3.

1. INTRODUCTION

1.1 COMPARABILITY WITH PREVIOUS STUDIES

In 2015, Oxford Economics produced a study of the economic impact of London Luton Airport.[1] That study provided a detailed assessment of the economic impact of London Luton Airport to its local area, surrounding sub-regions and the national economy. The impact was estimated for 2013 and forecast for the period to 2030 under alternative scenarios for infrastructure development at the airport. This study considered passenger growth of up to 18 million passengers per annum by 2030.

At the time the 2015 study was produced there was a desire to ensure the analysis was consistent with that presented in the 2012 Halcrow study of the airport.[2] Oxford Economics therefore estimated the level of employment at the airport by growing forward the 2012 Halcrow employment estimate using growth rates from the London Luton Annual Monitoring Reports.

Since the 2015 study, Oxford Economics produced another study, in 2019, which incorporated data sources that were not available in earlier studies.[3] This study represents an update to our 2019 study, employing the same methodological approach and using the latest information from the same data sources.

It is important to note that while the results from this 2021 study are comparable to those from the 2019 study, due to methodological differences they should not be compared to those from the earlier work by Oxford Economics or Halcrow.[4] A comparison between our 2019 and 2021 results is presented in Appendix 2, with key points discussed at the end of Chapter 2 and Section 4.1.

1.2 OBJECTIVE OF THIS STUDY

London Luton Airport has grown substantially in recent years. The airport reached its existing permitted capacity of 18 million passengers per annum (mppa) in 2019. To accommodate continued growth in demand, the airport's owner, Luton Rising (a trading name of London Luton Airport Ltd), has set out a vision of how to make greater use of the airport's existing single runway in the longer term. Initially, it is intending to apply for a Development Consent Order to increase capacity at the airport to 32 mppa by 2043.

Oxford Economics has been asked to provide an updated assessment of the economic impact of the airport based on the latest set of growth forecasts from York Aviation. The assessment will be used to inform the need case for the Proposed Development at London Luton Airport. Accordingly, information from

[1] Oxford Economics, "The economic impact of London Luton Airport," 2015
[2] Halcrow, "Employment and economic assessment," *London Luton Airport Planning Application*, 2012
[3] Oxford Economics, "The economic impact of London Luton Airport," 2019
[4] See box in Section 2.1 for details of the methodological differences between the various studies.

this report will be used to inform the environmental assessment and need case for the development.

This report presents the findings of Oxford Economics' refreshed and updated analysis of the economic impact of London Luton Airport across a range of geographies.

The economic impact results in this report are presented on a gross basis. That is, we estimate and forecast the economic contribution of London Luton Airport, but we do not make any assessment of the extent to which the contribution identified will be additional to what would have occurred in the absence of its future development.

The report has been commissioned by Luton Rising.

1.3 GEOGRAPHICAL COVERAGE

Our previous studies assessed the economic impact of London Luton Airport on the economy of the UK as a whole; in the nearby sub-regions that have strong linkages to the airport in terms of workers, supply chains and passengers; and in Luton and other surrounding local authority areas.[5] For these reports, the following sub-regions were identified for analysis:

- Bedfordshire (comprising Bedford, Central Bedfordshire and Luton Unitary Authority)
- Buckinghamshire (Aylesbury Vale, Chiltern, Milton Keynes, South Buckinghamshire and Wycombe)[6]
- Hertfordshire (Broxbourne, Dacorum, East Hertfordshire, Hertsmere, North Hertfordshire, St Albans, Stevenage, Three Rivers, Watford and Welwyn Hatfield)
- The London Thameslink Corridor, which incorporates London boroughs with a direct rail route to Luton Airport Parkway (Barnet, Camden, Islington, City of London, Southwark, Lambeth, Merton, Sutton, and Croydon).

As with our 2019 report we also present results for the following areas, in addition to the sub-regions listed above:

- Essex (comprising Basildon, Braintree, Brentwood, Castle Point, Chelmsford, Colchester, Epping Forest, Harlow, Maldon, Rochford, Southend-on-Sea, Tendring, Thurrock and Uttlesford)
- Oxfordshire (Cherwell, Oxford, South Oxfordshire, Vale of White Horse and West Oxfordshire)
- Cambridgeshire (Cambridge, East Cambridgeshire, Fenland, Huntingdonshire, Peterborough and South Cambridgeshire)

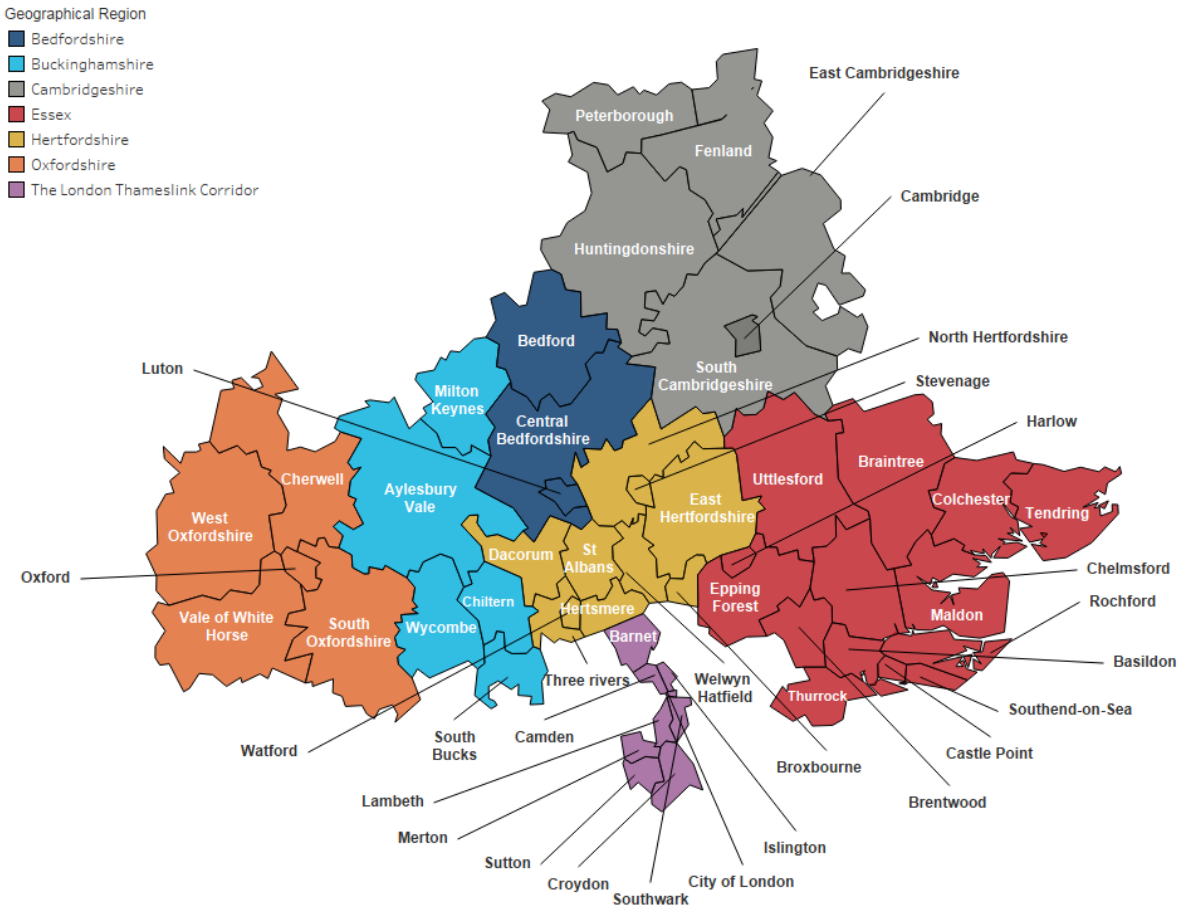
[5] Throughout this report, the term local authority area is used to describe both local authority districts and unitary authority areas.
[6] Our models for London Luton Airport are based on pre-April 2020 local authority district geographies. As such we have calculated separate results for the Buckinghamshire districts which were amalgamated into the new Buckinghamshire Council area in 2020.

We present aggregated analysis for:

- the “Three Counties” area (Bedfordshire, Buckinghamshire and Hertfordshire); and
- the “Six Counties” area (Bedfordshire, Buckinghamshire, Cambridgeshire, Essex, Hertfordshire and Oxfordshire combined).

The study also considers the individual local authority areas that fall within the sub-regions above, as shown in the map below.

Fig. 2. Geographical coverage of the study[7]



1.4 ACKNOWLEDGEMENTS

We would also like to acknowledge the role of York Aviation, with whom we collaborated closely to develop estimates of employment at the airport and who have provided valuable insights in a number of other areas.

[7] Our models for London Luton Airport are based on pre-April 2020 local authority district geographies. As such we have calculated separate results for the Buckinghamshire districts which were amalgamated into the new Buckinghamshire Council area in 2020.

INTRODUCING ECONOMIC IMPACT ANALYSIS

The economic impact of London Luton Airport is measured using a standard means of analysis called an "economic impact assessment". The three "core" channels of impact that comprise the airport's "economic footprint" are:

- **direct impact**, which relates to the economic activity supported by firms which are integral to the operation of the airport. This includes the airport operator, as well as other businesses closely associated with the operation of the airport and which are based on the airport site, or in close proximity to it;
- **indirect impact**, which encapsulates the activity and employment supported in the UK supply chains of the firms which make up the airport's direct impact. Economic activity in this category could include, for example, food and drink products, ticketing, insurance and other aviation-related financial and legal services; and
- **induced impact**, comprising economic benefits that arise when those working at the airport and in its supply chain spend their earnings, for example in retail establishments.

Using these pathways, a picture of London Luton Airport's economic footprint is presented using four metrics:

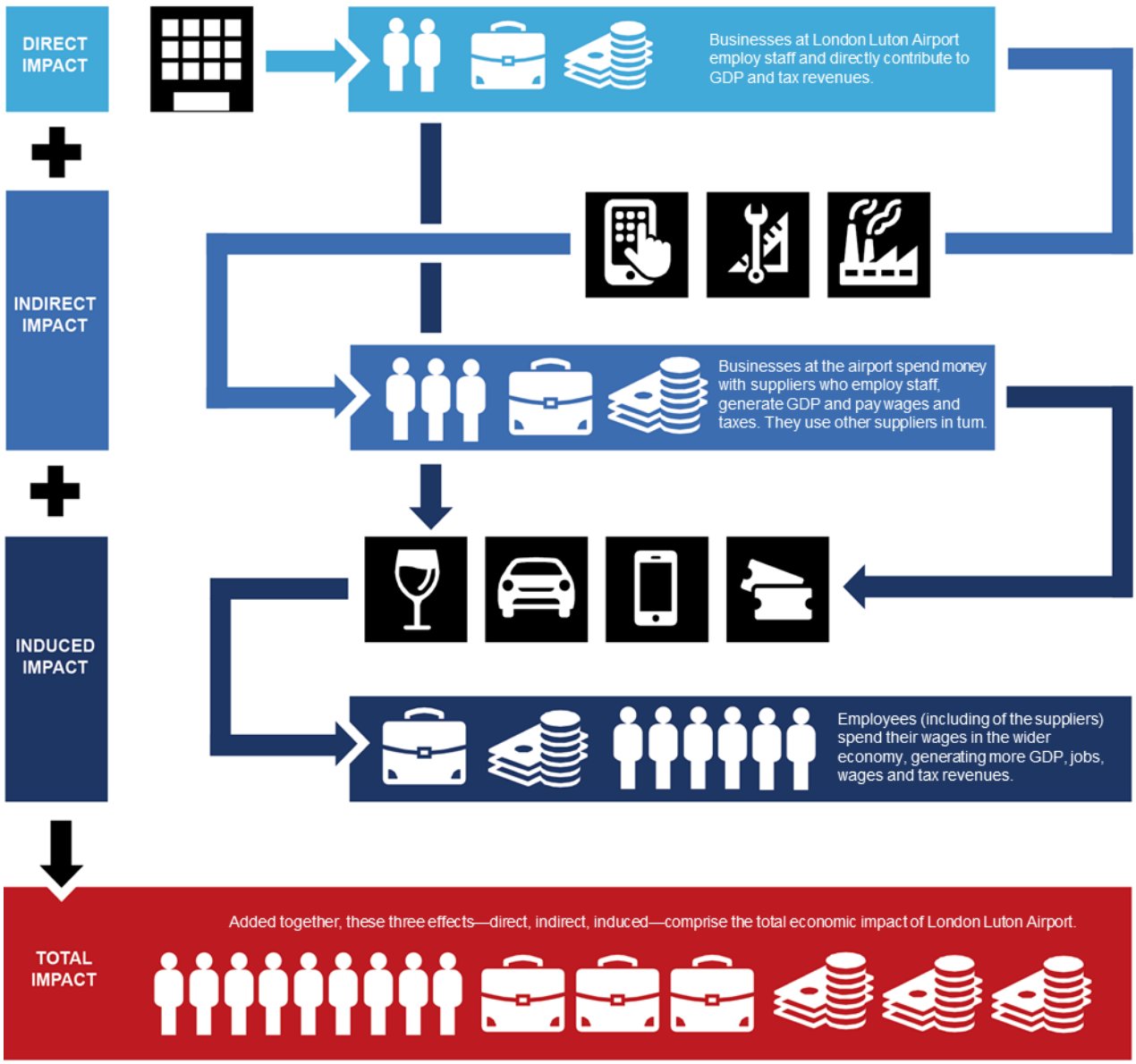
- **employment**, measured on a headcount basis;
- **GDP**, or more specifically, London Luton Airport's gross value added (GVA) contribution to GDP;
- **compensation of employees,** which includes the gross wages paid to workers, but also includes benefits in kind, and employer social security contributions (including pensions); and
- **tax revenues** flowing to the UK government.

Adding together the direct, indirect and induced impacts across the metrics above provides an estimate of the total economic impact of London Luton Airport, as shown in Fig. 3.

All results are presented on a "workplace" basis, unless otherwise stated.

The main principles of the economic impact methodology are outlined in the respective sections of this report, and there is a full technical description in Appendix 1: Methodology.

Fig. 3. Channels of economic impact



2. THE DIRECT IMPACT OF LONDON LUTON AIRPORT

The operation of London Luton Airport directly supports substantial economic activity on and around the airport site. We define the airport's direct contribution to include activity at companies and other organisations whose existence is closely associated with the operation of the airport, and which are based either on the airport site or in close proximity to it. In this chapter we quantify this activity in terms of the employment, GDP, wages and tax revenues that it supports.

The results presented below are comparable with our 2019 study, but should not be compared to studies from earlier years which employed a different methodological approach and used different underlying data. The box in Section 2.1 provides further details of the differences between this study and earlier studies, while results are compared in the box at the end of this Chapter.

Throughout this section we categorise activity at the airport according to broad sectors shown in the table below.

Fig. 4. Definition of broad sectors used to analyse the direct economic impact of London Luton Airport[8,9]

Broad sectors	Sub-sectors
Airlines	Scheduled and charter passenger airlines, cargo airlines and operations, and the head office activities of aviation-related companies
Airport operations	Air traffic control, airport management, airport facilities maintenance, border force, customs, police, and other security
Airline support services	Aircraft maintenance, repair and overhaul, aircraft parts suppliers, aviation related manufacturing, aircraft cleaning, fixed base operators, freight forwarders, fuelling, ground handlers, aviation related training, warehousing, and in-flight catering
Ground transport	Bus services, taxis, car rental, and car parks
Hotels and restaurants	Hotels and restaurants
Retail	Retail

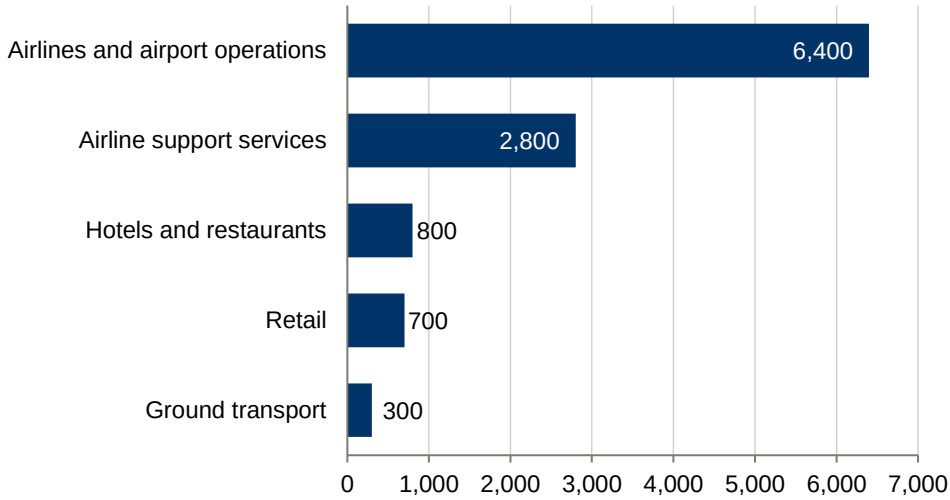
[8] The estimates of direct economic impact are produced at the sub-sector level and are then aggregated to the broad sectors for reporting purposes. In the analysis below, we report airlines and airport operations together to ensure compliance with data disclosure rules.
[9] Only businesses undertaking activities which were judged to form an integral part of Luton Airport's operations were included in these direct economic impact estimates.

2.1 DIRECT CONTRIBUTION TO EMPLOYMENT

Based on a detailed examination of official data we estimate that London Luton Airport directly supported 10,900 jobs in 2019.[10] In addition to this total, we identified over 1,400 jobs within the geographical area studied which appear to be unrelated to the operation of the airport (details of the geographical area considered are presented in Appendix 1: Methodology).

Fig. 5, below, shows the breakdown of workers by broad activity. This suggests that almost 60% of workers are employed by airlines, in head office functions of aviation-related companies, or in airport operations.[11] 25% of workers work in airline support services, particularly maintenance, repair and overhaul (MRO), ground handling and business aviation fixed based operators. Shops, hotels and restaurants together support employment for around 1,500 workers. A comparison with the equivalent estimates from our 2019 study is presented in Appendix 2: Comparison of results to 2019 study.

Fig. 5. London Luton Airport direct employment by broad activity, 2019



Source: Oxford Economics calculations based on BRES and IDBR

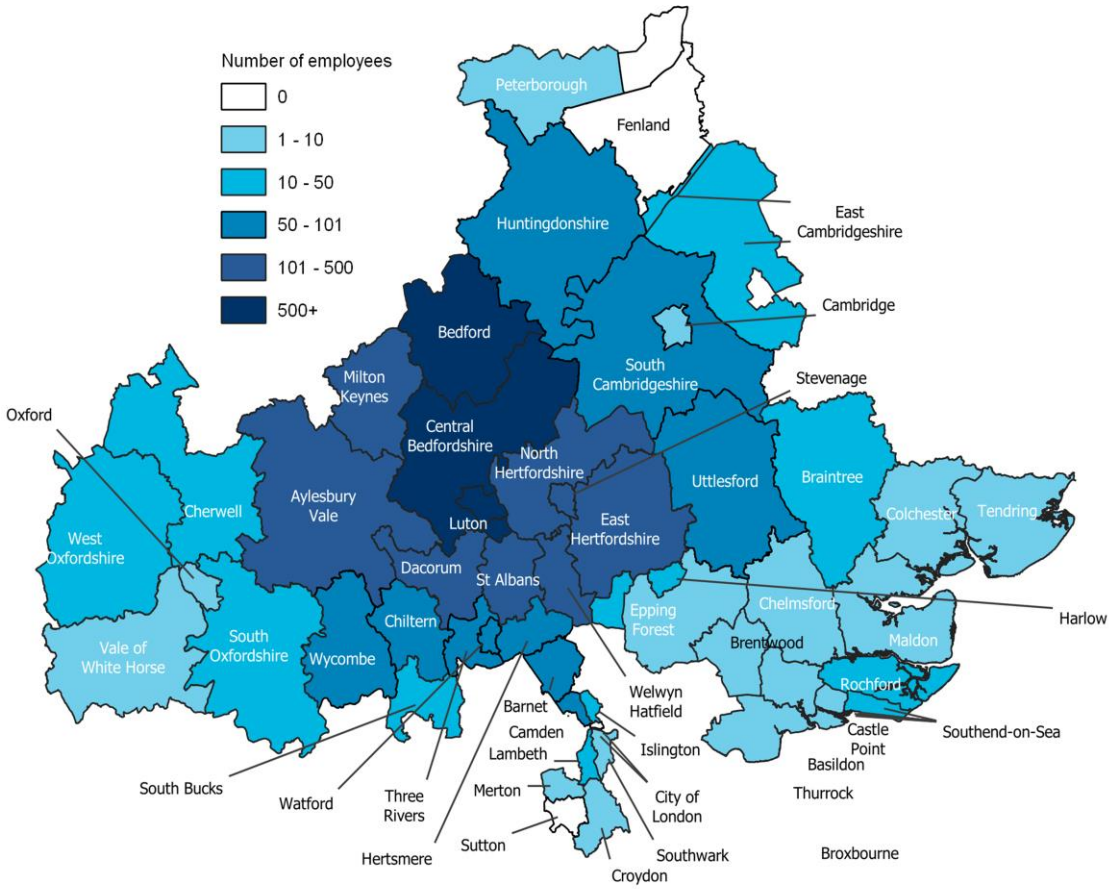
In our 2019 study, a sample of airport employers provided information on their employees' place of residence, enabling us to estimate the number of employees that live in Luton and each of the surrounding local authorities.[12] There is no reason to believe that the distribution of employees' places of residence changed significantly between 2017 and 2019 and we used this information as the best available estimate of employees' place of residence in 2019.

[10] Our estimate of total employment is extremely similar to that reported in the Annual Monitoring Report for the Airport which estimated employment of 11,200 in 2019. Differences between the two sets of results appear to reflect a slightly different approach to categorising employers, and adjustments we made based on insights from our own primary research.
[11] The two sub-sectors, airlines and other airport operators, are grouped together in order to adhere to the IDBR data disclosure rules.
[12] The place of residence data were provided by a sample of airport employers, and relate to the situation in 2017 and 2018. The data collected covered approximately 40% of airport employees.

On this basis we estimate that 58% of London Luton Airport employees lived in Bedfordshire (Fig. 6)—within which the airport is located. Of these, an estimated 3,100 lived in Luton Borough itself. A further 3,200 lived in other parts of Bedfordshire. The Hertfordshire districts just to the south of Luton are also home to a relatively high concentration of people working in businesses at London Luton Airport: 1,200 employees live in Dacorum, St Albans or North Hertfordshire.

Slightly further afield, six per cent of employees lived in Buckinghamshire, particularly Milton Keynes. Between 1% and 2.5% of workers lived in each of Cambridgeshire, Essex and Oxfordshire, meaning that, in total, 85% of employees lived within the Six Counties sub-region (Bedfordshire, Buckinghamshire, Cambridgeshire, Essex, Hertfordshire, Oxfordshire).

Fig. 6. Place of residence of London Luton Airport employees, 2019



OUR APPROACH TO ESTIMATING EMPLOYMENT AT LONDON LUTON AIRPORT

Previous estimates

The most detailed work prior to our 2019 study to estimate the direct employment of London Luton Airport was undertaken for the 2012 study by Halcrow. This presented a central employment estimate for 2011 based on data from the ONS Business Register and Employment Survey (BRES) and Experian. These data were based on identifying the number of workers in selected airport-related industrial categories which fall within the two "lower super output areas" (LSOAs) which cover the airport site and its immediate surroundings.[13] This approach suggested employment of 9,100 in 2011.

More recent estimates of employment at London Luton Airport have been produced by London Luton Airport in their Annual Monitoring Reports. These are based on the ONS Inter-Departmental Business Register (IDBR). The estimate for 2019 suggests there were 11,200 employees working in the vicinity of the airport.[14][15]

In earlier Oxford Economics reports, we estimated employment by growing forward the Halcrow estimate using growth rates from the Annual Monitoring Reports. This ensured a degree of consistency with the original Halcrow work, which was a requirement at the time of our 2015 study. That produced an employment estimate of 9,400 in 2013.

Our approach for our 2019 and 2021 studies

For our 2019 study, we were asked to undertake a full refresh of the economic impact analysis, and this was facilitated through access to data sources which were not previously available to us. In particular, we were able to obtain access to the IDBR dataset. We supplemented this with insights from our own survey of airport employers. This enabled us to analyse direct employment on a company-by-company basis and obtain a much more detailed picture of employment on the airport site and in close proximity to it.[16]

It was not possible to undertake a new survey of airport employers for this 2021 update and, in any case, new primary data gathered during 2021 would likely have been heavily distorted by the impact of the Covid pandemic. Our employment estimates for this study are therefore based on an extract of IDBR data for 2019.[17] The use of 2019 as our base year also means that the starting point for our modelling reflects the most recent "normal" year of operations, in advance of disruption related to Covid-19. But in certain cases we have once again adjusted the results to reflect insights from the primary research undertaken for the 2019 study, and from discussions with airport stakeholders. The results in this 2021 study are therefore fully comparable to those produced in 2019. Further details of our methodology are presented in Appendix 1: Methodology.

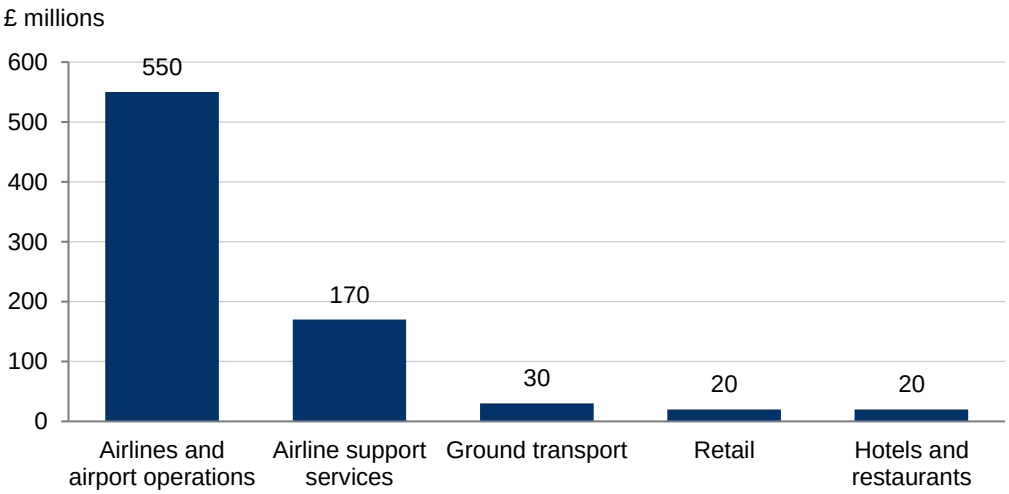
[13] Halcrow, "Employment and economic assessment," *London Luton Airport Planning Application*, 2012, pp40-41
[14] London Luton Airport, "2019 Annual Monitoring Report," 2019
[15] The precise reasons for the difference between our estimates are unclear given the available evidence. Both this study and, we believe, the Annual Monitoring Report make manual adjustments to the IDBR data based on insights available to each set of authors.
[16] All else equal we would expect the 2019 approach to result in lower estimates of employment than the approach followed by Halcrow for two reasons. Firstly, the IDBR datasets enable us to focus on a smaller geographical area than the LSOAs in the BRES data available to Halcrow. And secondly, the IDBR data enabled

2.2 DIRECT CONTRIBUTION TO GDP

We estimated the airport's gross value added (GVA) contribution to GDP by applying productivity estimates from Oxford Economics' regional databank to the employment results for each sector. In this way we could estimate the value of GVA supported by each sector of activity which is integral to the operation of the airport. Full details of our approach are presented in Appendix 1: Methodology.

By summing across all of the sectors we estimate that in 2019 London Luton Airport directly contributed £789 million to UK GDP. 70% of this contribution came from airlines and airport operations,[18] while airline support services accounted for a further 22% (Fig. 7).

Fig. 7. Direct GDP contribution of London Luton Airport by broad activity, 2019



Source: ABS, ONS and Oxford Economics

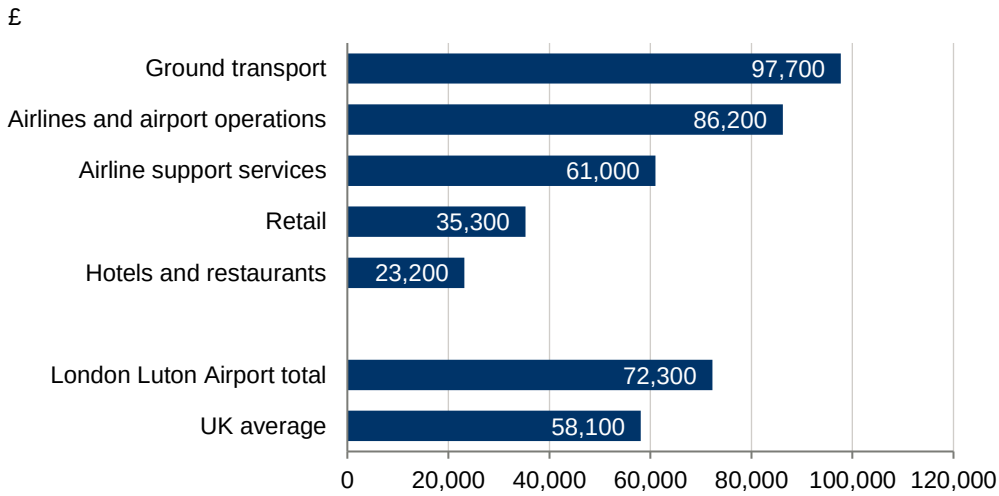
We estimate that GVA per worker for all activities included within the direct impact of the airport was £72,300 in 2019, some 24% above the UK average (Fig. 8). Productivity was noticeably high in ground transport and airlines and airport operations, reflecting high levels of productivity amongst car rentals and airlines, in particular.

us to consider whether individual businesses should be regarded as integral to the operation of the airport, whereas the Halcrow estimates could only determine this based on the amount of employment within certain industry (SIC) groupings.

[17] This data extract was provided to us in September 2020.

[18] The two sub-sectors, airlines and airport operations, are grouped together in order to adhere to the data disclosure rules.

Fig. 8. Productivity (GVA per worker) by broad activity, 2019



Source: ABS, ONS and Oxford Economics

2.3 WAGES PAID BY AIRPORT EMPLOYERS

The gross wage bill of London Luton Airport workers was estimated by applying sector-specific average wages for the East of England to each worker included in our employment estimate.[19,20] On this basis it is estimated that those employed at London Luton Airport received £449 million in wages in 2019.

This suggests an average wage for London Luton Airport workers of £41,100, which is 34% above the national average of £30,700, and 27% above the average for Luton as a whole, as published by the ONS.[21]

Using estimates of wages by place of residence provided by a sample of airport employers, we estimated the total value of gross wages that accrued to workers living in each local authority area.[22] This suggests that employees who reside in Bedfordshire accounted for £194 million (or 43%) of the gross wages supported by London Luton Airport. Hertfordshire residents accounted for a further 22% (Fig. 9).

The chart below presents the estimated value of gross wages accruing to workers resident in 20 local authority areas. Together these 20 areas account for just over three-quarters of the total wage bill for the airport.

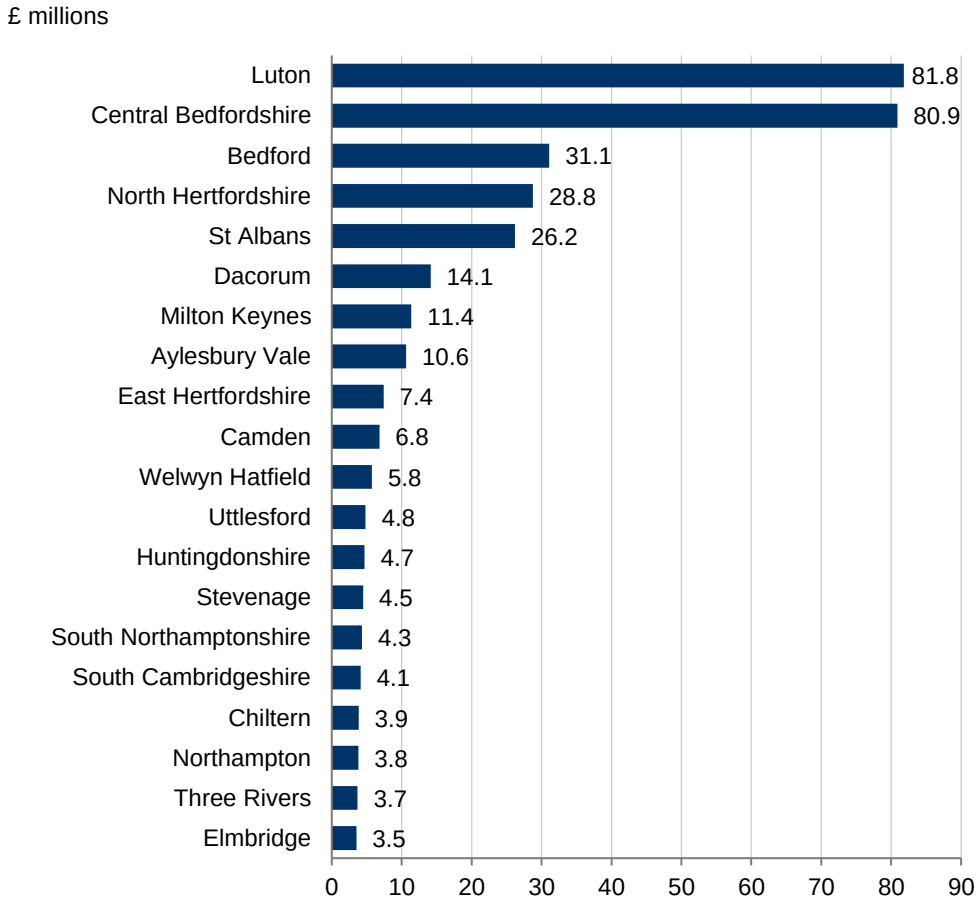
[19] The gross wage is typically the largest monetary benefit an employee will receive from their employers in exchange for work. It forms part of overall "employee compensation", which also includes social security contributions paid by employers to their staff, such as National Insurance and pension contributions, and benefits in kind.

[20] Average wage data for the East of England were sourced from the ONS Annual Survey of Hours and Earnings. These data were disaggregated to the four-digit SIC level. We used East of England average wages rather than figures for Luton because the ONS does not publish earnings data disaggregated by SIC for areas smaller than regions.

[21] National average based on gross annual pay for all employees from ONS Annual Survey of Hours and Earnings. Luton Unitary Authority gross annual pay for all employees is on a workplace basis and sourced from ONS Annual Survey of Hours and Earnings.

[22] Wages by place of residence were provided by a sample of airport employers and relate to the situation in 2017 and 2018. This information covered approximately 36% of total wages paid by airport employers in 2017.

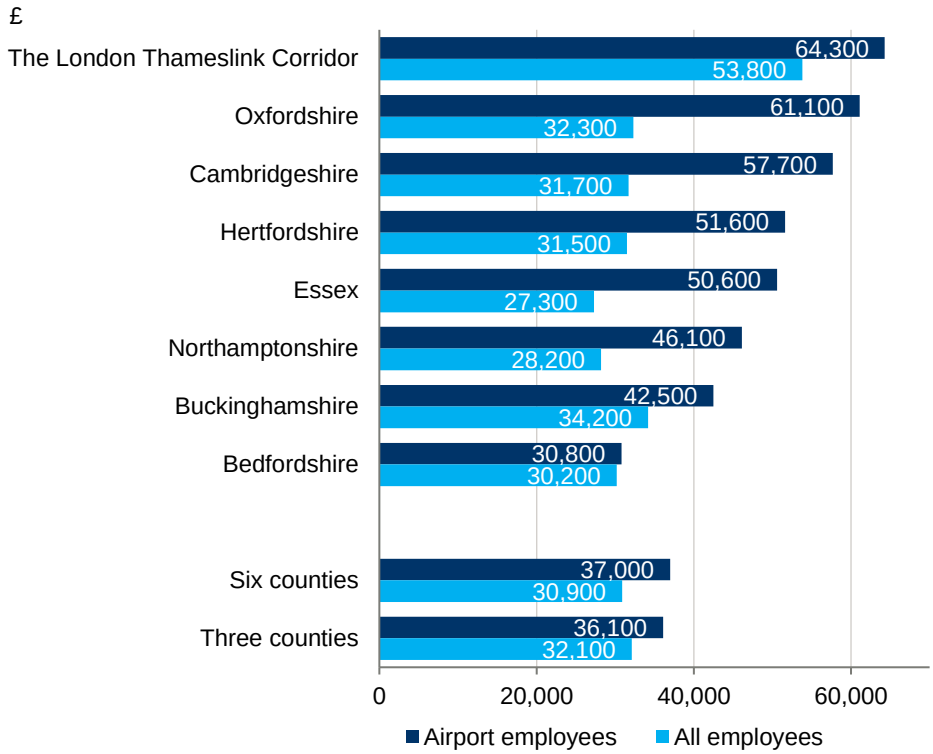
Fig. 9. Distribution of gross wages by employees' place of residence, 2019



Source: Oxford Economics

By bringing together data on the wages and number of employees, we can estimate the average wage of London Luton Airport workers living in each sub-region. This suggests that employees residing in the London Thameslink Corridor were, on average, the highest paid in 2019, reflecting that a number of workers in very highly-paid roles reside in this area.

Fig. 10. Average gross wages by employees' place of residence, 2019



Source: Oxford Economics and ONS

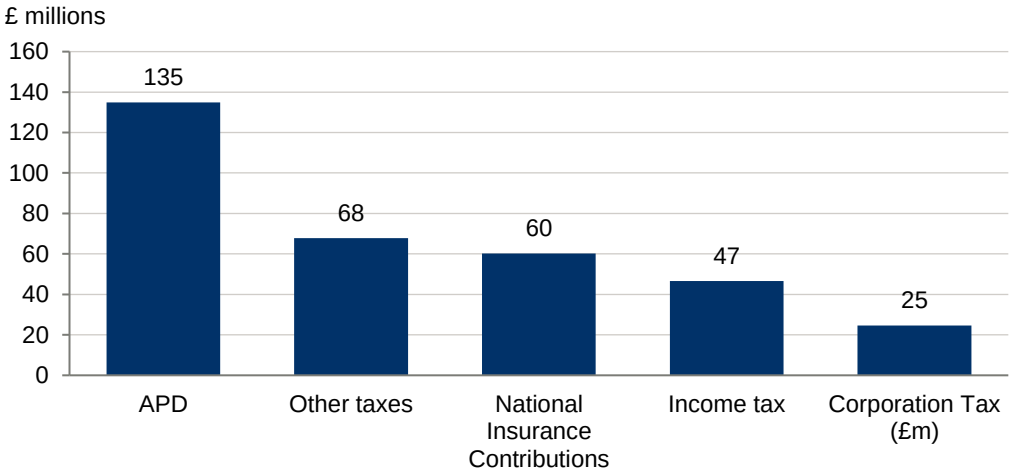
2.4 DIRECT CONTRIBUTION TO TAX REVENUE

In addition to their contributions to GDP, employment and wages, companies intrinsic to the operation of London Luton Airport generate tax revenues for the UK Exchequer.

We estimate that London Luton Airport directly generated £334 million in tax revenues in 2019. The largest contribution came from Air Passenger Duty, which accounted for 40% of this total. Income tax and employee and employer National Insurance Contributions together accounted for just under one-third of the total.

Details of the techniques used to estimate the value of these revenues are described in Appendix 1: Methodology.

Fig. 11. Direct tax contribution of London Luton Airport, 2019[23]



Source: Oxford Economics

[23] Other taxes include taxes on production and on products. Taxes on production consist of taxes that firms incur because of engaging in economic activity, irrespective of the quantity or value of the goods and services produced or sold. In the UK, there are two main taxes on production: business rates and vehicle excise duty. Taxes on products are payable per unit of some goods or services produced or transacted. They are levied by government. Examples include taxes and duties on imports, VAT (net), excise duties (e.g. fuel, alcohol and tobacco), climate change levy, and APD. Taxes on production and on products are payable by firms whether or not profits are made.

COMPARISON OF BASELINE DIRECT EMPLOYMENT AND GDP RESULTS WITH THOSE FROM OUR 2019 STUDY

For this study we have refreshed the models developed for our previous work (completed in 2019) using the most recently available data from ONS and other sources. This ensures that our latest assessment is based on the best information available at the time the work was undertaken. It is, nonetheless, informative to consider how the estimates of the airport's direct impact have changed since our previous modelling work.

Our latest modelling suggests that the airport directly supported 10,900 jobs in 2019. In our previous study the baseline year was 2017 and we estimated that the airport directly supported 9,900 jobs in that year. It is perhaps unsurprising that employment increased between 2017 and 2019, given that the airport was considerably busier in 2019 than in 2017. The data for 2019 suggest that employment had increased in airline support services, hotels and restaurants, and retail over this period.

Despite the increase in employment, our latest modelling suggests that the airport's direct contribution to GDP was *lower* in 2019 than in 2017. This apparently counter-intuitive result is possible due to estimated changes in productivity per worker between the two studies.

Two main factors have driven this trend. Firstly, the latest available data from the ONS indicate that productivity is much lower in the air transport sector in the East of England than implied by the data available when we prepared our 2019 report. This reduces the estimated level of productivity for important activities such as airlines and aircraft charter, in turn leading to a notable reduction in productivity within the airlines and airport operations sector. Secondly, between 2017 and 2019 employment at the airport tended to grow more strongly in sectors with lower productivity. This has shifted the overall distribution of employment towards lower-productivity sectors.

A more detailed comparison of the two sets of results is presented in Appendix 2.

3. MULTIPLIER IMPACTS AND THE TOTAL ECONOMIC IMPACT

In the previous chapter we assessed the economic activity directly supported by London Luton Airport as a result of its operations. The economic benefits of the airport do, nonetheless, spread much more widely than this. Supply chain spending supports activity in the surrounding regions (the airport's "indirect" impact), while the wages paid by the airport and its suppliers support spending by employees which, in turn, sustains further economic activity (the "induced" impact).

In this chapter, we estimate the value of these "multiplier" effects, and then bring together the direct, indirect and induced impacts to estimate the total economic footprint of the airport. The estimates are presented for the various geographical areas set out in Section 1.3, starting with the UK as a whole.

3.1 IMPACT ON THE UK

3.1.1 Indirect and induced impacts

To estimate the supply chain (or "indirect") impact of London Luton Airport, we use "input-output" models which map the inputs required by firms at the airport to produce a unit of output. To illustrate this concept consider the following example: to provide aviation services that sell for £5 million, an airline may need to purchase fuel for £1 million, ground handling services for £1 million and professional and technical services for £0.5 million. In this example the aviation firm has generated a £2.5 million gross value added contribution to GDP (the value of its output less the cost of inputs), and £2.5 million in turnover for other firms in the supply chain. Input-output tables then enable us to estimate the size of the GDP contribution associated with the £2.5 million of supply chain expenditure. This contribution includes the value supported at suppliers' businesses, at their suppliers' suppliers, etc. right down the supply chain.

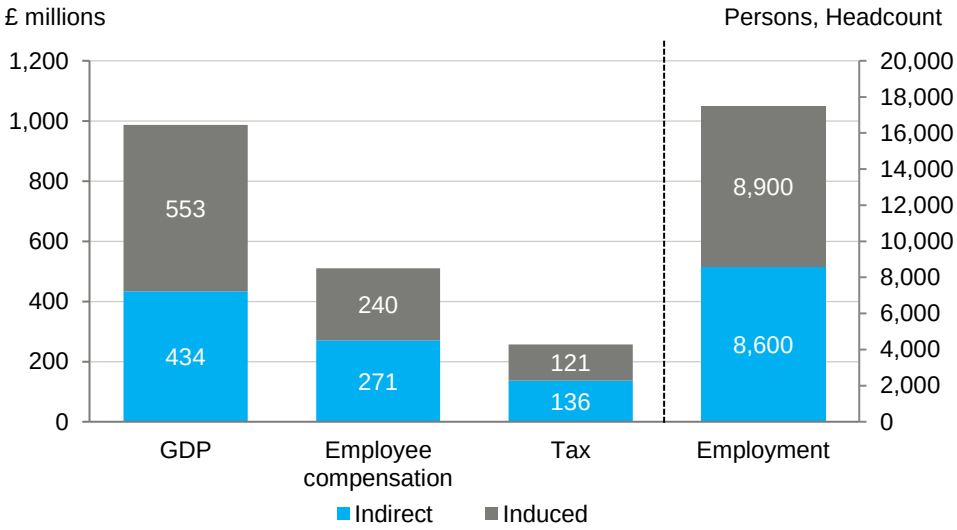
Within the context of an airport the situation is complicated by the fact that some supply chain purchases are made from other companies at the airport. In the example above, the airline may well purchase its fuel and ground handling services from a fuelling company based on site. We need to exclude the impact of such purchases from our supply chain estimates as they have already been counted within our estimates of the direct impacts. Ideally such assumptions would be based on procurement data provided by companies at the airport. However, no such information was available to this study. In the absence of detailed procurement data from on-site companies, we have used an assumption-driven approach, which is described in Appendix 1: Methodology.

Our modelling of the indirect supply chain estimates, which is based on the well-established input-output modelling approach, suggests that London Luton Airport supported a £434 million contribution to UK GDP through its supply chain in 2019.

Induced impacts result from the spending of workers employed at London Luton Airport and in the airport's supply chain. Such impacts are mainly felt in

sectors serving households such as hotels, restaurants and shops. The induced impact is again estimated using the input-output model, which provides ratios to estimate the value of wages generated by a given level of economic activity. From there it is possible to estimate consumer expenditure, and the induced contribution to GDP associated with that expenditure. Following this approach, it is estimated that the total induced contribution to UK GDP of London Luton Airport was £553 million in 2019.

Fig. 12. Indirect and induced impacts of London Luton Airport, 2019, UK



Source: Oxford Economics

Applying productivity estimates to the indirect and induced GDP impacts provides an estimate of the number of jobs supported in the supply chain and in sectors where direct and indirect employees spend their wages. This suggests that London Luton Airport indirectly supported 8,600 jobs in 2019, while the spending of workers supported a further 8,900 jobs.

We can also use our input-output model to estimate “employee compensation”. This includes gross wages, but also includes benefits in kind, and employer social security contributions (including pensions). It therefore provides a broader measure of the benefits employees receive in exchange for work than the gross wage estimates presented in Section 2.3. The indirect and induced impacts of the airport are estimated to have supported £510 million of employee compensation in 2019.

Finally, the indirect and induced activities generate further rounds of tax revenue for the UK government. In 2019, the tax contributions from the indirect and induced impacts of London Luton Airport were £136 million and £121 million, respectively. These estimates include revenues from income tax, National Insurance Contributions, corporation taxes, and other taxes on products and production.[24]

[24] Taxes on products includes excise duties, and net VAT payments made by firms. Taxes on production principally comprise business rates and motor vehicle duty paid by businesses during the production of goods and services.

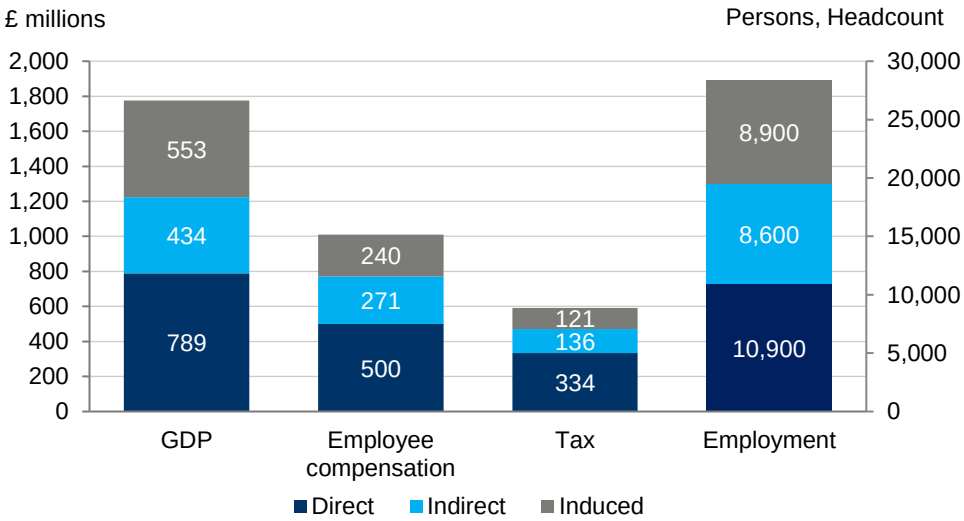
3.1.2 Total economic impact

Adding the direct economic impact discussed in Section 2 to the multiplier effects above gives the total economic impact of London Luton Airport. On this basis the airport's total contribution to UK GDP is estimated to have been £1.8 billion in 2019. This means that for every £1 London Luton Airport contributed to GDP itself, it supported another £1.30 elsewhere in the UK economy. The airport therefore has a UK GDP multiplier of 2.3.[25]

London Luton Airport is estimated to have supported a total of 28,400 jobs in 2019, either directly within firms which are intrinsic to the airport's operation, through the supply-chain, or through the induced expenditure of employees. For every direct job the airport sustained, another 1.6 were supported elsewhere in the UK economy. This means the airport's employment multiplier was 2.6 at the UK level.

London Luton Airport also supported a total of £1.0 billion in employee compensation and £592 million of tax revenues (including from Air Passenger Duty) in 2019.

Fig. 13. Total UK economic impact of London Luton Airport, 2019



Source: Oxford Economics

[25] The multiplier is calculated as: (Direct GDP + Indirect GDP + Induced GDP) / Direct GDP

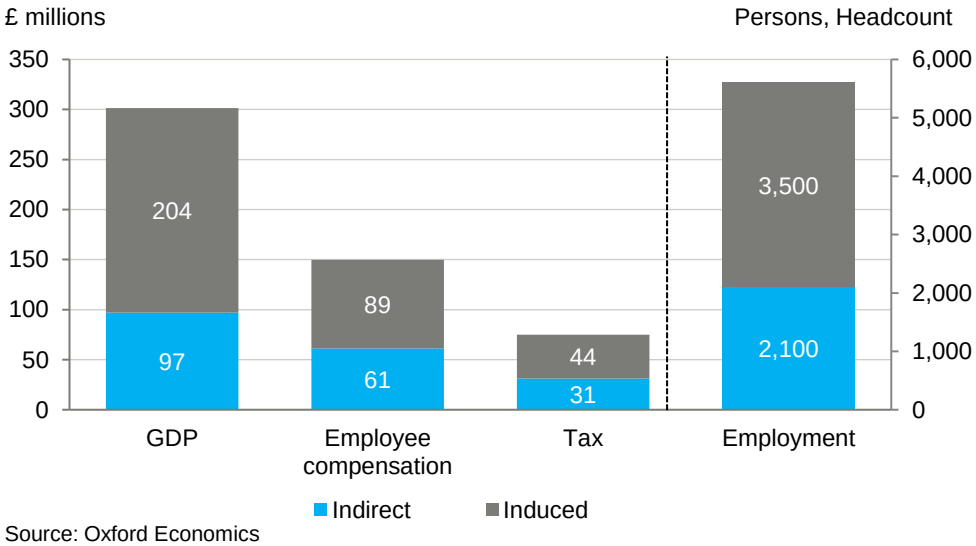
3.2 IMPACT ON THE THREE COUNTIES SUB-REGION

3.2.1 Indirect and induced impacts

The section above presented the indirect and induced impacts of London Luton Airport at the UK level. Another important element of this study is to consider the geographical distribution of these multiplier effects to understand how London Luton Airport affects economic activity in surrounding sub-regions and local areas. These geographical effects are primarily modelled using inter-regional input-output models developed by Oxford Economics based on established academic techniques.[26] Further details of this approach are set out in Appendix 1: Methodology.

For the Three Counties sub-region (comprising Bedfordshire, Buckinghamshire and Hertfordshire), we estimate that supply chain and induced wage spending impacts of London Luton Airport supported a total GDP contribution of £301 million and 5,600 jobs. £150 million of employee compensation accrued to those with jobs sustained by this indirect and induced activity, and it also supported £75 million of tax revenues, including APD, for the UK Exchequer (Fig. 14).

Fig. 14. Indirect and induced impacts of London Luton Airport in the Three Counties sub-region, 2019



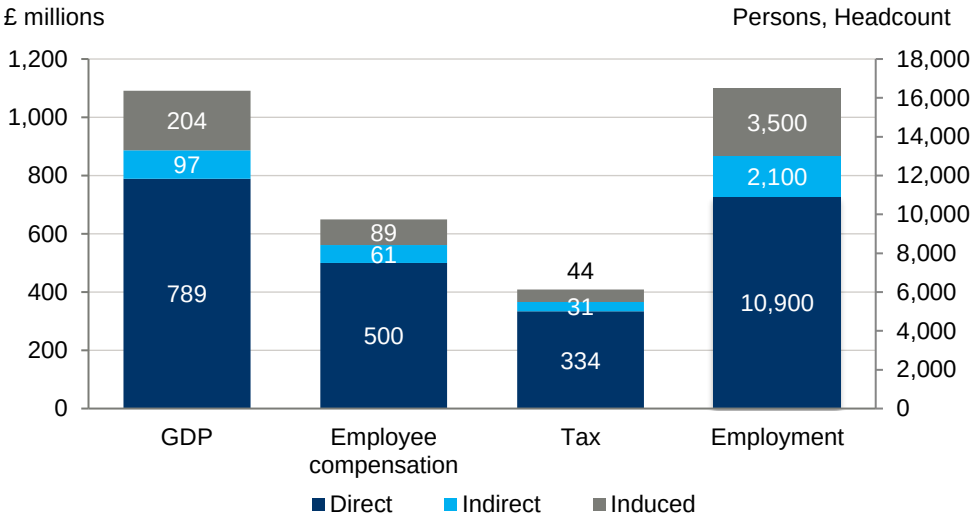
Source: Oxford Economics

3.2.2 Total economic impact

For the Three Counties sub-region, we estimate that the supply chain and induced wage spending impacts of London Luton Airport, together with its direct impact, supported a total GDP contribution of £1.1 billion and 16,500 jobs. £650 million of employee compensation accrued to those with jobs sustained by the airport's direct, indirect and induced activity, and it also supported £409 million of tax revenues, including APD, for the UK Exchequer.

[26] 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.

Fig. 15. Total economic impact of London Luton Airport within the Three Counties sub-region, 2019



Source: Oxford Economics

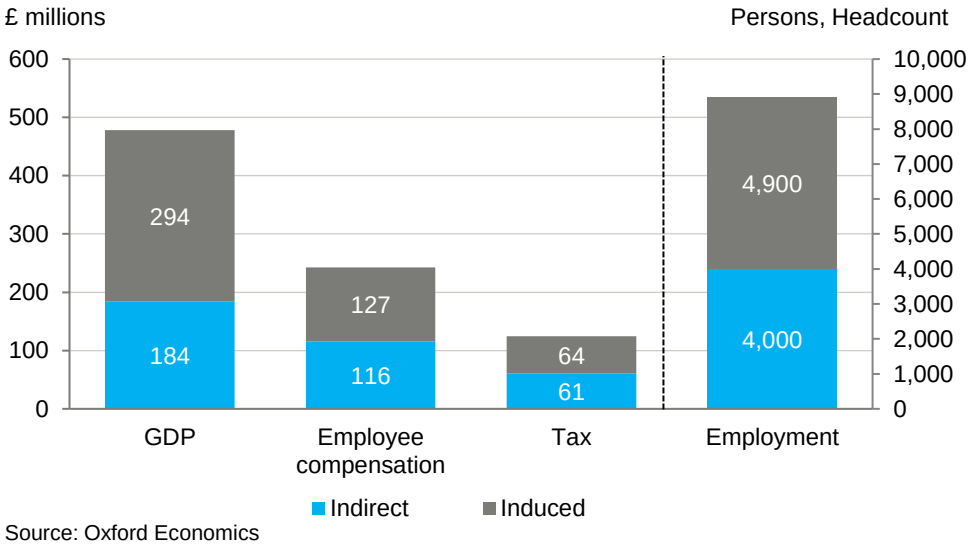
Within the Three Counties sub-region, by far the greatest impact of the airport accrued to Bedfordshire. This is because Bedfordshire receives the direct economic impact of having the airport located within its boundaries, as well as multiplier effects from supply chain linkages between the airport and the immediately surrounding areas, and the spending of the large number of airport workers that live and spend money in the county.

3.3 IMPACT ON THE SIX COUNTIES SUB-REGION

3.3.1 Indirect and induced impacts

Across the broader Six Counties area (which comprises Bedfordshire, Buckinghamshire, Cambridgeshire, Essex, Hertfordshire and Oxfordshire) we estimate that the airport's supply chain and induced wage spending impacts supported a £478 million contribution to GDP, 8,900 jobs, £243 million in employee compensation and £124 million in tax revenue, again including APD (Fig. 16).

Fig. 16. Indirect and induced impacts of London Luton Airport in the Six Counties sub-region, 2019

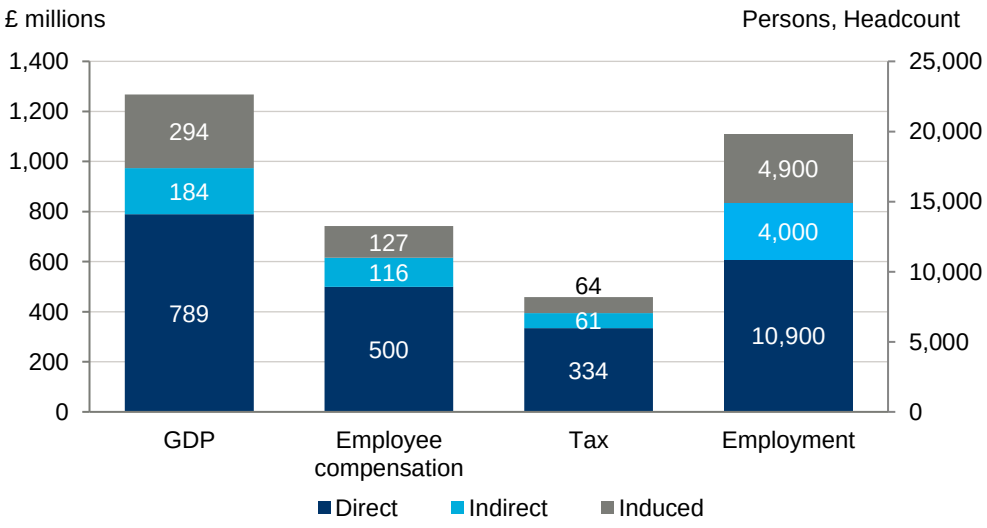


Source: Oxford Economics

3.3.2 Total economic impact

For the Six Counties sub-region the airport's activities supported a total GDP contribution of £1.3 billion, 19,900 jobs, £743 million in employee compensation and £459 million in tax revenue, again including APD.[27] (Fig. 17).

Fig. 17. Total economic impact of London Luton Airport within the Six Counties sub-region, 2019



Source: Oxford Economics

[27] Employment total may not tally with the sum in Figure 17 due to rounding

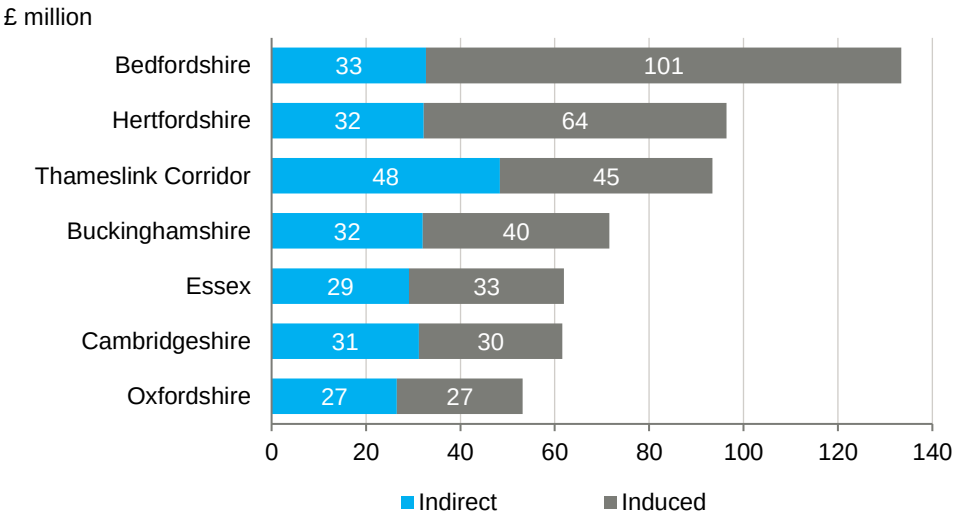
3.4 IMPACT ON SURROUNDING COUNTIES AND THAMESLINK CORRIDOR

3.4.1 Indirect and induced impacts

It is also possible to view these results for the individual counties within the Six Counties area, and for the London Thameslink Corridor (Fig. 18, below). This reveals that the largest total impact through the multipliers occured within Bedfordshire, where the airport supported an indirect GDP contribution of £33 million and an induced GDP contribution of £101 million. The concentration of multiplier impacts within Bedfordshire primarily reflects spending by the 58% of London Luton Airport workers who resided (and were therefore assumed to spend their wages) in the county.[28]

In contrast, far fewer employees lived in Cambridgeshire, Essex and Oxfordshire, resulting in a noticeably smaller induced GDP contribution in these counties. Also noticeable in the chart is the large indirect contribution estimated for the Thameslink Corridor. This reflects the concentration of high-value services which are estimated to be purchased from suppliers in London.

Fig. 18. Indirect and induced GDP impact of London Luton Airport within surrounding counties and the Thameslink Corridor, 2019

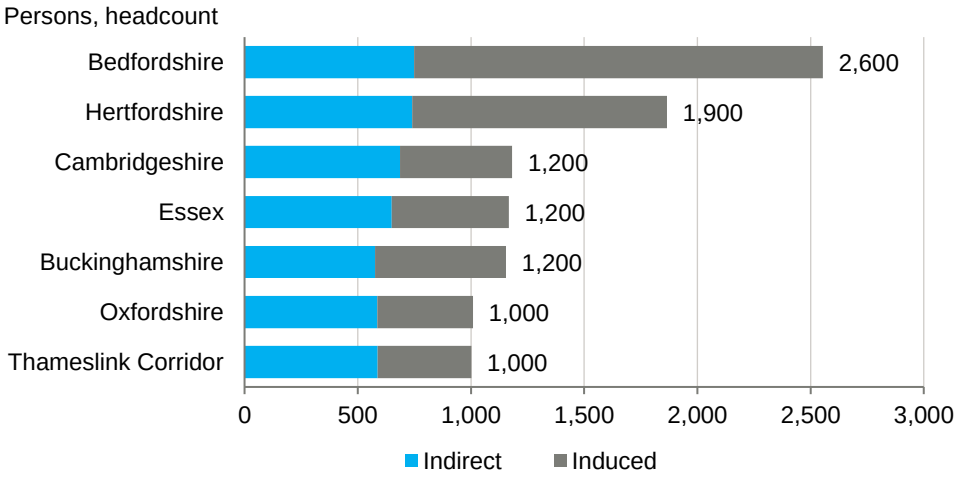


Source: Oxford Economics

Using productivity data in conjunction with the GDP estimates above provides an estimate of the number of jobs supported by the multiplier impacts of London Luton Airport. This suggests that the indirect and induced impacts supported around 2,600 jobs in Bedfordshire, 1,900 in Hertfordshire, and 1,000 to 1,200 jobs in each of the other counties which make up the Six Counties sub-region, and in the Thameslink Corridor.

[28] Not all wage income will be spent—some will be saved. ONS regional accounts data were used to calculate the regional spending ratio by identifying the relationship between gross incomes (of which gross wages is the largest contributor) and regional spending.

Fig. 19. Indirect and induced employment impacts of London Luton Airport within surrounding counties and the Thameslink Corridor, 2019

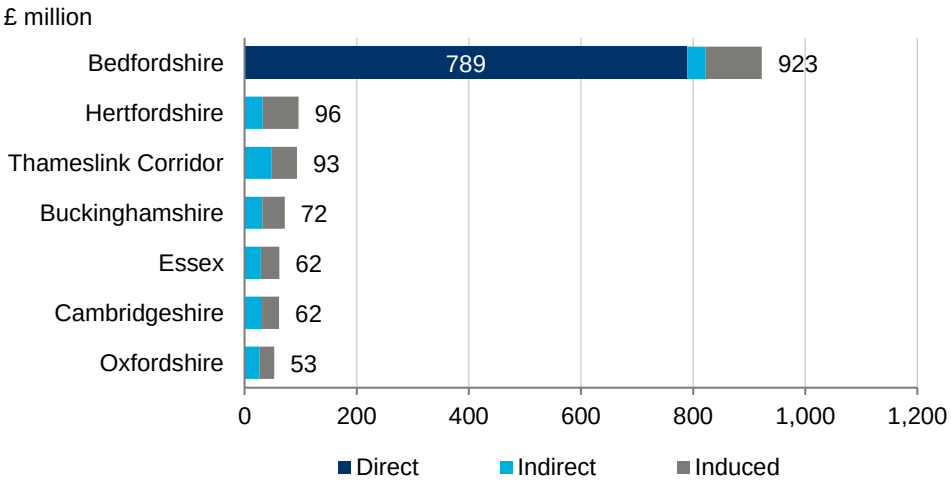


Source: Oxford Economics

3.4.2 Total economic impact

We estimate that the indirect supply chain and induced wage spending impacts of London Luton Airport, together with its direct impact, supported a total contribution to the GDP of Bedfordshire of £923 million in 2019. For the other sub-regions, the indirect and induced GDP impact of the airport ranges from a £96 million contribution to the GDP of Hertfordshire, to a £53 million contribution to the GDP of Oxfordshire (Fig. 20).

Fig. 20. Total GDP contribution of London Luton Airport in the surrounding counties and the Thameslink Corridor, 2019

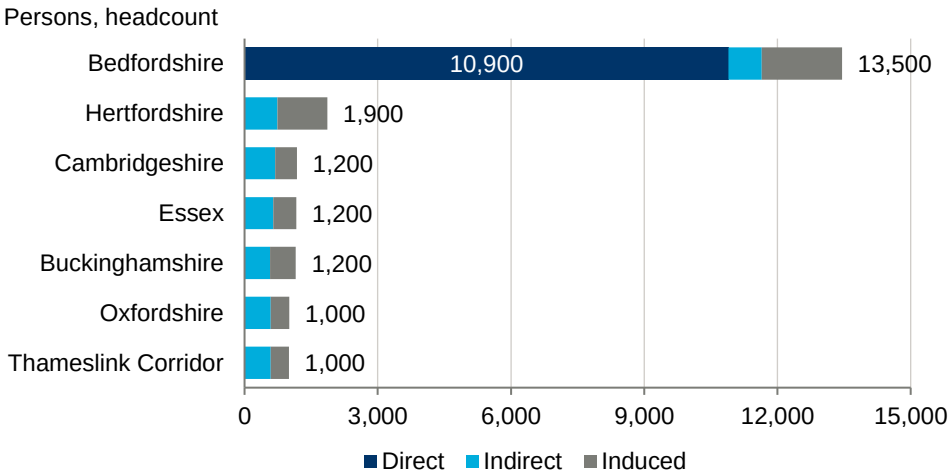


Source: Oxford Economics

Similarly, the total employment impact is also concentrated in Bedfordshire, where London Luton Airport supported a total of 13,500 jobs, including the

10,900 jobs at the airport itself, and a further 2,600 jobs as a result of indirect and induced multiplier effects.[29]

Fig. 21. Total employment contribution of London Luton Airport in the surrounding counties and the Thameslink Corridor, 2019



Source: Oxford Economics

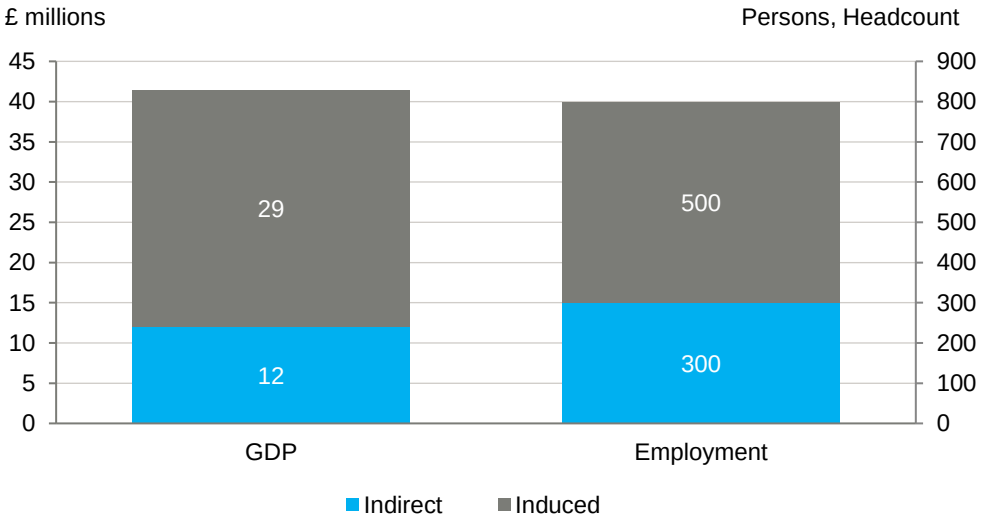
3.5 IMPACT ON LUTON AND OTHER LOCAL AUTHORITY AREAS

3.5.1 Indirect and induced impacts

Our analysis suggests that the indirect and induced impact of London Luton Airport contributed £41 million to the GDP of Luton in 2019. This activity also supported around 800 jobs in Luton.

[29] Figures may not sum due to rounding.

Fig. 22. Indirect and induced impacts of London Luton Airport in Luton Borough, 2019

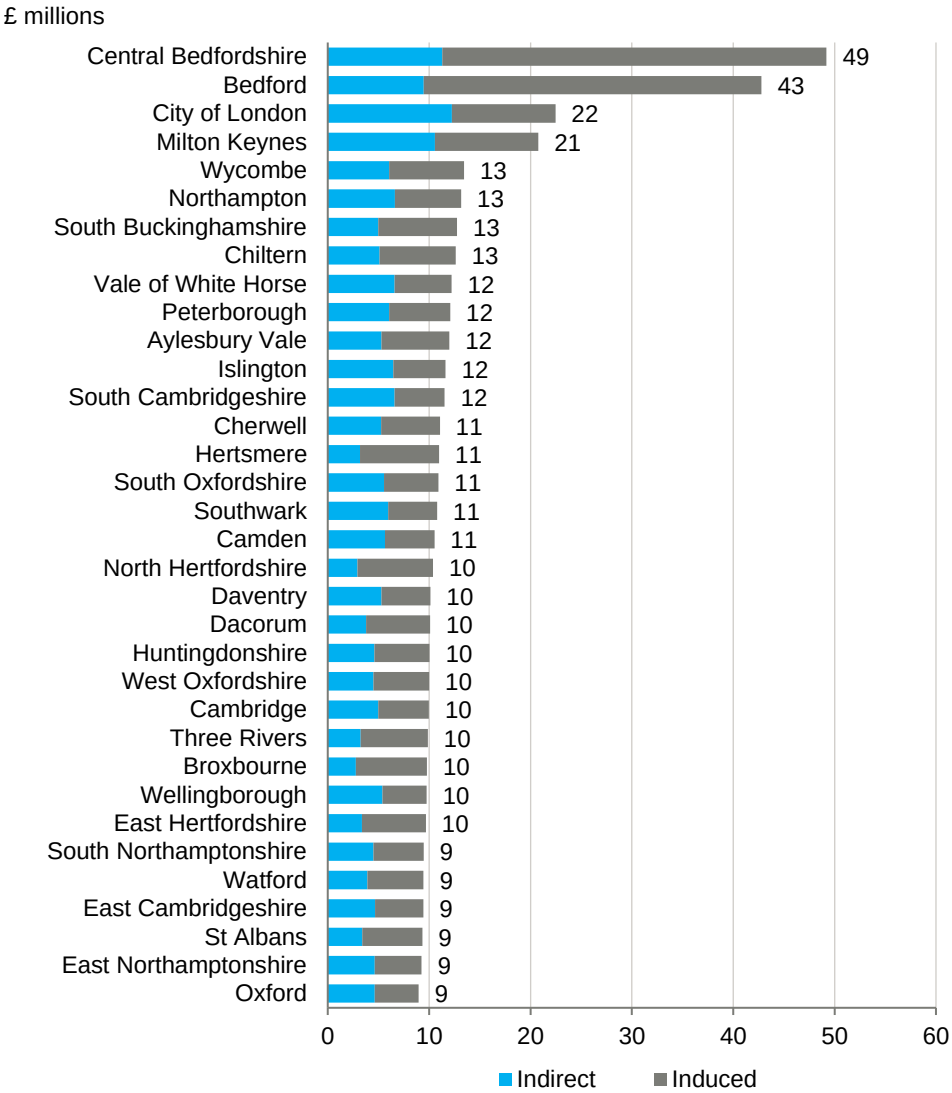


Source: Oxford Economics

Fig. 23, below, extends the analysis to a number of other surrounding local authority areas.[30] Of particular note is the large induced GDP impact in Central Bedfordshire and Bedford, where almost 30% of London Luton Airport workers were estimated to reside. While a higher proportion of workers lived in Luton than Central Bedfordshire, average wages were higher amongst those living in Central Bedfordshire, leading to a higher induced impact than shown for Luton in the chart above.

[30] Impact estimates for all local authorities are shown in Appendix 4: Employment data tables and Appendix 5: GDP data tables

Fig. 23. Indirect and induced GDP impacts of London Luton Airport by local authority area, 2019

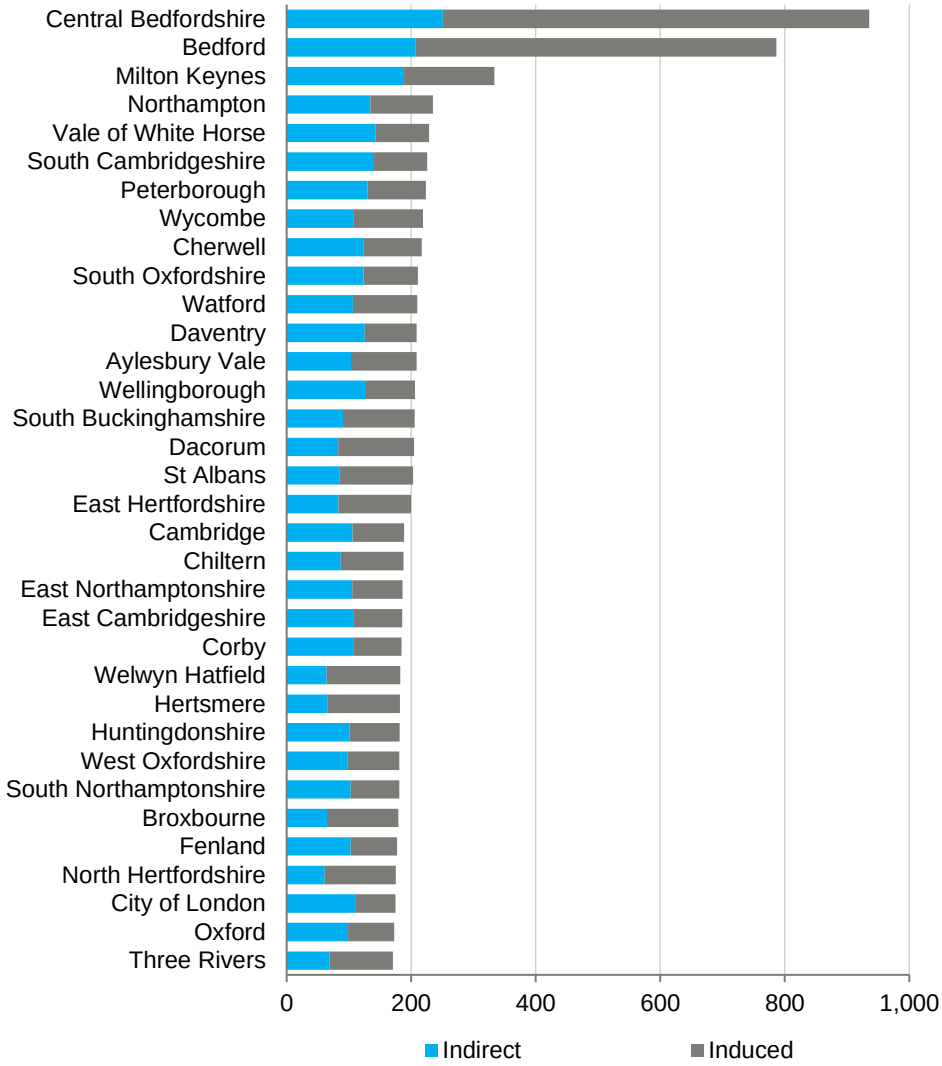


Source: Oxford Economics

As with the sub-regional analysis, productivity data can be used to estimate the number of jobs supported by the airport's multiplier impacts in each local authority area. Once again, the largest impact was estimated to occur in Central Bedfordshire, where over 900 jobs were supported by the indirect and induced effects of the airport. Almost 800 jobs were supported in Bedford, and over 300 in Milton Keynes.

Fig. 24. Indirect and induced employment impact of London Luton Airport by local authority area, 2019

Persons, Headcount

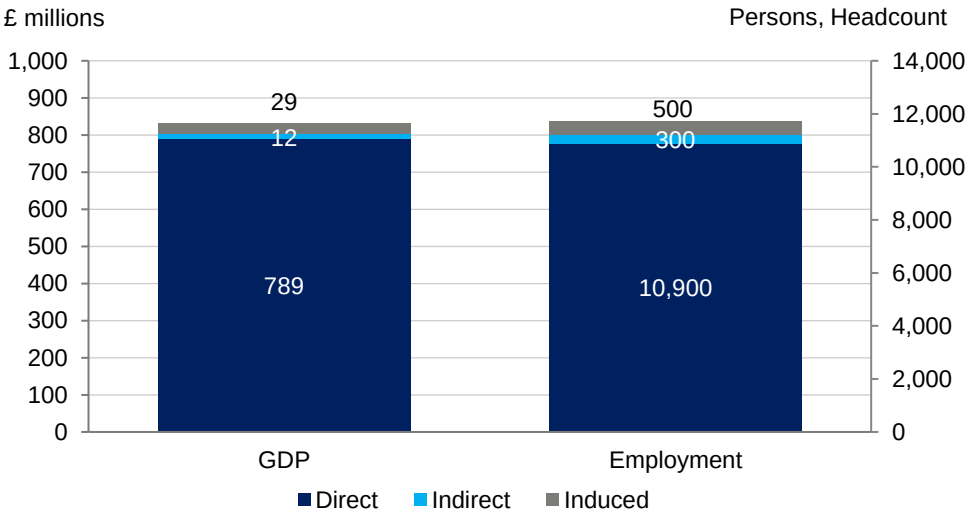


Source: Oxford Economics

3.5.2 Total economic impact

In 2019 the airport's activities supported an £831 million contribution to GDP in Luton Unitary Authority and 11,800 workplace jobs (Fig. 25.)

Fig. 25. Total economic impact of London Luton Airport in Luton Unitary Authority, 2019



Source: Oxford Economics

Since the direct impact only accrues within Luton Unitary Authority, total economic impact results for other districts are as presented in Fig. 23 and Fig. 24.[31]

[31] Impact estimates for all local authorities are shown in Appendix 4: Employment data tables and Appendix 5: GDP data tables

4. THE FUTURE IMPACT OF LONDON LUTON AIRPORT TO 2043

This chapter considers the future economic contribution of London Luton Airport to 2043 with the Proposed Development, including a second terminal, which is assumed to open during 2037.

Our future economic impact estimates are underpinned by a set of projections for the key drivers of direct on-airport and direct off-airport businesses at the airport. The following key driver variables were identified and projected to 2043 by York Aviation:[32]

- passengers;
- freight tonnage;
- head office employment;
- MRO space;
- commercial, business, and total aviation movements; and
- air crew requirements to meet commercial aviation movements.

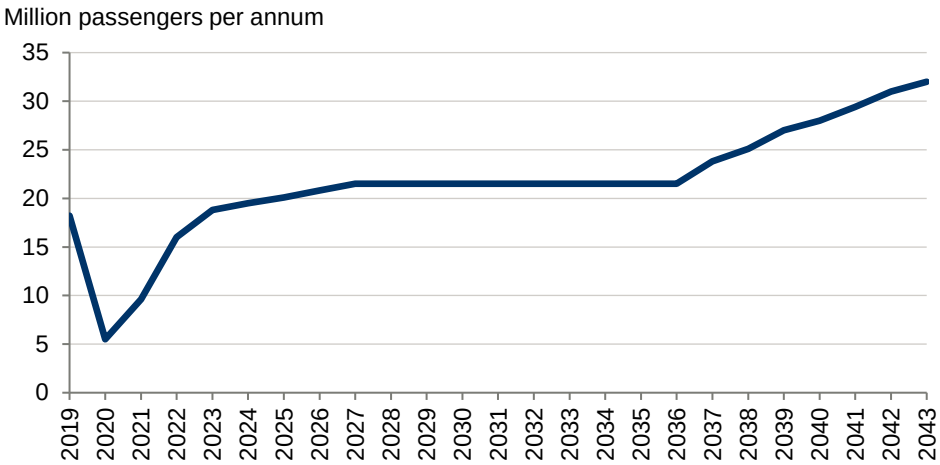
Our analysis in this section explores the total economic impact for jobs and GVA on a workplace basis. For the more detailed aspects of the analysis we focus on three points in time based on the Core Planning Case demand forecasts:

- **2027**—the year at which the airport is projected to reach 21.5 mppa;
- **2039**—the year at which the airport is projected to reach 27 mppa; and
- **2043**—the year at which the airport is projected to reach 32 mppa.

Projected passenger numbers over the forecast horizon to 2043, as provided by York Aviation, are shown in Fig. 26. The time series incorporates a sharp drop in passengers in 2020 as a result of the Covid-19 pandemic, with an assumed recovery to pre-pandemic levels by the end of 2023. The airport is projected to reach the expanded capacity of Terminal 1 of 21.5 mppa in 2027 and growth is then constrained until terminal 2 opens in 2037. This set of forecasts reflects the core planning scenario. Nonetheless, given broader uncertainties around carbon costs, economic recovery, and the delivery of capacity at the other London airports, we also consider faster and slower growth scenarios in Section 4.3.

[32] Each sub-sector in our economic model was assigned a forecast driver for the entire forecast period 2020 to 2043. Further details of the forecast methodology are discussed in Appendix 1: Methodology.

Fig. 26. Passenger forecasts to 2043



Source: York Aviation

4.1 DIRECT CONTRIBUTION

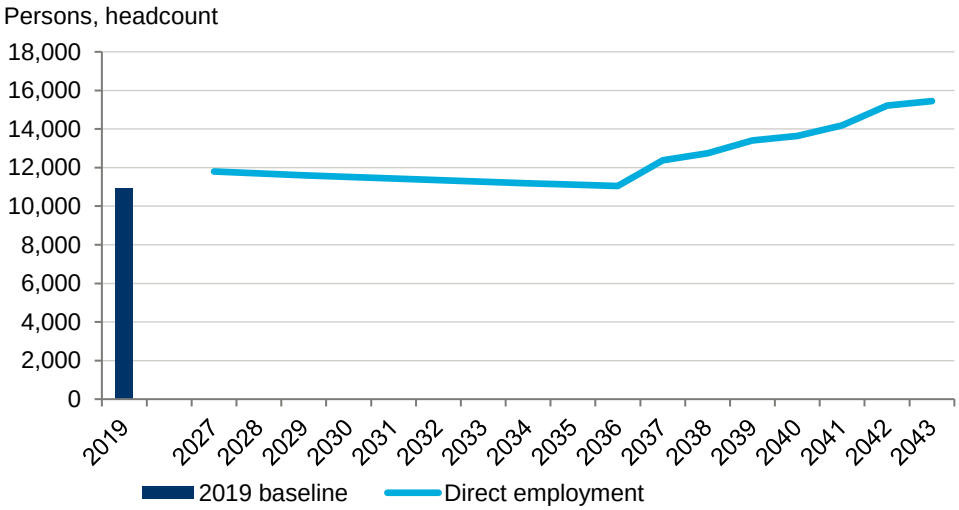
To estimate employment in future years, each sub-sector in our economic model was assigned a forecast driver for the entire period to 2046 under the core planning scenario. For example, direct on-site retail employment is assumed to increase in line with annual growth in airport passenger numbers. We then make an adjustment to account for productivity growth such that, over time, fewer workers are needed to serve a given number of customers.[33]

A further adjustment was made to reflect how employment might change with the opening of new passenger terminal facilities. The adjustment accounts for the potential duplication of activity across terminal facilities once the second terminal is opened. This "two-terminal inefficiency factor" was provided by York Aviation. Further details of this adjustment are provided in Appendix 1: Methodology.

The projected direct employment supported by London Luton Airport up to 2046 is shown in Fig. 27. Our analysis suggests that direct employment at the airport will increase from 10,900 in 2019 to around 11,800 in 2027.[34] Capacity constraints then prevent further passenger growth, while increasing productivity means fewer workers are required to enable activity at the airport. Nonetheless, from 2037 additional capacity is unlocked and employment growth resumes—to 13,400 in 2039, and then to 15,400 in 2043.

[33] Further details of the forecast methodology are discussed in Appendix 1: Methodology.
[34] Due to uncertainties concerning the impacts of Covid-19 on trends in employment at the airport, and on the relationships within our model, we do not present a forecast for the years between 2019 and 2027. Our modelling assumes that Covid-related disruption has dissipated by 2027, the first year of our forecast assessment.

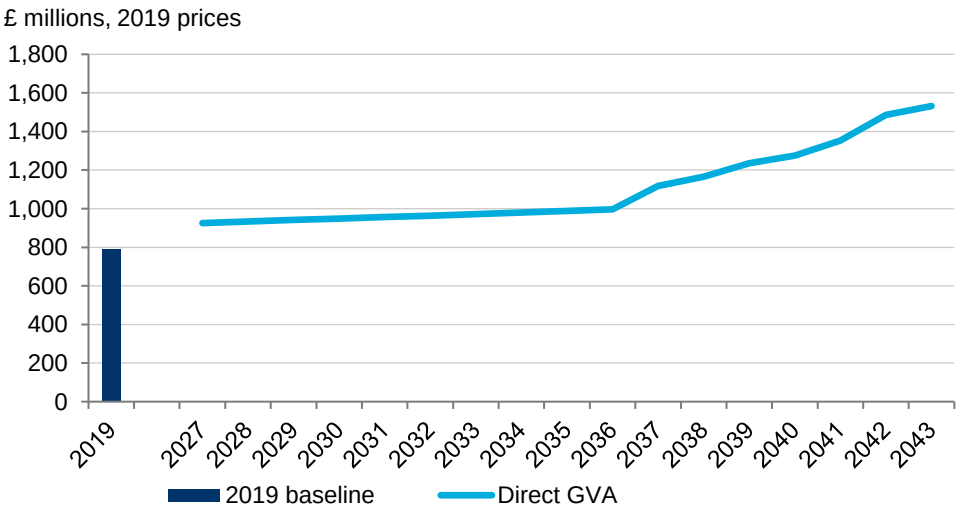
Fig. 27. Direct employment projection



Source: Oxford Economics

As direct employment at London Luton Airport increases, so too will the airport's value-added contribution to GDP (Fig. 28). The airport's direct GDP contribution increases from £789 million in 2019 to £1.5 billion in 2043.[35]

Fig. 28. Direct GDP projection



Source: Oxford Economics

[35] While direct employment declines between 2027 and 2036, we estimate that direct GVA will increase slightly over this period. This is because productivity levels are higher in employment sectors where productivity growth is not causing employment to fall. This is the case for head office employment (which is assumed to continue to grow independently of passenger numbers) and air crew (where employment is assumed to be determined by regulatory requirements rather than productivity).

COMPARISON OF DIRECT EMPLOYMENT AND GDP RESULTS AT THE END OF THE FORECAST PERIOD WITH THOSE FROM OUR 2019 STUDY

At the end of Chapter 2 we compared our base year estimates of the airport's direct employment and GDP contribution to those from our previous study. We can make a similar comparison for the year when the airport is projected to reach 32 mppa—2043 in this study and 2039 in our previous (2019) study.

By the final year of our forecast period the difference in employment estimated in the two studies is less than 100 jobs—15,400 in this study compared to 15,500 in the 2019 version. This is a difference of less than 1%.

As observed in the comparison of the baseline year results, however, our most recent modelling indicates that the airport will make a smaller GDP contribution than estimated at the time of our earlier study. As shown above, the airport's direct GDP contribution when the airport reaches 32 mppa is projected to be £1.5 billion, which is some 18% lower than estimated in the 2019 study. This result can be primarily attributed to the airline and airport operations sector, where the latest published economic data indicate a noticeably lower productivity level than was estimated from the data available at the time of our previous study. These revised base-year productivity figures also result in a lower productivity level (and therefore GDP contribution) throughout the forecast period. This effect is compounded by a slight change in the employment distribution at 32 mppa within airlines and airport operations towards lower-productivity activities, and due to slightly lower employment levels in this sector than previously forecast.

A more detailed comparison of the two sets of results is presented in Appendix 2.

4.2 TOTAL ECONOMIC CONTRIBUTION

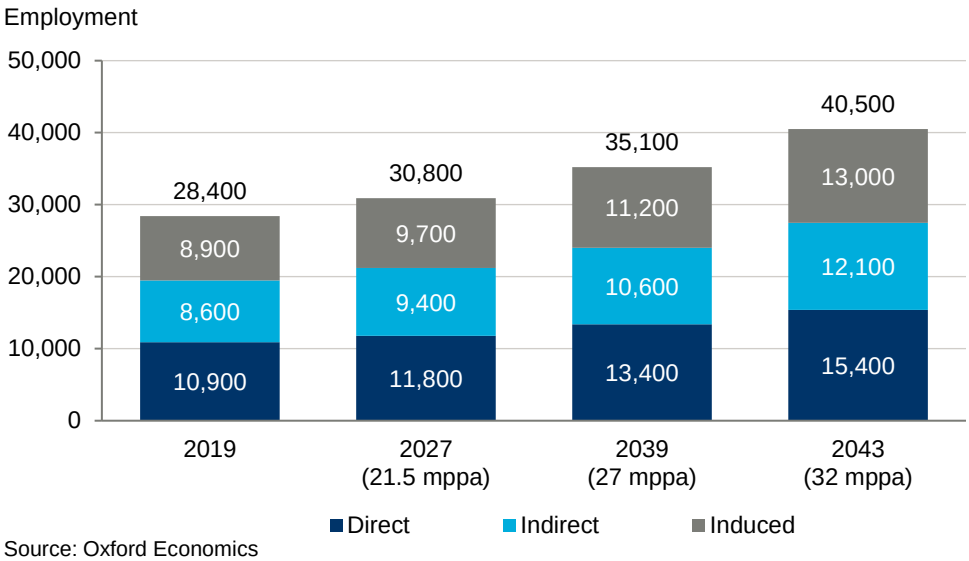
The analysis above set out the forecasts for the direct employment and GDP contributions of London Luton Airport to 2043. As the airport expands, further activity will also be supported in firms' supply chains and through workers' spending. And while the direct economic impact of the airport occurs on and around the airport site, these multiplier impacts ripple out across the wider economy.

In this section we widen our analysis to consider the total future economic impact of London Luton Airport once multiplier effects are included.

4.2.1 Total UK economic contribution

Total UK jobs supported by London Luton Airport, including within the supply chain and due to of workers' spending, are forecast to increase from 28,400 in 2019, to 30,800 in 2027. This increases to 35,100 in 2039 and reaches 40,500 by 2043, equivalent to an increase of 43% between 2019 and 2043.

Fig. 29. Forecast total UK employment contribution of London Luton Airport[36]

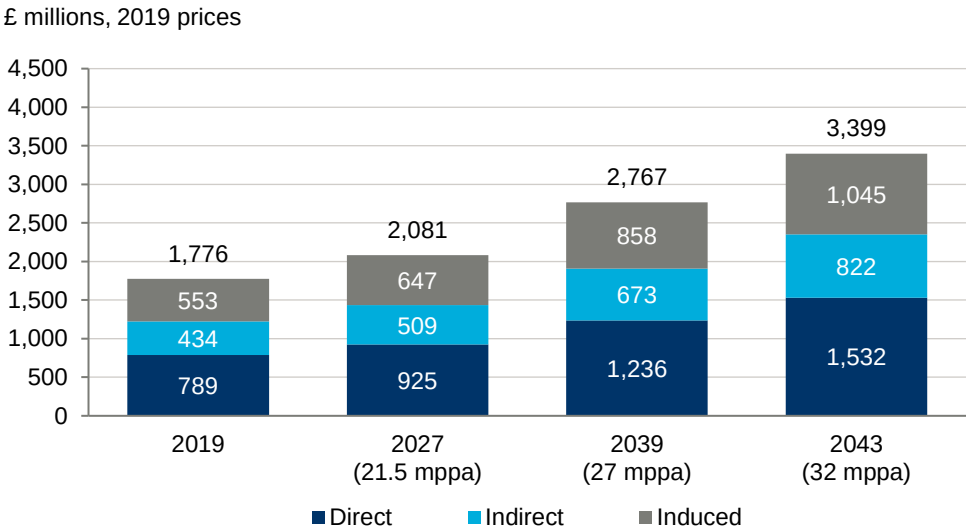


Source: Oxford Economics

The total GDP contribution of London Luton Airport to the UK economy is estimated to reach almost £2.1 billion in 2027, up from almost £1.8 billion in 2019. It then increases to nearly £2.8 billion in 2039 and reaches £3.4 billion in 2043. In other words, the total impact on UK GDP almost doubles between 2019 and 2043.

[36] Totals may not sum due to rounding.

Fig. 30. Forecast total GDP contribution of London Luton Airport to the UK economy

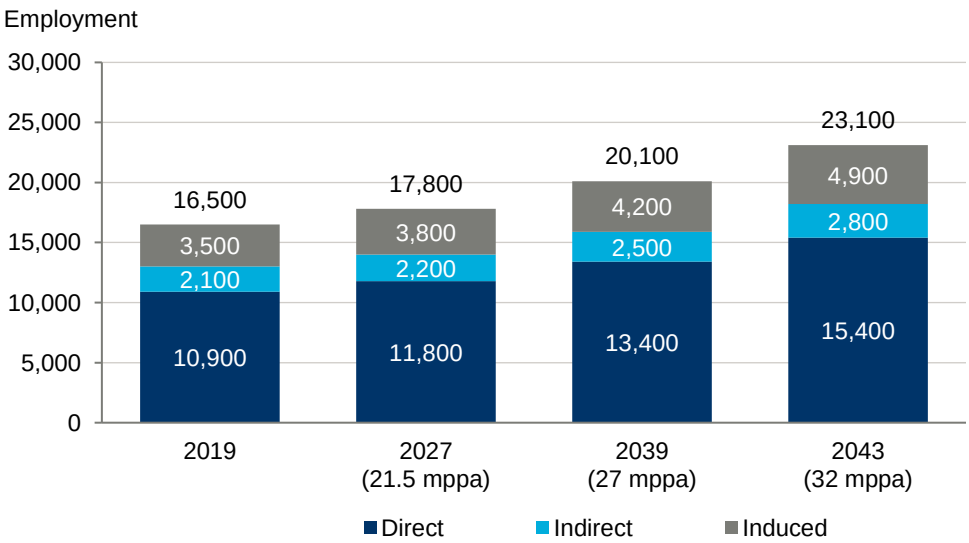


Source: Oxford Economics

4.2.2 Economic contribution to the Three Counties sub-region

At the Three Counties level, we forecast that the supply chain and induced wage spending impacts of London Luton Airport, together with its direct impact, will support 17,800 jobs in 2027, an increase from 16,500 in 2019. The total employment impact will increase to 20,100 in 2039 and reach 23,100 in 2043.

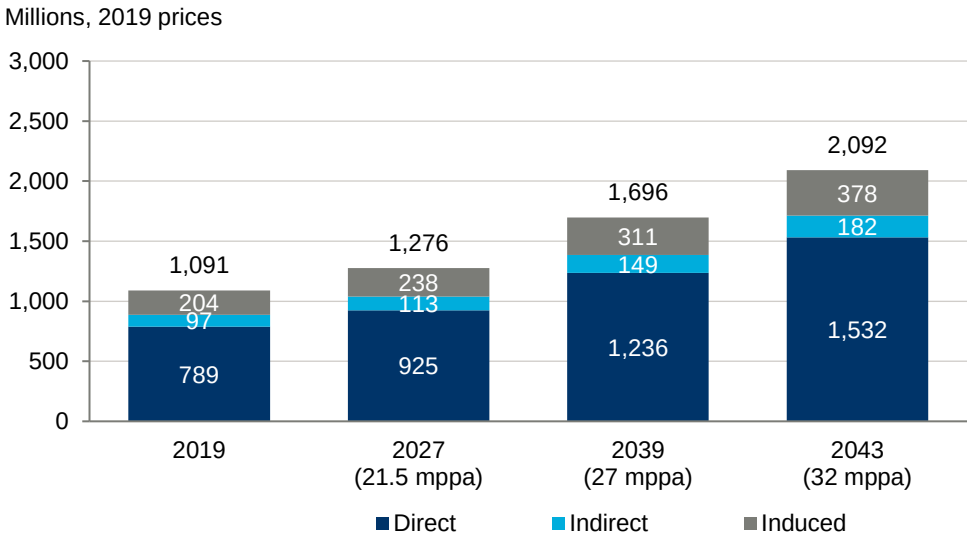
Fig. 31. Forecast total employment contribution of London Luton Airport to the Three Counties sub-regional economy



Source: Oxford Economics

We forecast a contribution of almost £1.3 billion to Three Counties GDP in 2027, up from £1.1 billion in 2019. As the total employment impact in the Three Counties increases over time so too does the total GDP impact, which is forecast to increase to £1.7 billion in 2039 and £2.1 billion in 2043.

Fig. 32. Forecast total GDP contribution of London Luton Airport to the Three Counties sub-regional economy[37]

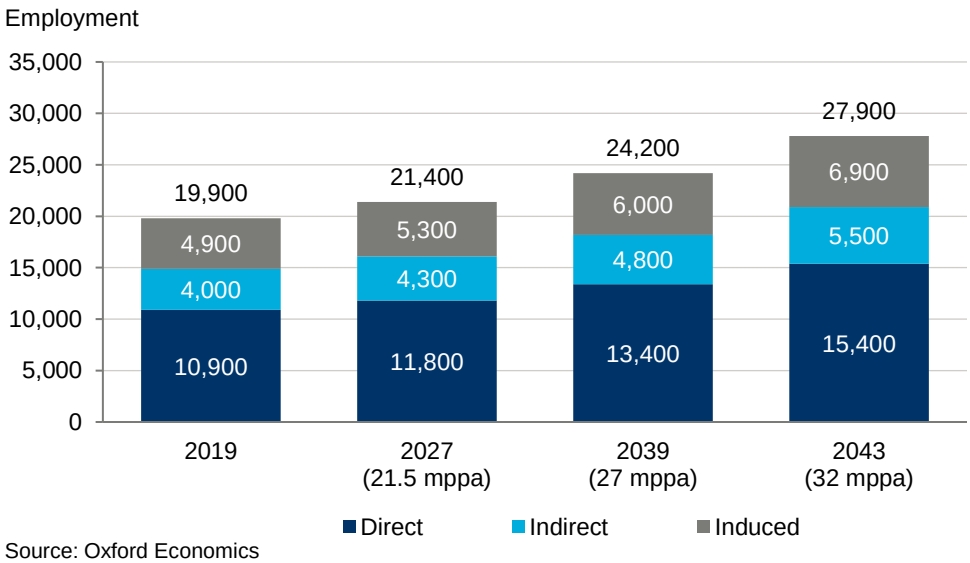


Source: Oxford Economics

4.2.3 Economic contribution to the Six Counties sub-region

The total number of jobs supported by London Luton Airport across the wider Six Counties sub-region, is forecast to increase from 19,900 in 2019 to 21,400 in 2027, 24,200 in 2039 and 27,900 in 2043.

Fig. 33. Forecast total employment contribution of London Luton Airport to the Six Counties sub-region economy[38]



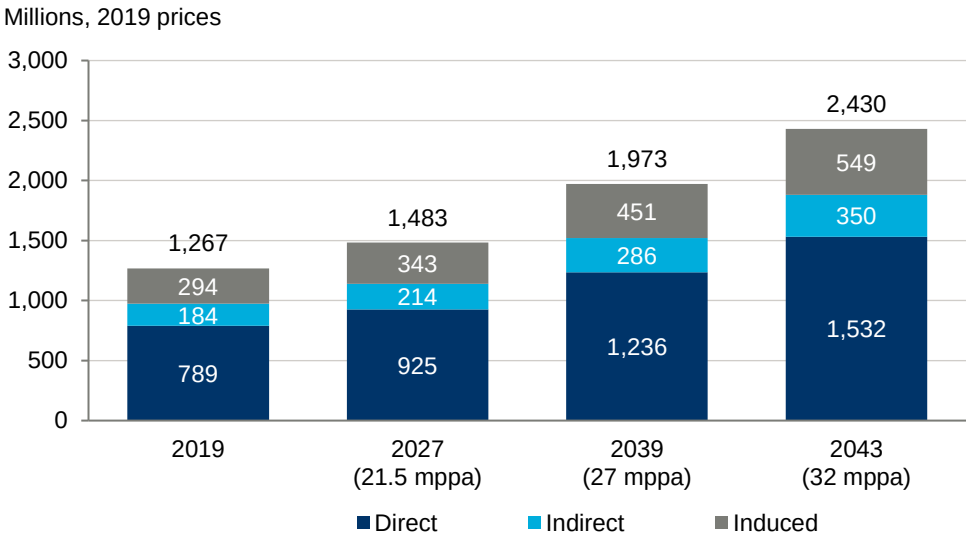
Source: Oxford Economics

For the Six Counties sub-region, the future activities of London Luton Airport are forecast to support a total GDP contribution of almost £1.5 billion in 2027,

[37] Totals may not sum due to rounding.
[38] Totals may not sum due to rounding.

up from just under £1.3 billion in 2019. By 2043, the forecast GDP contribution is projected to reach £2.4 billion.

Fig. 34. Forecast total GDP contribution of London Luton Airport to the Six Counties sub-region economy[39]



Source: Oxford Economics

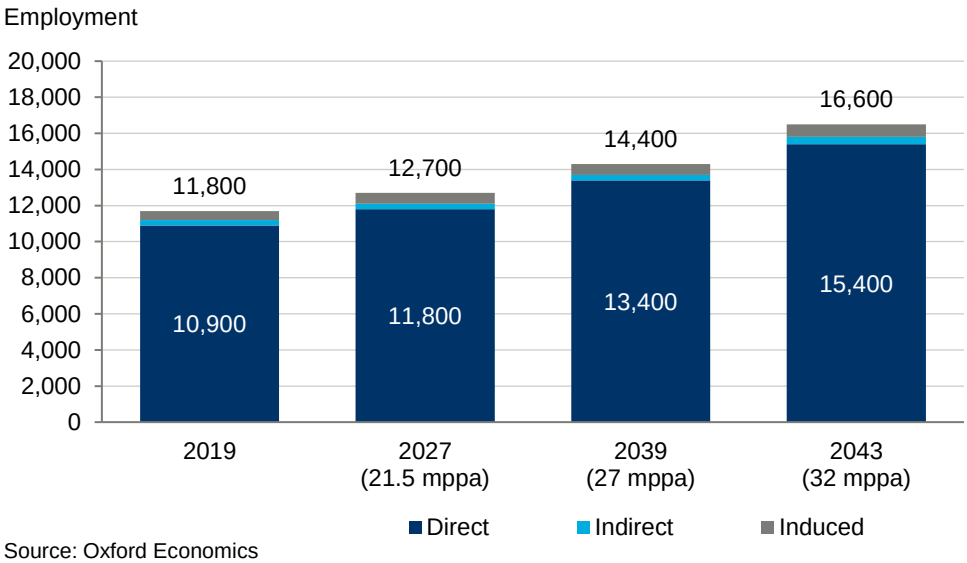
4.2.4 Economic contribution to Luton Unitary Authority

Total employment supported by the airport within Luton Unitary Authority is principally determined by the airport's direct employment forecast, which represents over 90% of the total employment impact in that area.

Including the forecast supply chain and induced wage spending impacts of London Luton Airport, together with its direct impact, we forecast the airport will support 12,700 workplace-based jobs in 2027, increasing to 14,400 in 2039 and 16,600 in 2043.

[39] Totals may not sum due to rounding.

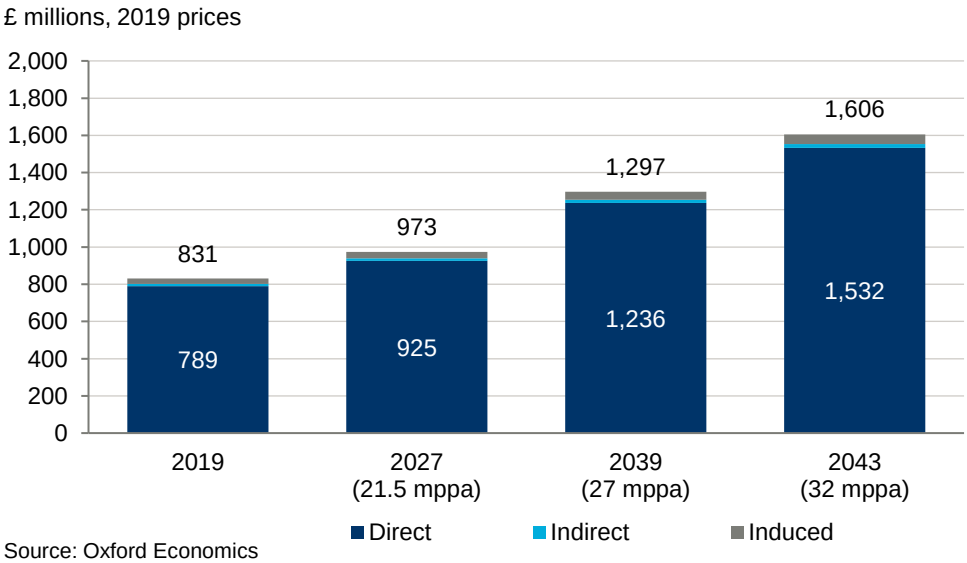
Fig. 35. Forecast total employment contribution of London Luton Airport to the Luton Unitary Authority



Source: Oxford Economics

The corresponding total GDP impact within the Luton Unitary Authority area is forecast to increase from £831 million in 2019 to £973 million in 2027; eventually reaching £1.6 billion in 2043.

Fig. 36. Forecast total GDP contribution of London Luton Airport to Luton Unitary Authority



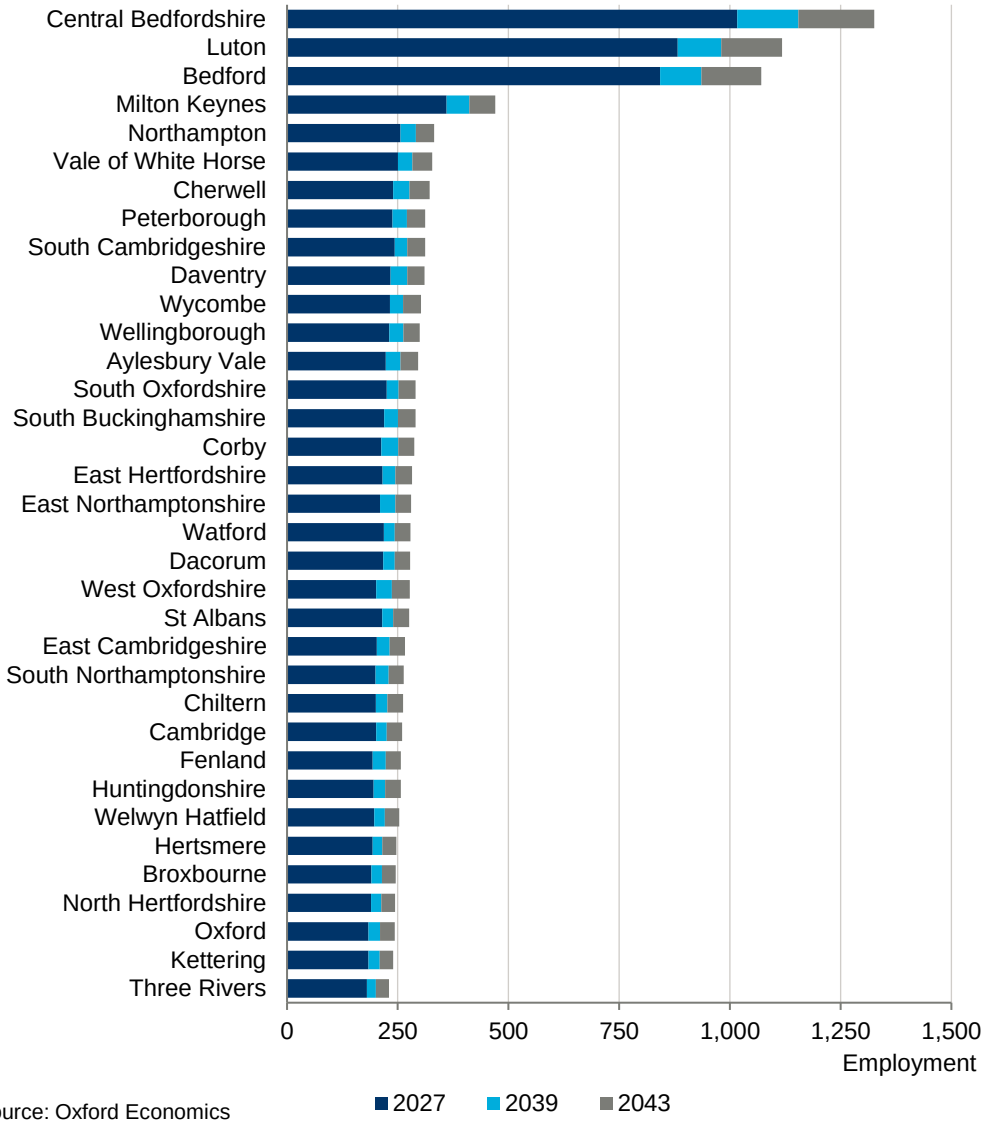
Source: Oxford Economics

4.2.5 Economic contribution to local authority areas

As the airport continues to develop and grow over the coming years, its economic impact on other surrounding local authority areas will also increase. Fig. 37 presents our forecast of the number of jobs supported by the airport's multiplier impacts in each local authority area in the key assessment years.

Note: since the direct impact only accrues within Luton Unitary Authority, only the supply chain and wage consumption effects generated by the activities at London Luton Airport are reported for local authorities. All figures are presented on a workplace basis.

Fig. 37. Forecast indirect and induced employment impacts of London Luton Airport by local authority area, workplace-based, 2027, 2039 and 2043

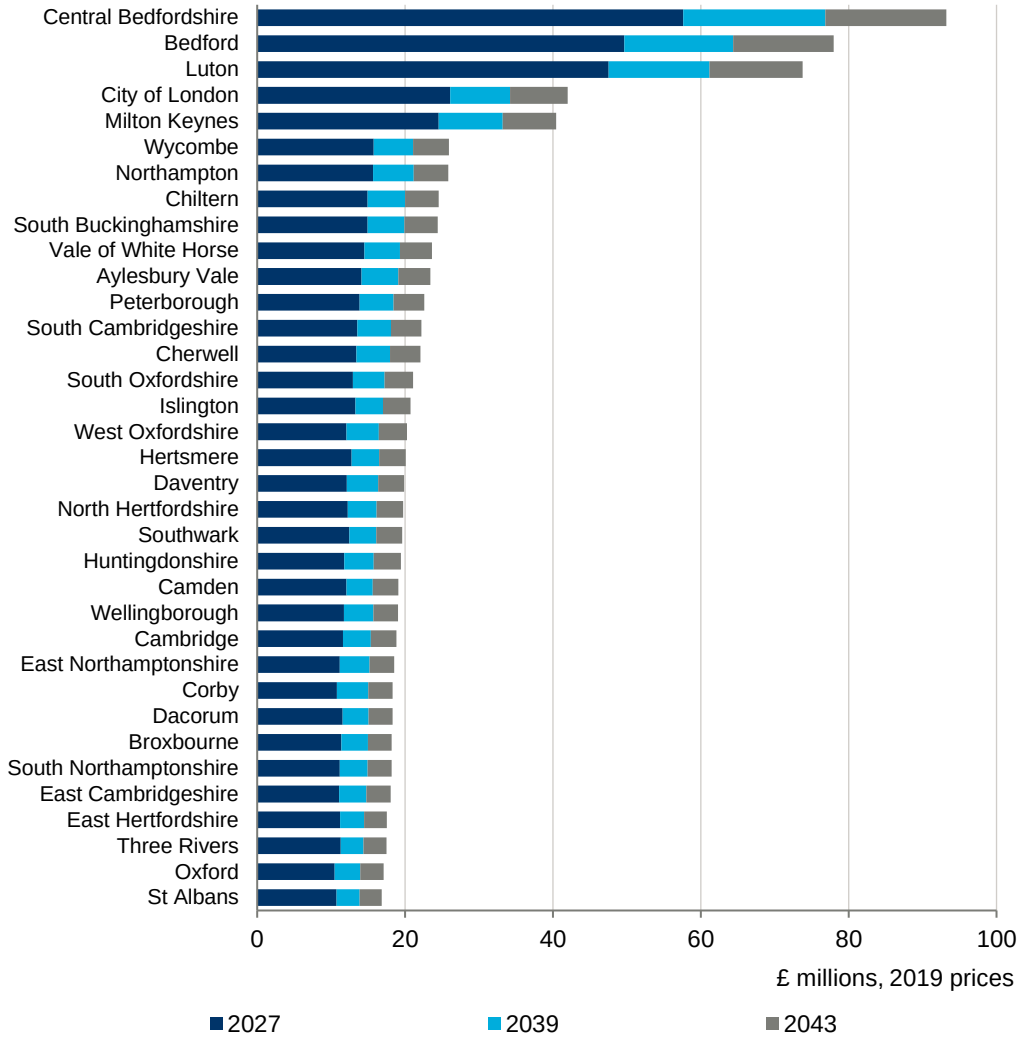


Source: Oxford Economics

In terms of the airport's impact on future local jobs, the largest impact is estimated to occur in Central Bedfordshire where we forecast that over 1,300 jobs could be supported by the indirect and induced effects of the airport by 2043. Similarly, almost 1,100 jobs are supported in Bedford, and just under 500 in Milton Keynes. At least 200 jobs are supported in the local authorities that fall within the counties of Bedfordshire, Buckinghamshire, Hertfordshire, Cambridgeshire and Oxfordshire in 2043.

Our analysis indicates that the future growth at London Luton Airport will also support GDP in the surrounding local authorities through indirect and induced effects (Fig. 38).

Fig. 38. Forecast indirect and induced GDP contributions of London Luton Airport by local authority area, workplace-based, 2027, 2039 and 2043



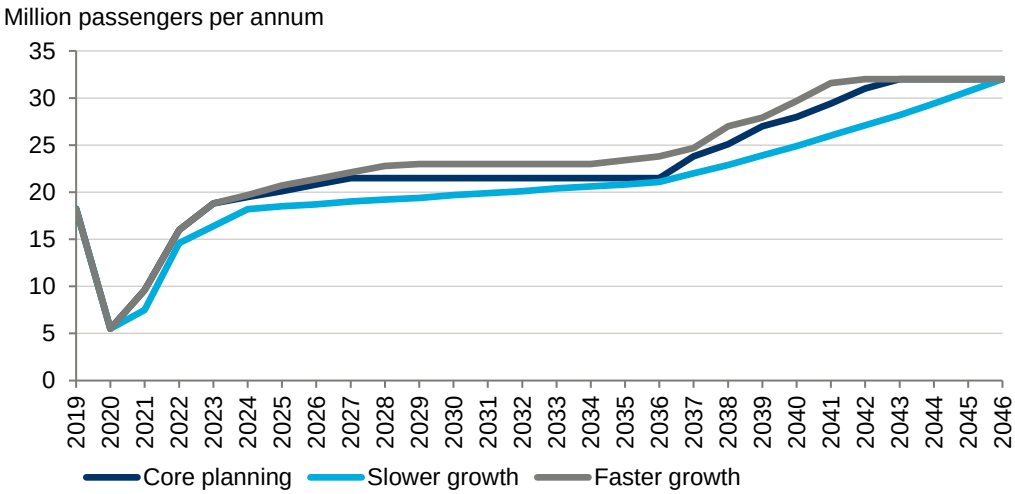
Source: Oxford Economics

4.3 ALTERNATIVE GROWTH SCENARIOS

In addition to the core planning scenario, our analysis also considered faster growth and slower growth scenarios with differing rates of growth in underlying demand and varying assumptions about capacity delivery at other London airports. Once again, these scenarios were developed by York Aviation. Under the faster growth scenario 32 mppa is reached in 2042, one year earlier than in

the core planning scenario. By comparison, 32 mppa is not reached until 2046 in the slower growth scenario (Fig. 39).[40]

Fig. 39. London Luton Airport passenger forecast to 2046 under alternative growth scenarios



Source: York Aviation

4.3.1 Direct contribution

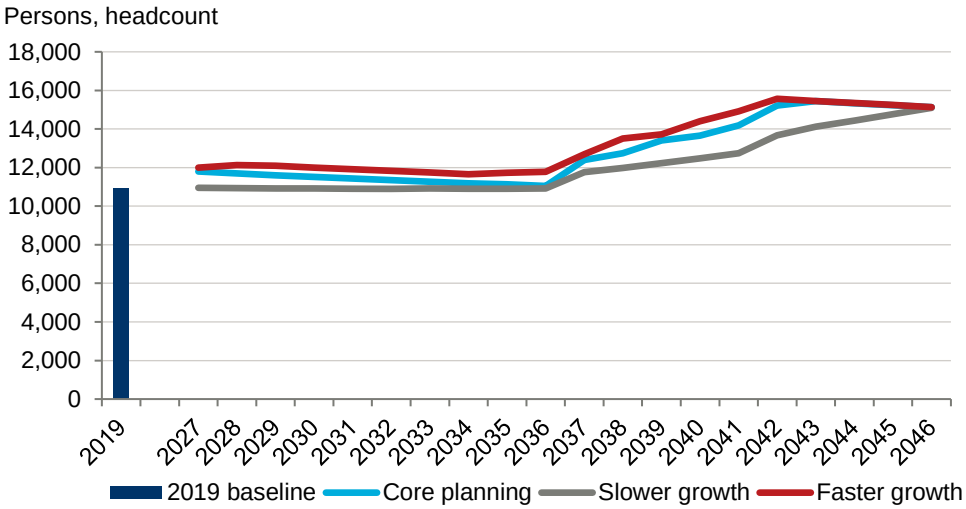
We have re-estimated our economic impact results based on the alternative sets of input assumptions for each scenario. It is important to note that while the scenarios reflect alternative rates of passenger growth, certain aspects of employment at the airport grow independently of passenger throughput. In particular, under all three scenarios our economic forecasts include head office employment which is assumed to grow independently of the level of traffic.

While direct employment at the airport ultimately converges to a similar level across all of the scenarios by 2046, under the faster growth scenario average employment levels are higher throughout the forecast period (Fig. 40). For example, between 2027 and 2038 the faster growth scenario supports and average of 12,100 jobs per year, compared to 11,100 jobs in the slower growth scenario.

Between 2039 and 2046 the equivalent numbers are 15,000 jobs in the faster growth scenario, and 13,700 jobs in the slower growth scenario.

[40] We also analysed a “fallback” scenario in which there was no expansion in Luton’s capacity, causing passenger numbers to be constrained to 18 mppa. The economic impact results for this scenario are presented in Appendix 3.

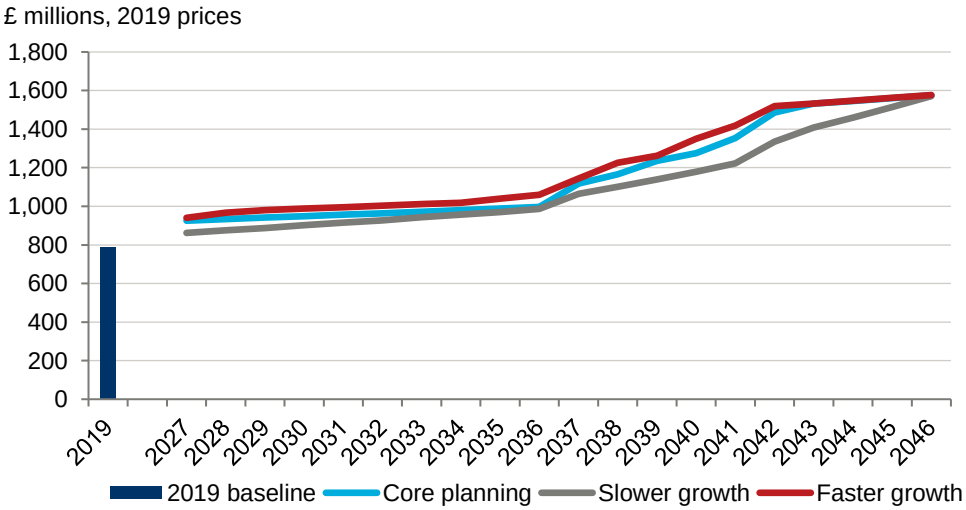
Fig. 40. Direct employment projection under alternative growth scenarios



Source: Oxford Economics

A similar situation arises in relation to the airport's direct GDP contribution (Fig. 41). Between 2027 and 2038 this averages £1.0bn per year in the faster growth scenario, compared to £949m per year in the slower growth scenario. And between 2039 and 2046, GVA averages almost £1.5bn per year in the faster growth scenario, which is some 9% higher than under the slower growth scenario.

Fig. 41. Direct GDP projection under alternative growth scenarios



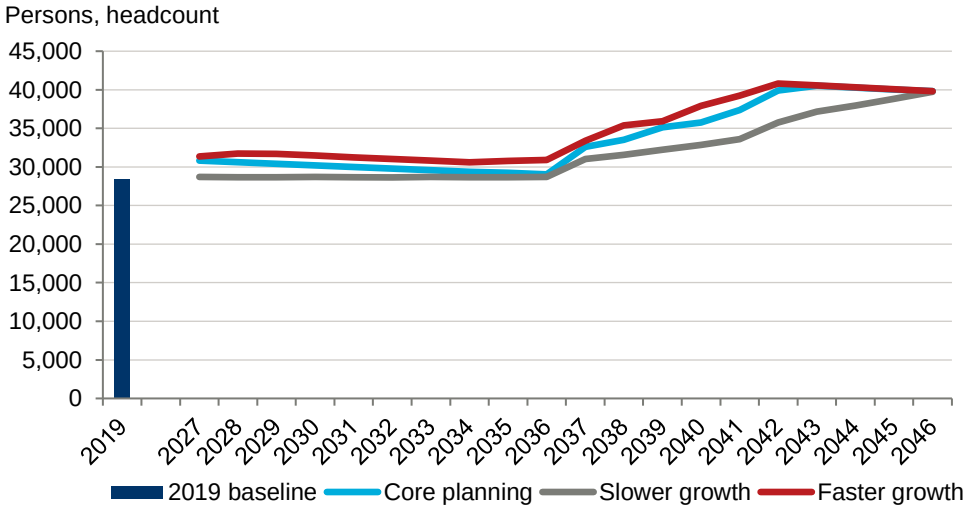
Source: Oxford Economics

4.3.2 Total economic contribution

As well as supporting greater economic activity at the airport itself, faster passenger growth over the next 25 years would deliver greater economic impacts across the UK through indirect and induced multiplier effects.

The total UK employment contribution of London Luton Airport (through, direct, indirect, and induced impacts), would average 39,300 jobs per year under the faster growth scenario between 2039 and 2046, compared to 36,000 under the slower growth scenario (Fig. 42).

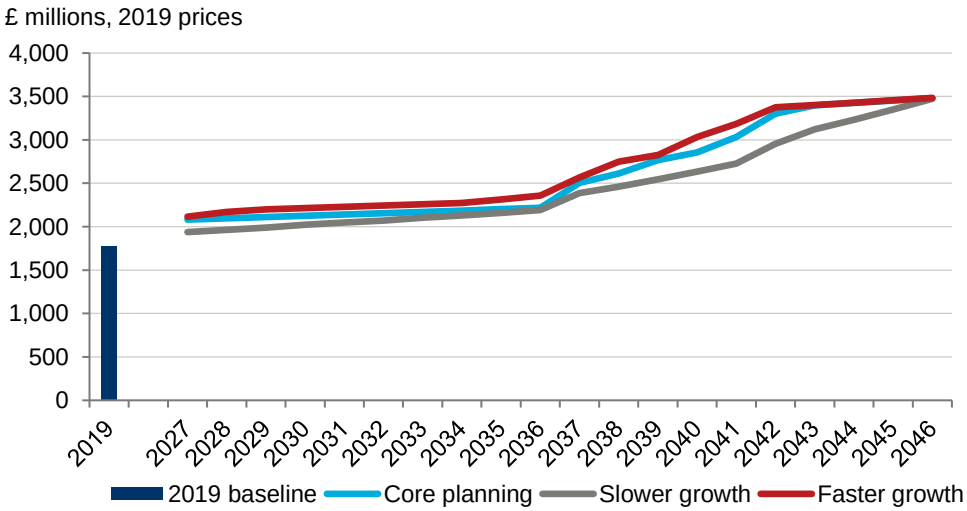
Fig. 42. Forecast total employment contribution of London Luton Airport to the UK under alternative growth scenarios



Source: Oxford Economics

The total GDP contribution of London Luton Airport to the UK economy in the core planning scenario is estimated to average £3.2bn per year between 2039 and 2046. This would increase to £3.3bn under the faster growth scenario, or fall to £3.0bn under the slower growth scenario (0).

Fig. 43. Forecast total GDP contribution of London Luton Airport to the UK under alternative growth scenarios



Source: Oxford Economics

APPENDIX 1: METHODOLOGY

DIRECT EMPLOYMENT

Previous estimates

The 2012 Halcrow study presented a central employment estimate for 2011 based on data from the Business Register and Employment Survey (BRES) and Experian. This approach involved identifying the number of workers employed in certain business sectors within the two "lower level super output areas" within which the airport is situated.[41]

More recent estimates of employment at London Luton Airport were provided by London Luton Airport in its Annual Monitoring Reports. These estimates were developed using the Inter Departmental Business Register (IDBR). The IDBR combines administrative information on VAT traders and PAYE employers with ONS survey data in a statistical register comprising over two million enterprises, representing nearly 99% of economic activity. The airport developed an estimate for airport employment by identifying companies that are located within the airport's boundary and then matching these companies to IDBR data. They added to this list companies that were located on the following streets and business parks:

- Spittlesea Road, Luton
- Frank Lester Way, Luton
- President Way, Luton
- Wigmore House, Luton
- Airport Way, Luton
- Barratt Industrial Park, Airport Way, Luton
- Airport Executive Park, Luton

Prior to its 2019 report, Oxford Economics had estimated employment by growing forward the Halcrow estimate using growth rates derived from the Annual Monitoring Reports. This approach ensured that the direct employment level presented in the study was broadly comparable with the Halcrow study (a requirement at the time of our 2015 study), but also incorporated the latest evidence on how employment at the airport has changed since 2011.

Our approach for our 2019 study

We were asked to undertake a full refresh of the employment estimates in our 2019 study. This was facilitated by access to new information sources which were not available to previous Oxford Economics studies.

Primary sources

In the first instance, we sought to build an employment estimate for London Luton Airport by commissioning a telephone survey of businesses located at and close to the airport. While 35% of businesses surveyed provided a response, these covered only about 10% of the estimated employment at the airport.

We therefore made a series of further requests for employment information to major employers at the airport. This yielded responses from two of the larger airport employers. However, we concluded that

[41] Further details of the methodology used to develop the employment estimate are presented in Chapter 6 of the Halcrow report: http://www.eplan.luton.gov.uk/plannet/documentstore/DC19512388-269-1_01_A.PDF

we still did not have sufficient primary data from the survey and separate requests to develop an estimate of the total level of employment at the airport and so we turned to secondary data sources.

Secondary sources

Oxford Economics was able to secure access to the IDBR database for Luton Borough for 2017 These data show all businesses that make up the Luton economy, other than very small businesses (those without employees and with turnover below the VAT threshold) and some non-profit making organisations. We used these data to estimate the proportion of Luton Borough employment that relates to the airport.

Our objective was to estimate the level of employment on the airport site, or in close proximity to it, which is directly related to the operation of the airport. Employment which falls within the airport boundary but which does not appear to directly relate to operation of the airport was excluded.

An initial list of companies located within the airport boundary was produced by GL Hearn and London Luton Airport. The list was cross-checked with Oxford Economics' own analysis of addresses of businesses within the IDBR database and Google Maps to identify which businesses reside with the airport boundary. We concluded that businesses within the following postcodes should be regarded as within the airport boundary:

- LU2 9NQ
- LU2 9LU
- LU2 9LY
- LU2 9NU
- LU2 9LX
- LU2 9QT
- LU2 9NZ
- LU2 9PF
- LU2 9LS
- LU2 9PA
- LU2 9NW

To estimate employment which is close to the airport, but outside of the airport perimeter we referred to the Annual Monitoring Reports, which identified airport-related businesses within the following streets:

- Spittlesea Road
- Frank Lester Way
- President Way
- Wigmore House
- Airport Way
- Barratt Industrial Park, Airport Way
- Airport Executive Park

We also identified a number of other streets in similar proximity to the airport and added these to the list above:

- Prentice Way
- Percival Way
- Proctor Way
- Prospect Way
- Provost Way
- Prince Way

Having identified a long list of businesses located within the airport boundary and close to the airport boundary, we assigned each business to one of the following categories:

- Direct on-airport employment
- Unrelated on-airport employment
- Direct off-airport employment
- Unrelated off-airport employment

This process of classification was carried out in close consultation with York Aviation. Those businesses that London Luton Airport had previously identified as being part of the airport were automatically classified as either direct on-airport employment or direct off-airport employment. For all other businesses, only those undertaking activities which were judged to form an integral part of the airport were counted as either direct on-airport employment or direct off-airport employment. **Activities judged to be unrelated to operation of the airport were excluded from the analysis**.[42]

Following this high-level classification, direct on-airport and direct off-airport employment were assigned to one of the followings sub-sectors:

- Air traffic control
- Aircraft charter
- Aircraft cleaning
- Aircraft maintenance, repair and overhaul (MRO)
- Aircraft parts supplier
- Airport facilities maintenance
- Airport management
- Aviation related manufacturing
- Border Force
- Bus services
- Car park services
- Car rental
- Cargo airline
- Customs
- Fixed base operator
- Freight forwarder
- Fuelling company
- Ground handler
- Head office related functions
- Hotel
- In-flight catering
- Other security
- Passenger airline
- Police

[42] Over 1,400 jobs were classified as “unrelated on-airport”.

- Restaurant
- Retail
- Tourist services
- Unrelated off-airport employment
- Unrelated on-airport employment
- Warehousing

Some businesses employed workers covering more than one of these activities. In such cases employment was split across the relevant sub-sectors. Again, this classification was carried out in close consultation with York Aviation. This process was also informed by insights from our primary data collection.

The final step in the process was to re-scale all of the estimates based on the ratio between the total employment figure for Luton Unitary Authority reported in in the IDBR, and total employment reported in the BRES open access dataset.[43]

OUR APPROACH FOR OUR 2021 STUDY

For our 2021 study we followed the 2019 approach as closely as possible. We received an extract of the 2019 IDBR data in September 2020 and followed the same process as described above to estimate direct employment. While it was not possible to undertake a new survey of airport employers, we did use certain insights from the survey for the 2019 study to refine our IDBR-estimates in a small number of cases.

As such, the results from our 2019 and 2021 studies are directly comparable to each other. But neither set of results should be compared to those from earlier years which were based on different underlying data sources.

DIRECT GDP CONTRIBUTION

Approach in Oxford Economics studies prior to 2019

The direct gross value added contribution to GDP was estimated as the wages paid to those directly employed at the airport, plus profits (technically known as gross operating surplus) generated by the firms included in our direct estimates.

In previous reports, we calculated London Luton Airport's total wage contribution by multiplying employment estimates by average gross wage estimates for the relevant sectors. These average wages were based on estimates from the Halcrow report, adjusted to account for wage growth.

To estimate profits we uplifted average turnover per employee estimates from the Halcrow study using productivity growth rates for each sector in the East of England, and then multiplied by total employment to obtain an estimate of turnover. We then applied Halcrow's turnover/profit ratio to arrive at a pre-tax profit estimate. Since we were considering the direct impact of London Luton Airport on the whole of the UK we did not make a further adjustment to only count profits attributable to the local economy. This was different to the approach taken by Halcrow themselves.

[43] This step ensures that our analysis is aligned with the total employment figure for Luton Unitary Authority which is in the public domain. It also allows us to account for slight definitional differences between the two data sources. Specifically, the IDBR does not include data on very small businesses (those without employees and with turnover below the VAT threshold) and some non-profit making organisations, while these are included BRES.

Our approach for the 2019 and 2021 studies

For our most recent studies, because of the "bottom-up" nature of our modelling, we have been able to take a more detailed approach to estimating the direct contribution to GDP.

We applied a productivity estimate to each worker within the direct employment estimate.[44] These estimates were added together across all employees to form a total estimate of GDP for the airport.

To calculate the appropriate level of productivity for each worker, we mapped the employment of each sub-sector to a 5-digit SIC sector. In an ideal scenario, we would apply corresponding SIC5 productivity estimates for each sub-sector, but data are not published at this level of detail. We instead used the lowest level of SIC productivity data that we could acquire, which yielded a combination of SIC2, SIC3 and SIC4 productivity estimates. The table below shows how we mapped each sub-sector to its corresponding SIC5 sector and the level of productivity value applied.

Fig. 44. Sub-sector mapping

Sub-sector	SIC 5 category	SIC level productivity estimates are available for
Air traffic control	52230 : Service activities incidental to air transportation	5223
Aircraft charter	51102 : Non-scheduled passenger air transport	51
Aircraft cleaning	81222 : Specialised cleaning services	8122
Aircraft maintenance, repair and overhaul (MRO)	33160 : Repair and maintenance of aircraft and spacecraft	3316
Aircraft parts supplier	30300 : Manufacture of air and spacecraft and related machinery	303
Airport facilities maintenance	81210 : General cleaning of buildings	8121
Airport management	52230 : Service activities incidental to air transportation	5223
Aviation related manufacturing	30300 : Manufacture of air and spacecraft and related machinery	303
Border Force	84240 : Public order and safety activities	84
Bus services	49319 : Urban, suburban or metropolitan area passenger land transport	4931
Car park services	52219 : Other service activities incidental to land transportation	5221
Car rental	77110 : Renting and leasing of cars and light motor vehicles	7711
Cargo airline	51210 : Freight air transport	51
Customs	84110 : General public administration activities	84
Fixed base operator	52230 : Service activities incidental to air transportation	5223
Freight forwarder	52290 : Other transportation support activities	5,229
Fuelling company	52230 : Service activities incidental to air transportation	5223
Ground handler	52230 : Service activities incidental to air transportation	5223
Head office related functions	70100 : Activities of head offices	701
Hotel	55100 : Hotels and similar accommodation	551
In-flight catering	56210 : Event catering activities	5621

[44] An exception to this approach was for the airport operator, for which we were able to estimate a value directly from published 2019 annual accounts.

Other security	80100 : Private security activities	801
Passenger airline	51101 : Scheduled passenger air transport	51
Police	84240 : Public order and safety activities	84
Restaurant	56101 : Licensed restaurants	56
Retail	47110 : Retail sale in non-specialised stores with food, beverages or tobacco predominating	47
Taxi	49320 : Taxi operation	4932
Tourist services	79120 : Tour operator activities	7912
Warehousing	52102 : Operation of warehousing and storage facilities for air transport activities	521

Productivity levels were based on SIC 2 estimates for the East of England from the Oxford Economics regional model. These estimates are, in turn, derived from detailed ONS regional accounts data and BRES employment estimates. Where possible, we used ONS Annual Business Survey data to refine our SIC2 estimates to SIC3 or SIC4 level, by multiplying our regional model estimate by a ratio derived by dividing the ABS SIC3 or SIC4 values by the ABS SIC2 estimate.[45]

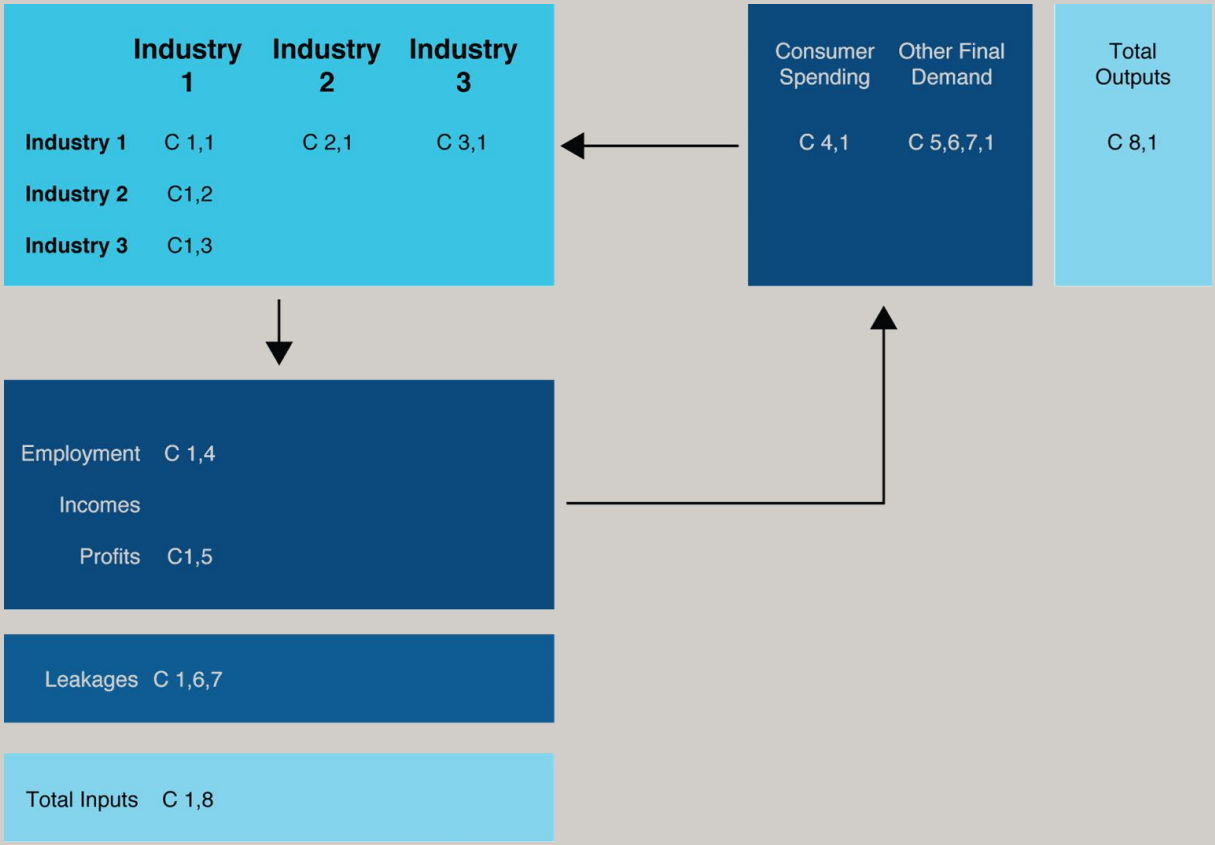
OVERVIEW OF INPUT-OUTPUT MODELLING APPROACH FOR THE UK

Input-output tables are designed to give a snapshot of an economy at a point in time, showing the major spending flows. These include “final demand” (i.e. consumer spending, government spending and exports to the rest of the world); intermediate spending patterns (i.e. what each sector buys from every other sector—the supply chain); how much of that spending stays within the economy; and the distribution of income between employment income and other income (mainly profits). Input-output tables are therefore particularly useful when estimating indirect and induced economic impacts.

The idea behind the input-output table is that the economy can be divided into a number of producing industries, and that the output of each industry is either used as an input into another industry, or in final consumption. For example, grain produced by the farm sector becomes an input into flour milling; flour produced by the milling sector becomes an input into the baking sector; and so on. In essence an input-output model is a table that shows who buys what from whom in the economy.

[45] For the airport management category, we also used information from company accounts to calibrate our estimate of GVA, output, and productivity.

Fig. 45. A simplified input-output model



Reading across horizontally illustrates the distribution of each industry's output, split between intermediate demand from other industries (used as an input to production) and final demand (consumer spending, exports and other government consumption). Therefore, Industry 2 in Fig. 45 purchases an amount, C2,1 from Industry 1 as an input to their production process. Reading down vertically indicates what each industry purchases from other industries in the national economy by way of inputs which, when combined with imports from abroad (leakages), employment costs, operating surplus and any additional taxes or subsidies to production, gives total inputs, and will equal total outputs. In the model illustrated in Fig. 45, C8,1 will equal C1,8.

A common application of domestic use input-output tables is to create multipliers which can be used to illustrate how an increase in demand in one sector affects the whole economy:[46]

- Type I multiplier—estimates the impact on the whole economy of £1 spent in a given industry, through its supply chain.
- Type II multiplier—includes the Type I multiplier, but also includes the effect of spending by households as a results of the additional employment generated by the additional £1 spend. The multipliers reported in this report are Type II multipliers.

To calculate the indirect and induced impacts for London Luton Airport, domestic-use input-output tables, available for the UK economy from the ONS, were used to build a bespoke input-output model.

[46] In a domestic IO table intermediate demand has been adjusted to remove the effects of imports. Imports are itemised in a different part of the IO table.

Amongst other things, this model enabled us to estimate the value of purchases each type of activity at the airport makes from other sectors of the economy.

Adjustment to remove double counting of supply chain expenditures accruing within the airport

Within the context of an airport, the estimation of indirect impacts is further complicated by the fact that some of the supply chain purchases will be made from other companies at the airport. For example, an airline may purchase its fuel from a fuelling company at the airport. We need to exclude the impact of these purchases from our supply chain estimates as they have already been counted within our estimates of the direct impacts. Ideally such assumptions would be based on procurement data provided by companies at the airport. However, no such information was available to this study. We have therefore made the following assumptions, informed by discussions with York Aviation:

- We assume that 100% of direct revenues in the following categories reflect purchases by other companies included in our direct estimates: facilities maintenance, warehousing, other security and tenant income accruing to the airport operator.
- We assume that 55% of revenues accruing in the following categories reflect purchases by other companies included in our direct estimates: airport management, air traffic control, aircraft cleaning, fuelling, ground handling, in-flight catering, and traffic income accruing to the airport operator. The 55% assumption reflects the share of seats on airlines included in our direct estimates. The remaining 45% of purchases in these categories are assumed to be made by airlines which are not included in our direct estimates.
- We assume that 25% of commercial income accruing to the airport operator comes from other companies at the airport. This is based on information from a benchmark airport, as advised by York Aviation.

To operationalise these adjustments, we worked through the following process:

(1) We estimated the turnover of each of the sub-sectors identified in the list above by applying average turnover:GVA ratios to the direct GVA of that sub-sector.
(2) We then estimated the value of turnover to be removed from the supply chain by applying the assumed percentages listed above to the turnover estimates from step (1).
(3) We removed the values estimated in step (2) from our estimates of supply chain expenditure. The values were removed by identifying a “best-fit” between the airport sub-sectors and the industries in the input-output model. This process took into account the need to avoid negative supply chain spending in any of the input-output model categories.

In total, this adjustment process resulted in a 26% reduction in the value of first-round supply chain spending that the airport injects into the rest of the UK economy.

SUB-NATIONAL IMPACT MODELLING APPROACH

The above approach was used to quantify the indirect and induced impacts at the UK level. Another important element of this study is to consider the geographical distribution of these multiplier effects to understand how London Luton Airport affects levels of economic activity in surrounding sub-regions and local areas.

The sub-national impact modelling is carried out in two broad stages and follows a top-down approach. First, we model the economic impact of Luton Airport at the regional and county level, which are the necessary geographical building blocks to aggregate the results to the broader sub-regions identified in the study brief.[47] Second, the regional and county level impact results are

[47] Aggregates of London boroughs were used to define the London Thameslink Corridor.

disaggregated into parliamentary constituencies, local authorities, wards and towns, for more localised estimates of economic impact.

Regional and county level modelling approach

An analysis of the geographical distribution of supply chain expenditure is used to determine the indirect impact of Luton Airport. For our 2015 study, we gathered information on the geographical distribution of supply chain expenditure from major firms based at London Luton Airport. This information covered 8% of estimated supply chain purchases and for this portion of spending it was possible to develop a very accurate picture of the distribution of supply chain impacts. We were unable to obtain updated information of this type for this study, so we applied the geographical pattern implied by the 2015 dataset to 9% of supply chain spending.

When firm level supply chain spending is unavailable, we estimate the geographical distribution of the remaining 91% of supply chain spending using location quotients[48] and data on the regional distribution of economic activity by sector.[49] This approach is consistent with the previous studies.

The impact of this supply-chain spend was assessed using inter-regional input-output models developed by Oxford Economics and based on established academic techniques initially developed by Flegg and Webber.[50] The approach involves constructing regional and county level input-output models by applying location quotients and regional size adjustments to the standard UK input-output tables. Oxford Economics' published forecasts were used to provide data on location quotients and employment at the regional and county level.[51]

In the case of induced effects, no "real" data were available to identify where London Luton Airport workers actually spend their wages. We therefore assumed that most spending is likely to take place close to workers' place of residence, and will therefore support GDP and employment in those areas.

Information on employees' post code of residence was used to estimate the number of employees that live in Luton and each of the surrounding local authorities. The place of residence data were provided by a sample of airport employers during the data collection phase for the 2019 study, and relate to the situation in 2017 and 2018. Employees' post code of residence data covered approximately 40% of London Luton Airport employees. We assumed this to be representative of all airport employees.

This was the starting point for our analysis of induced impacts, but in cases where this results in an unrealistically large injection to the local economy (given the economic structure and average spending per head in that local area) induced impacts are assumed to spill over into neighbouring areas. The spending adjustment and a quantum that is absorbed by neighbouring areas is calculated using regional input-output tables.

To calculate the indirect and induced gross value-added contribution to GDP (i.e. GVA), the total expenditure effect (derived from the input-output models) is multiplied by sector-level GVA to gross output ratios, again calculated from the ONS input-output tables.

To calculate the impact on employment, labour productivity in each industry sector in the supply chain was applied to the respective component of the GVA figures.

[48] A location quotient indicates the degree of concentration of a particular industry in a particular location.
[49] Flegg and Webber, (2000), 'Regional Size, Regional Specialization and the FLQ Formula'. Regional Studies, Vol. 34.6, pages 563–569.
[50] *ibid*
[51] October 2018

Parliamentary constituency and local authority impact modelling

Parliamentary constituency and local authority level estimates of the indirect and induced impact of Luton Airport were produced once the regional and county level estimates had been finalised. We disaggregated the county impact estimates into parliamentary constituencies and separately disaggregated the county level impact estimates into local authorities, as in each instance the smaller geographical area can be aggregated to precisely match the broader geographical area. By following this approach, we were able to ensure consistency with the impact estimates for the broader geographies.

The allocation of the broader indirect and induced jobs and GVA impacts into each of the smaller areas is based on location quotients and each area's share of county-level sector employment, from BRES. The two scalers are used to ensure the allocation of impact to the parliamentary constituency and local authority areas reflects both the absolute size of each industry in each smaller geography, but also the degree of specialisation or concentration of each industry in a smaller area, relative to that in its encompassing county or region.

Town level impact modelling — results are presented in Annex 4

Estimates of the indirect and induced impact of Luton Airport were also prepared for several towns within the overall study area. In some instances, the estimate produced at the local authority area provides a suitable approximation, as in the case for Luton and Stevenage. For the towns that do not align well with the local authority boundaries, we estimated indicative GVA and employment impacts using electoral wards as building blocks.

Our approach for the town level impact modelling is akin to that used to estimate the parliamentary constituency and local authority area impacts. In this case we apportioned the local authority impacts to their constituent wards based on sectoral employment using location quotients. This approach means that the building blocks used to produce the town level estimates are consistent with the local authority estimates.

The final step involved aggregating individual ward impacts to each requested town on a ”best fit” basis, using mapping software available on NOMIS web. The wards used to define each town are listed below.

- **Harpenden** (comprising the 2019 wards of Harpenden North, Harpenden South, Harpenden East, and Harpenden West)
- **St. Albans** (Marshalwick North, Marshalwick South, Batchwood, St Peters, Ashley, Cunningham, Sopwell, Verulum, and Redbourn)
- **Leighton Buzzard** (Leighton Buzzard North, Leighton Buzzard South, and Linsale)
- **Dunstable** (Dunstable Central, Dunstable Icknield, Dunstable Manshead, Dunstable Northfields, and Dunstable Watling)
- **Hemel Hempstead** (Adeyfield East, Adeyfield West, Apsley and Corner Hall, Bennetts End, Boxmoor, Chaulden and Warners End, Gadebridge, Hemel Hempstead Town, Highfield, Leverstock Green, Nash Mills, and Woodhall Farm),
- **Hitchin** (Hitchin Bearton, Hitchin Highbury, Hitchin Oughton, Hitchin Priory, and Hitchin Walsworth)
- **Tring and Pitstone** (Tring Central, Tring East, Tring West and Rural, and Pitstone and Cheddington)
- **Welwyn Garden City** (Haldens, Handside, Hollybush, Howlands, Panshanger, Peartree, and Sherrards)

- **Aylesbury** (Bedgrove, Central & Walton, Coldharbour, Gatehouse, Mandeville and Elm Farm, Oakfield and Bierton, Riverside, Southcourt, Walton Court & Hawkslade, and Watermead)
- **Caddington/Slip End** (Caddington)

METHODOLOGY FOR ESTIMATING TAX IMPACTS

Estimated tax revenues comprise six elements: Corporation tax, taxes on products, taxes on production, income tax, employee and employer National Insurance (NI) contributions and Air Passenger Duty (APD).

The estimates of **corporation tax** are based on information on corporation tax payable by economic sector from HM Revenue and Customs. The relationship between corporation tax paid and the profit or loss of a sector (technically known as gross operating surplus (GOS)) is calculated for each sector and that is applied to the more detailed industry estimates of GOS. All industry estimates are scaled to total corporation tax receipts for 2016 to maintain consistency with published figures. Corporation tax payments made by London Luton Airport Operations Ltd (LLAOL) in 2019 were drawn directly from published annual accounts.

Tax payments related to employment are based on gross earnings per worker by industry. Data are drawn from the ONS publication Annual Survey of Earnings an Hours (ASHE) that provides total gross earnings by industry by work pattern (FT/PT) and by income percentile; and employment by industry by work pattern published in the Business Register and Employment Survey (BRES). For each worker in each industry we calculate the proportion of total worker gross income paid as income tax and the employee and employer contributions to NI by applying the appropriate tax rate to gross annual pay following deduction of personal allowances.

Taxes on production consist of taxes that firms incur because of engaging in economic activity, irrespective of the quantity or value of the goods and services produced or sold. In the UK, there are two main taxes on production: business rates and vehicle excise duty. The relationship between taxes on production paid and the GVA of each industry is derived from the ONS Supply-Use Tables and applied to the estimated GVA of each industry.

Taxes on products are payable per unit of some good or services produced or transacted. They are levied by government. Examples include taxes and duties on imports, VAT (net), excise duties (e.g. fuel, alcohol and tobacco), climate change levy, and APD.[52] Taxes on products are payable by firms whether or not profits are made. Akin to the estimation of taxes on products, the relationship between taxes on products paid and the GVA of each industry is derived from the ONS Supply-Use Tables and applied to the estimated GVA of each industry.

Air Passenger Duty

APD is due on aircraft that depart from airports in the UK and carry passengers (with a few exceptions, including international to international interliners).[53] The applicable duty rate depends on the final destination of the passenger, and the class of travel (for example, economy or premium). A two-band destination band structure applies based on geographical distance from London to the

[52] Our estimate of taxes on products includes APD which is also calculated and reported separately in this study. At the UK level, APD constitutes around 1.5% of taxes on products paid by firms in the UK, of which APD from London Luton Airport will be a relatively small share. We do not therefore believe that the impact of this double counting is likely to be material.

[53] International to International interliners (I to I) are inbound international passengers who are booked to continue their journey (to an international destination) within 24 hours of their scheduled time of arrival in the UK.

capital city of the destination country. The two bands are band A (0-2,000 miles) and band B (more than 2,000 miles). APD is not paid for children under the age of 16.

The overall number of passengers by APD band and class of travel from Luton Airport were sourced from the CAA Passenger Survey 2019. The number of APD liable passengers was then derived by removing passengers aged under 16, who are exempt from APD, using the age of Luton passengers from the CAA Passenger Survey. We then imposed the assumption that any passenger travelling in premium class within the survey is aged 16 or over, to provide a conservative estimate of APD generated at Luton Airport.

FORECAST METHODOLOGY

Direct employment forecast

Seven distinct driver variables were identified and estimated by York Aviation and used to forecast the activities of direct on-airport and direct off-airport businesses at London Luton Airport:

- **Passengers—**the annual number of terminal passengers
- **Freight tonnage—**tonnes of air cargo loaded and unloaded each year at London Luton Airport and carried by dedicated cargo flights or in the bellyhold of passenger aircraft
- **Total aviation movements—**annual number of all air transport movements (ATMs)
- **Business aviation movements—**non-commercial business ATMs
- **Passenger airline aircrew requirements—**pilot and air crew requirements to meet projected commercial ATMs. This projection includes an assumption to reflect future aircraft size and the associated crew requirements on aircraft of different sizes
- **MRO space—**on-site space available for aircraft maintenance, repairs and overhaul, measured in m^2
- **Head office employment—**separate growth profiles for TUI and easyJet were identified by York Aviation. No annual employment growth was assumed for TUI to 2043. For easyJet, an annual employment growth of 1.5% per year was assumed to 2043.

In our baseline "productivity-based" approach, each sub-sector in our economic model was assigned a forecast driver. Employment in that sub-sector was then projected forwards in line with the growth rate of its respective forecast driver. A forecast for real productivity growth was then applied to each worker within the sub-sector's direct employment forecast. To do this, each sub-sector was mapped to a 2-digit SIC sector, and the productivity growth rate for that 2-digit sector was applied using forecasts for the East of England region from the Oxford Economics' regional model.

For our 2019 study we also tested an alternative "elasticity-based" approach, *under which each sub-sector in our economic model was assigned the same forecast driver as used in the baseline approach. However, rather than applying a forecast for real productivity growth to initial employment forecast in each sub-sector, an elasticity was applied. The elasticity measured the responsiveness of employment growth in each sub-sector relative to the growth in its respective driver variable. For example, in the retail sub-sector, an elasticity of 0.2 was applied, implying that 10% growth in the driver variable will translate to 2% growth in retail employment. The assumed elasticities were provided by York Aviation. When we compared the results under the two approaches in our 2019 study they were found to be very similar and as such we have only presented results under the "productivity-based" approach in this 2021 update.*

For the sub-sectors primarily related to terminal operations, we incorporated a "Two-terminal inefficiency factor". This adjustment was used to account for the potential duplication of activity once the second terminal is opened. The "Two-terminal inefficiency factor" was provided by York Aviation. For this 2021 study it took the value of 15% and was applied to 2037 the first full year that Terminal 2 is assumed to operate.

Fig. 46. Sub-sector forecast driver variables

Sub-sector	Driver variable	Sector productivity driver (2-digit SIC)	Adjustment for T2
Passenger airline	Passenger airline aircrew requirements	51:Air transport	no
Aircraft charter	Business ATMs	51:Air transport	no
Fixed base operator	Business ATMs	52:Warehousing and support activities	no
Cargo airline	Freight Tonnage	51:Air transport	no
Freight forwarder	Freight Tonnage	52:Warehousing and support activities	no
Warehousing	Freight Tonnage	52:Warehousing and support activities	no
Head office related functions	Employment growth for TUI and easyJet	n/a	no
Aircraft maintenance, repair and overhaul (MRO)	MRO Space (m2)	33:Repair and installation of machinery	no
Aircraft parts supplier	MRO Space (m2)	30:Manufacture of other transport equipment	no
Aviation related manuf.	MRO Space (m2)	30:Manufacture of other transport equipment	no
Bus services	Passengers	49:Land transport and transport via pipe	no
Car park services	Passengers	52:Warehousing and support activities	no
Taxi	Passengers	49:Land transport and transport via pipe	no
Air traffic control	Total ATMs less Business ATMs	52:Warehousing and support activities	no
Airport facilities maintenance	Passengers	81:Services to buildings	yes
Border Force	Passengers	84:Public administration and defence	yes
Customs	Passengers	84:Public administration and defence	yes
Fire Service	Total ATMs less Business ATMs	84:Public administration and defence	no
Police	Passengers	84:Public administration and defence	no
Aircraft cleaning	Total ATMs less Business ATMs	52:Warehousing and support activities	no
Aviation related training	Passengers	52:Warehousing and support activities	no
Fuelling company	Total ATMs less Business ATMs	52:Warehousing and support activities	no
Ground handler	Passengers	52:Warehousing and support activities	yes
In-flight catering	Passengers	56:Food and beverage service activities	no
Tourist services	Passengers	79:Travel agency, tour operator and other	no
Retail	Passengers	47:Retail trade, except of motor vehicles	yes
Hotel	Passengers	55:Accommodation	yes
Restaurant	Passengers	56:Food and beverage service activities	yes
Car rental	Passengers	77:Rental and leasing activities	yes
Airport management	Passengers	52:Warehousing and support activities	yes
Other security	Passengers	80:Security and investigation activities	yes

Direct hotel employment

Three hotels known to operate within the vicinity of London Luton Airport were not included in the IDBR 2019 dataset and therefore the employment associated with these hotels needed to be

estimated. Our estimation approach was based on the actual number of rooms at each hotel. We assumed that each room contained two bed spaces which then allowed us to assign an employment density to estimate the level of employment. These densities provide guidance on the likely number of FTE workers for every bed in a hotel.[54] In broad terms, the higher the quality of a hotel, the higher the number of FTE workers per bed. The employment density applied to each hotel was based on the range of facilities and service levels provided, as described on their website. As a final step, we translated the number of FTE workers into headcount jobs, based on the ratio of part-time staff to FTE reported in the HCA density guide.

We also needed to consider that some additional hotel employment may be sustained on-site in two planned hotels expected to open within our forecast period (i.e. before 2043). Using the same methodology outlined above, we estimated hotel employment based on the number of rooms at Hotel A (145 rooms) and Hotel B (624 rooms). Our forecasts assume that Hotel A opens in 2035 and Hotel B opens in 2039.

Forecast direct GDP contribution

To forecast the gross value added contribution to GDP in each sub-sector we multiplied the sub-sector employment forecast by our forecast of productivity growth of each worker in that sub-sector. To do this, productivity for each sector was mapped to a 2-digit SIC sector, and the productivity growth rate for that 2-digit sector for the East of England was applied to the 2019 estimate of sub-sector productivity at the 5-digit SIC sector level (details of the sector mapping used are shown in Fig. 44). Finally, an Oxford Economics forecast of the UK GDP deflator was applied to all sub-sector GDP forecasts to derive the direct GDP contribution in constant 2019 prices.

Forecast indirect and induced GDP and employment

To quantify the indirect and induced impacts over the forecast period we followed the same top-down approach used to produce the 2019 “multiplier” impacts, which can be summarised in two broad stages.

First, separate Input-Output models were constructed at the UK, regional and county level for each year. While the core behavioural relationships remain unchanged each year (e.g. the proportion of total spending that a sector will buy from other sectors to produce one unit of output, or the distribution of income between employment income and other income (mainly profits)), the different sub sector growth profiles for direct GDP and direct employment, will lead to changes in both the level and composition of supply-chain spending and wage income arising from the activities of London Luton airport that are injected in to each model. This changing profile of supply-chain spending alongside the different wages paid to workers in each sub sector in turn drives the forecast of indirect and induced impact of the airport.

In the second stage, the indirect and induced impacts were produced for the local authority, parliamentary constituency, ward, and town level geographies. The allocation of the broader indirect and induced jobs and GVA impacts into each of these areas was based on location quotients and each area’s share of sector employment, calculated using local authority level employment forecasts by sector sourced from Oxford Economics published regional and sub-regional forecasts.[55] Therefore, the distribution of employment across different sectors is updated to reflect the forecast change in the sectoral distribution of activity across local areas from Oxford Economics’ forecasts.

[54] Homes & Communities Agency (HCA), *“Employment Density Guide, 2015”* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/484133/employment_density_guide_3rd_edition.pdf
[55] Oxford Economics, October 2020

The impact of the COVID-19 pandemic

The COVID-19 pandemic has generated significant uncertainty for the aviation industry in the short term and it is still too early to determine how and by how much it may continue to impact on the industry in the medium to longer term. Our economic modelling assumes a return to stability by 2027, such that previously observed relationships between airport activity and economic impact have been restored by that point. That is, we assume that the impact of Covid-19 does not lead to shifts in the long-term path of productivity growth for activities at the airport. At the time of writing this remains an assumption, and the situation should be kept under review in any further updates of this work as more data points become available.

APPENDIX 2: COMPARISON OF RESULTS TO 2019 STUDY

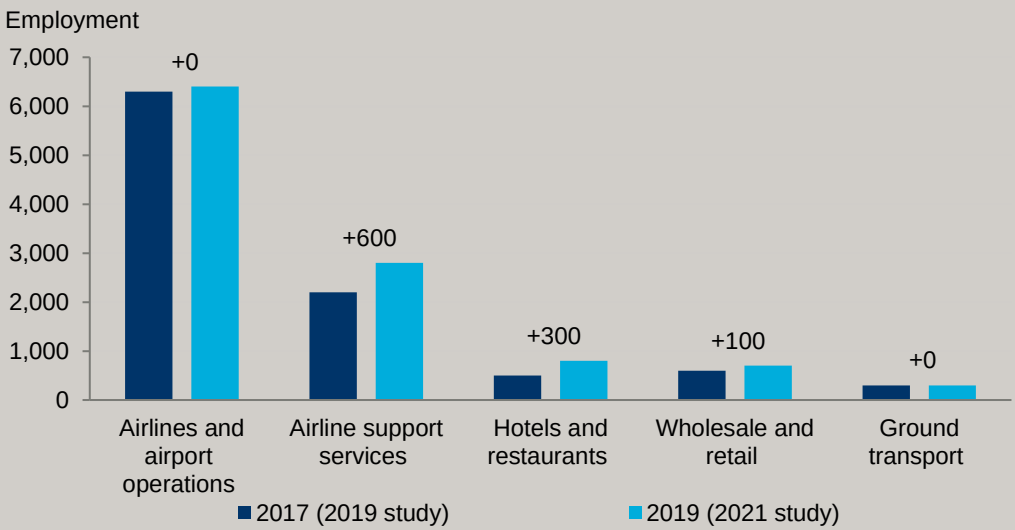
2017 BASE YEAR (ESTIMATED IN 2019 STUDY) VS 2019 BASE YEAR (ESTIMATED IN THE CURRENT STUDY)

Direct employment contribution

In our 2019 study, we estimated that London Luton Airport directly supported 9,900 jobs in 2017. The equivalent figure in this study has risen to 10,900 in 2019, an increase of 11%.[56] Between 2017 and 2019 the number of passengers travelling through the airport increased by 14%, from 16.0 mppa to 18.2 mppa. Therefore our base year economic impact estimates in this study relate to a higher level of activity at the airport compared to the base year results in our 2019 study.

The more recent ONS data suggest that the largest increases in employment between the two studies occurred in airline support services and hotels and restaurants (Fig. 47). The closure of Monarch reduced employment in the airlines and airport operations category, and in airline support services. However, the change is not observable in the aggregated results shown below because the negative impact of Monarch's closure was offset by employment growth amongst other employers in these groups.

Fig. 47. Comparison of direct employment by broad activity in base year



Source: Oxford Economics

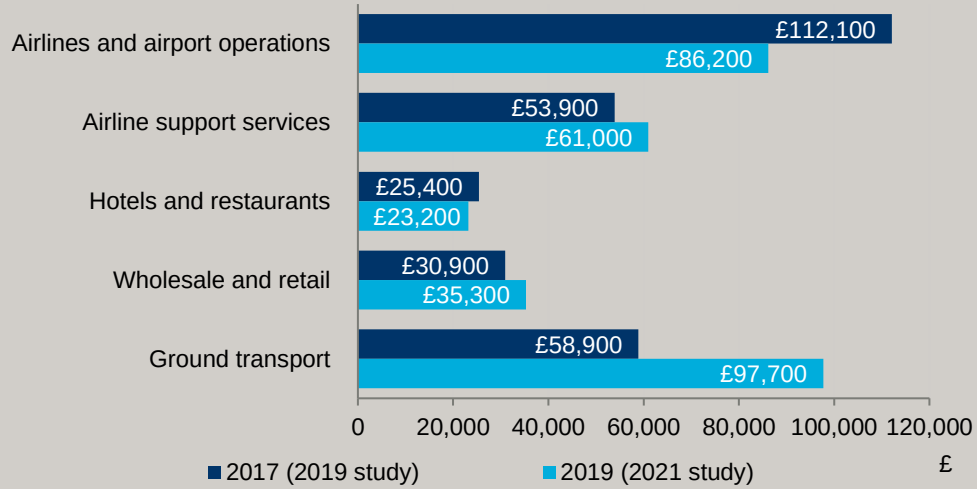
Productivity

To estimate the airport's direct GDP contribution we multiplied employment in each of 31 detailed sectors by estimated productivity (measured in terms of GVA per worker).[57] Fig. 48 below compares

[56] All of the figures referenced in this comparison relate to the core planning scenario in both studies.
[57] To avoid disclosing potentially confidential information we are only able to report results for the five broad sectors in our report.

productivity in each of the five broad sectors in the 2017 base year (reported in 2019) and the 2019 base year (used in the current report).

Fig. 48. Comparison of productivity by broad activity in base year, £ in 2019 prices



Source: Oxford Economics

These changes in productivity between the two base years occur for three main reasons:

- All else equal, we would expect labour productivity to grow over time as processes become more efficient, for example due to changes in technology. This should mean that the number of workers needed to undertake a given quantity of work is different in 2019 to 2017.
- Data revisions—the ONS routinely revises its datasets as new information becomes available. In creating both the 2017 and 2019 base year estimates we have used the most recent ONS statistics available at the time of preparing each study to provide the best-possible assessment of the airport's economic impact at each point in time.
- Changes in the distribution of activity *within* each broad sector. As noted above, our model operates at the level of 31 detailed sectors. Changes in the employment mix of detailed sectors within each broad sector impact on the average productivity for broad sectors.

For three of the five sectors these factors result in changes in productivity of less than 15% between the two sets of base year estimates. The two exceptions to this are:

- Airlines and airport operations, where productivity has fallen noticeably between the two studies. Based on the latest ONS data available for this study, we estimate that productivity in passenger airlines, aircraft charter and cargo activities was 42% lower than estimated at the time of our earlier study (once again, using the most recent ONS data available at that time). This is only partially offset by an estimated increase in productivity in airport management and air traffic control. Overall, we estimate that productivity for the broad activity airlines and airport operations in the base year has decreased by 23% in this study compared to the 2019 study.
- Ground transport, where productivity has increased by 66%. This is primarily due to the incorporation of the latest ONS data for the rental and leasing activities sector in the East of England, as well as a change in the distribution of employment within ground transport towards higher-productivity sectors.

Overall productivity at the airport is given by the employment-weighted average of productivity in the five broad sectors. We estimate average productivity at the airport to be £72,300 in the most recent

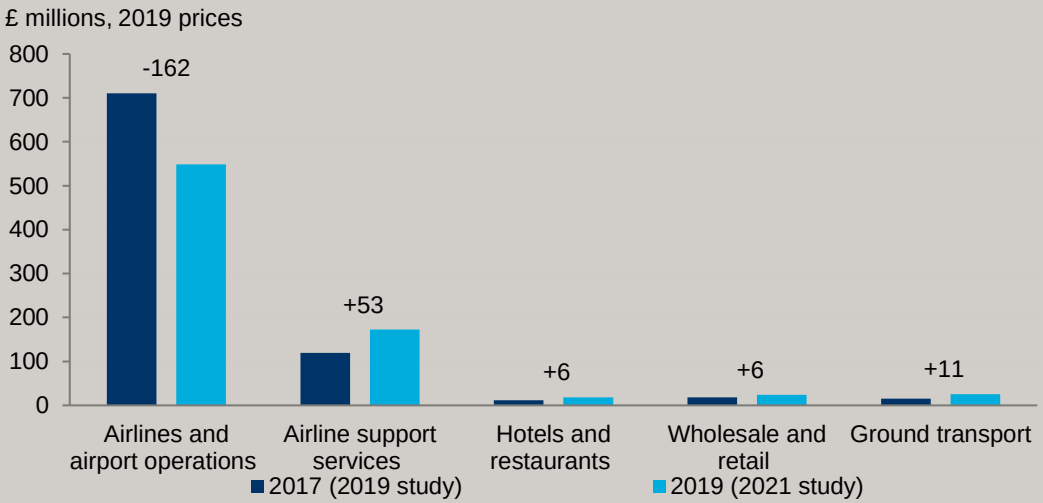
base year, a 19% reduction from £88,700 in our previous study.[58] More than half of workers are employed within airlines and airport operations and so the reduction in productivity for this sector has a strong impact on the overall average.

The overall reduction in productivity also reflects that employment has grown most strongly in the three sectors with the lowest productivity (airline support services, hotels and restaurants, and wholesale and retail), and so there has been a shift in the overall distribution of employment towards lower-productivity sectors.

Direct GDP contribution

To estimate the airport's direct GDP contribution, we multiply employment in each sector by productivity for that sector. This gives us the results shown in Fig. 49 below.

Fig. 49. Comparison of direct GVA by broad activity in base year, £m in 2019 prices



Source: Oxford Economics

This reveals that combining the updated employment and productivity data results in a higher base year GVA value in four of the five sectors. However, the significant reduction in estimated productivity for airlines and airport operations, combined with that sector's large share of employment, results in a reduction of GVA of £162 million. This is greater than the increase in GVA in the other four sectors combined and, as a result, the airport's direct GVA contribution in the base year of our latest study is estimated to be £86 million less than in the base year for the previous study.

In summary, the airport's direct GVA contribution to GDP in the base year of our latest results is £789 million, compared to £875 million in our 2019 study. Both of these values are expressed in 2019 prices to enable us to make a like-for-like comparison.[59]

[58] The value from the 2019 study has been adjusted to 2019 prices to enable like-for-like comparison with our most recent estimates.
[59] In our 2019 study the base year GDP contribution was presented as £838 million, in 2017 prices. This equates to £875 million in 2019 prices.

COMPARISON OF DIRECT ECONOMIC IMPACT AT 32 MPPA

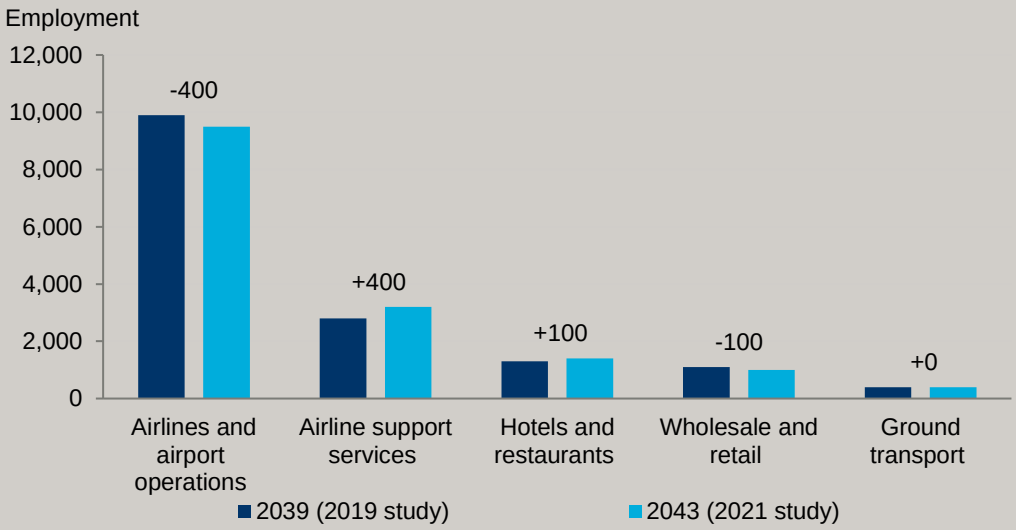
In this section we undertake another comparison of results between the two studies, this time for the year in which the airport is assumed to reach 32 mppa (2043 in our latest study and 2039 in our 2019 study).

Direct employment contribution

Total employment at 32 mppa under our latest estimates is 15,400, compared to 15,500 at the time of our previous study—a difference of 1%. Within airlines and airport operations the latest estimates are around 4% lower than previously while those for wholesale and retail are 9% lower than previously. However, these decreases are almost offset by increases in employment in airline support services and hotels and restaurants.

Updated productivity forecasts, updated assumptions for airport growth, and changes in the distribution of jobs explain the slight difference in employment at 32 mppa between the two studies.

Fig. 50. Comparison of direct employment by broad activity in 32 mppa year



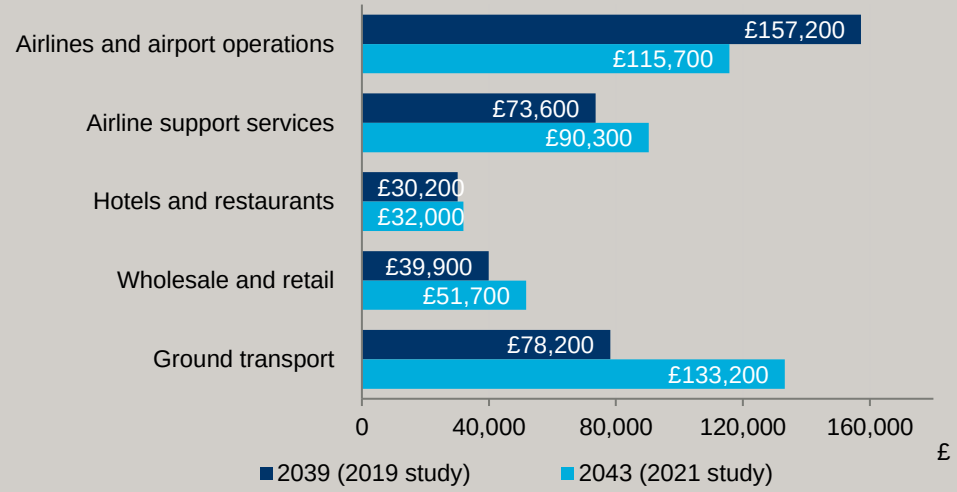
Source: Oxford Economics

Productivity

Average productivity levels in the five broad sectors in the current and previous study are compared in Fig. 51 below. Changes in the two sets of figures reflect:

- Changes in the distribution of employment within each broad sector, building from the updated 2019 base year.
- Changes in our productivity growth forecasts, to reflect the latest information available at the time of preparing this year's report.
- That the final year of the forecast period arises four years later than in our earlier study. All else equal, we would expect this to result in higher productivity levels, given the tendency for productivity to increase over time.

Fig. 51. Comparison of productivity by broad activity in 32 mppa year, £ in 2019 prices



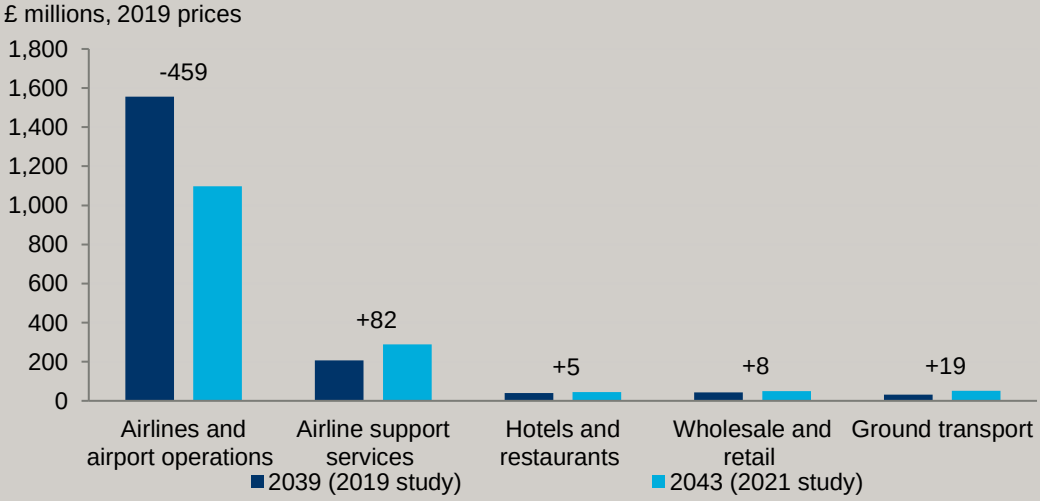
Source: Oxford Economics

As the chart shows, productivity has increased in four of the sectors but has fallen in airlines and airport operations. The large change for airlines and airport operations primarily reflects revisions to the base-year data for this sector. These have an enduring impact and result in a lower level of productivity throughout the forecast period.

Direct GDP contribution

As with base year employment, we multiply employment in each detailed sector by productivity to estimate the airport's gross value added (GVA) contribution to GDP. The resulting GVA estimates for broad sectors are shown in Fig. 52 below.

Fig. 52. Comparison of GVA by broad activity in 32 mppa year, £m in 2019 prices



Source: Oxford Economics

Our most recent modelling suggests that the airport's direct GDP contribution will be £1.5 billion in 2043. This is 18% lower than the equivalent figure in our 2019 study. As shown in the chart above, the GVA supported by four of the sectors increases between the previous and current studies. However, GVA in airline and airport operations is now forecast to be £1.10 billion in 2043, compared

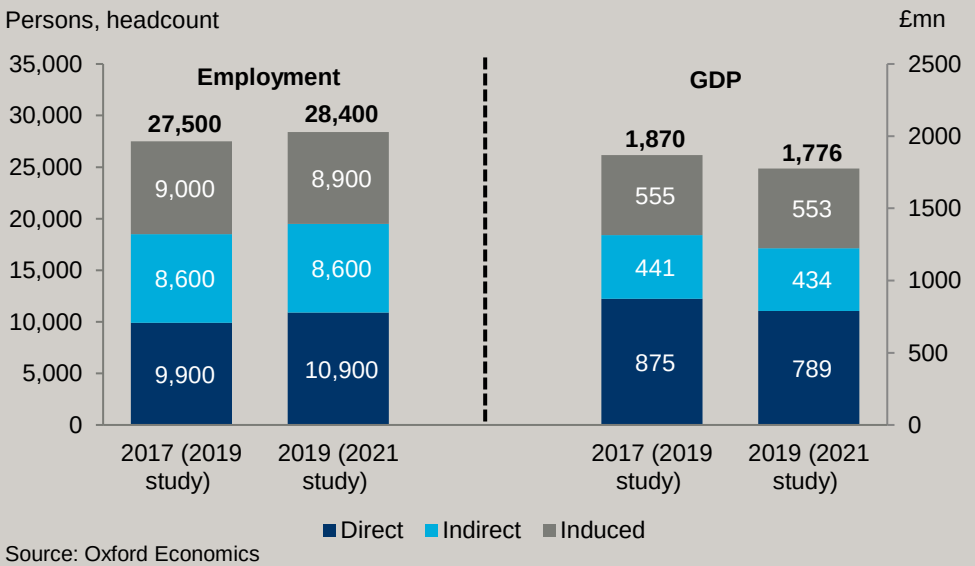
to £1.56 billion in 2039. This difference more than offsets higher GVA results for the other four sectors.

The much lower GDP contribution of airlines and airport operations in the most recent results primarily reflects the lower productivity level. That is, in turn, mainly driven by revisions to official data in the base year, compounded by a shift towards lower-productivity sub-sectors within airlines and airport operations over the forecast horizon. A further factor is the slightly lower employment level in airlines and airport operations, as shown in Fig. 50.

COMPARISON OF TOTAL ECONOMIC IMPACT RESULTS

Adding the indirect and induced impacts to the direct contribution gives the total economic impact of the airport. We estimate that London Luton Airport supported a total of 28,400 jobs and contributed £1.78 bn to UK GDP in our 2019 base year, compared to 27,500 jobs and a UK GDP contribution of £1.87 bn in our 2017 base year (Fig. 48). As shown below, the estimated indirect and induced impacts are very similar in this year's study to those estimated in our 2019 research. Differences in the overall economic impact are primarily driven by the changes in direct impacts discussed above.

Fig. 53. Comparison of the total economic impact of London Luton Airport in base year, UK (2019 study vs current study, 2019 prices)[60]



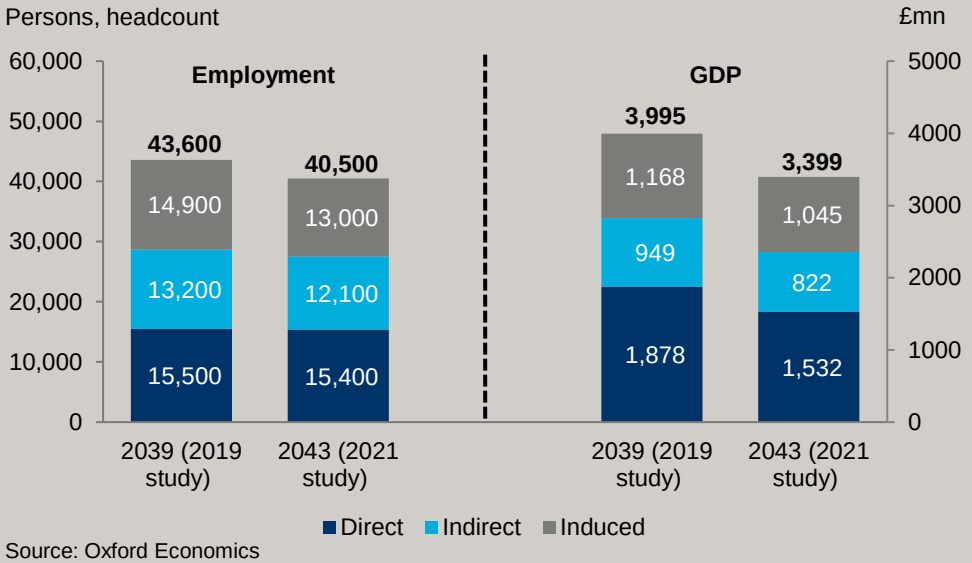
Source: Oxford Economics

We can make a similar comparison for the 32mppa year. In this study, we estimate that London Luton Airport will support a total of 40,500 jobs and contribute £3.40 billion to UK GDP in the year in which 32mppa is reached (2043) (Fig. 54). This compares to a total employment contribution of 43,600 jobs and a UK GDP contribution of £3.99 bn in our 2019 study for 2039.

The lower indirect and induced GDP and employment contributions in our current study results from the airport's lower direct GDP contribution in the 32mppa year. This means that there is a smaller "injection" of activity to other parts of the economy, and therefore impacts across supply chains and as a result of workers' spending are smaller than previously estimated.

[60] Totals may not sum due to rounding.

Fig. 54. Comparison of London Luton Airport's total economic impact at 32mppa, UK (2019 study vs current study, 2019 prices)



Source: Oxford Economics

APPENDIX 3: THE ECONOMIC IMPACT OF LONDON LUTON AIRPORT UNDER THE FALLBACK SCENARIO

THE FALLBACK SCENARIO

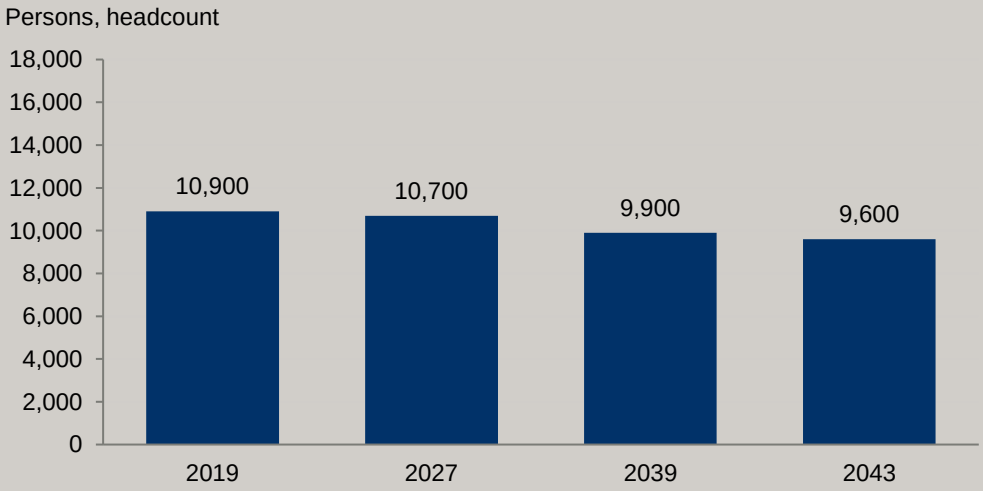
This section outlines our findings for the airport's impact on the UK economy under a "fallback" scenario where the airport is not permitted to grow above 18 mppa during the years to 2043. As a result, the airport's capacity cannot accommodate passenger numbers beyond its currently permitted capacity of 18 million passengers per annum. In this scenario, that level of activity is reached in 2023 after which the level of activity at the airport remains constant.

Below we present our economic impact results for this fallback scenario, for years comparable to the core planning scenario.

Direct contribution

The projected direct employment supported by London Luton Airport up to 2043 under the fallback scenario is shown in Fig. 55. We project direct employment to reach 9,600 by 2043. Direct employment is estimated to decrease over time given the level of activity at the airport is predicted to remain constant from 2023 onwards and that, all else equal, we would expect labour productivity to increase over time. This means that further into the future fewer workers are required to undertake a given quantity of work in most of the sub-sectors included in our model.

Fig. 55. Direct employment projection under the fallback scenario



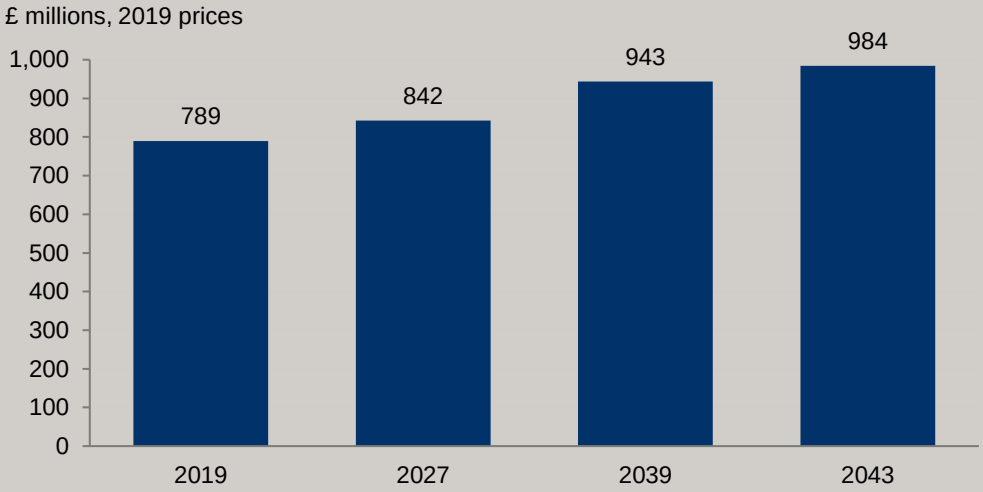
Source: Oxford Economics

While direct employment at London Luton Airport decreases, the airport's value-added contribution to GDP (Fig. 28) increases from £789 million in 2019 to £984 million in 2043.

As noted in section 4.3.1, there are two reasons for this. Firstly, in common with the other scenarios we have modelled, head office employment is assumed to continue to increase throughout the entire modelling horizon. This increase in employment, combined with productivity growth, means that the direct GDP contribution of head office activity increases over time.

Secondly, we assume that employment associated with passenger airlines is determined by regulatory factors relating to the number of crew per flight. The latter do not therefore fall in response to productivity growth. Given the constant level of activity at the airport from 2023 onwards, the required employment in passenger airlines will also remain constant.[61] But since GDP per worker is assumed to increase over time, the GDP contribution associated with passenger airlines also tends to increase, even with a constant number of passengers

Fig. 56. Direct GDP projection under the fallback scenario



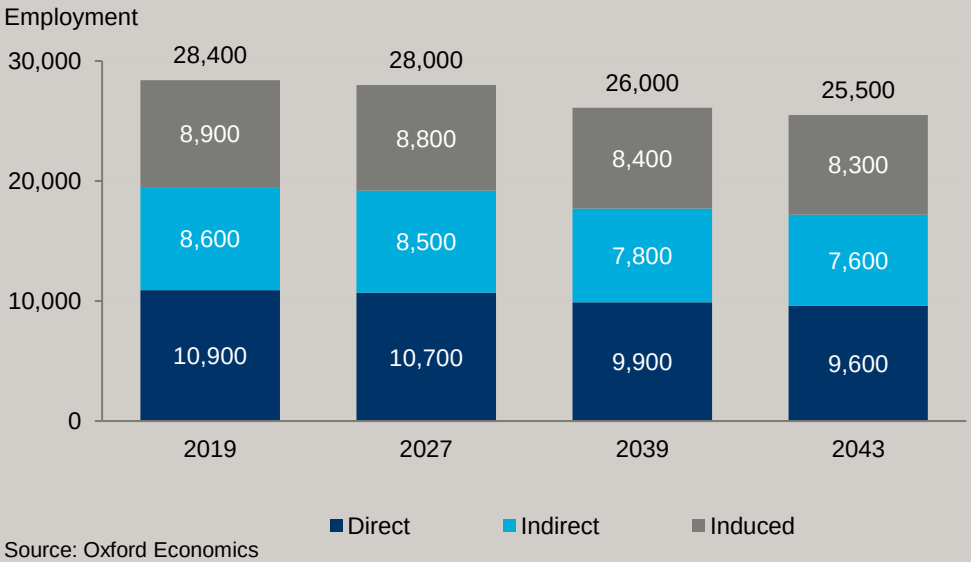
Source: Oxford Economics

Total economic contribution

Total UK jobs supported by London Luton Airport, including within the supply chain and due to workers' spending, are forecast to decrease from 28,400 in 2019, to 27,900 in 2027. This decreases further to 27,700 in 2039 and to 27,000 in 2043.

[61] In the fallback scenario, York Aviation's modelling assumes that there is no growth in average plane size over time and therefore no increase in crew required per flight over the forecast period.

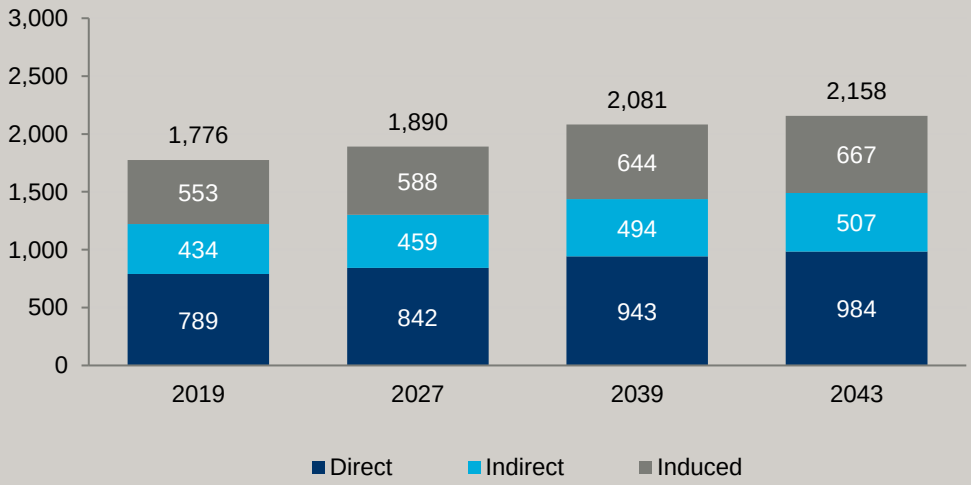
Fig. 57. Forecast total UK employment contribution of London Luton Airport under the fallback scenario[62]



Source: Oxford Economics

The total GDP contribution of London Luton Airport to the UK economy is estimated to increase to £1.9 billion in 2027, up from £1.8 billion in 2019. This increases to £2.2 billion in 2039 and to £2.3 billion in 2043.

Fig. 58. Forecast total GDP contribution of London Luton Airport to the UK economy under the fallback scenario[63]



Source: Oxford Economics

[62] Totals may not sum due to rounding.
[63] Totals may not sum due to rounding.

APPENDIX 4: EMPLOYMENT DATA TABLES

Local Authorities	EMPLOYMENT BASELINE - WORKPLACE BASED																RESIDENCE BASED DIRECT JOBS			
	Direct jobs [1]				Indirect jobs [2]				Induced jobs [3]				Total jobs [2+3] *							
	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043
United Kingdom	10,900	11,800	13,400	15,400	8,600	9,400	10,600	12,100	8,900	9,700	11,200	13,000	28,400	30,800	35,100	40,500	10,900	11,800	13,400	15,400
Standard regions																				
East of England	10,900	11,800	13,400	15,400	2,900	3,100	3,500	4,000	4,000	4,300	4,900	5,600	17,800	19,200	21,700	25,000	8,600	9,300	10,600	12,200
South East					1,500	1,700	1,800	2,100	1,400	1,500	1,700	2,000	2,900	3,100	3,500	4,100	900	1,000	1,100	1,300
London					1,000	1,000	1,200	1,300	800	800	900	1,100	1,700	1,900	2,100	2,400	600	600	700	800
Aggregated sub-regions																				
Three Counties	10,900	11,800	13,400	15,400	2,100	2,200	2,500	2,800	3,500	3,800	4,200	4,900	16,500	17,800	20,100	23,100	8,800	9,500	10,800	12,400
Six Counties	10,900	11,800	13,400	15,400	4,000	4,300	4,800	5,500	4,900	5,300	6,000	6,900	19,900	21,400	24,200	27,900	9,300	10,000	11,400	13,100
Sub-regions																				
Bedfordshire	10,900	11,800	13,400	15,400	700	800	900	1,000	1,800	1,900	2,200	2,500	13,500	14,500	16,500	18,900	6,300	6,800	7,700	8,900
Buckinghamshire					600	600	700	800	600	600	700	800	1,200	1,200	1,400	1,600	600	700	800	900
Hertfordshire					700	800	900	1,000	1,100	1,200	1,300	1,500	1,800	2,000	2,200	2,500	1,900	2,000	2,300	2,600
Thameslink Corridor					600	600	700	800	400	400	500	600	1,000	1,000	1,200	1,400	200	300	300	300
Essex					600	700	800	900	500	600	600	700	1,100	1,300	1,400	1,600	200	300	300	300
Cambridgeshire					700	700	800	1,000	500	500	600	700	1,200	1,200	1,400	1,700	200	200	200	300
Oxfordshire					600	600	700	800	400	500	500	600	1,000	1,100	1,200	1,400	100	100	100	100
Northamptonshire					800	900	1,000	1,200	600	600	700	900	1,400	1,500	1,700	2,100	300	400	400	500
Local Authority																				
Luton	10,900	11,800	13,400	15,400	300	300	300	400	500	600	600	700	11,800	12,700	14,400	16,600	3,100	3,300	3,800	4,400

* Figures may not sum due to rounding

Local Authorities	EMPLOYMENT BASELINE - WORKPLACE BASED												RESIDENCE BASED DIRECT JOBS			
	Indirect jobs [2]				Induced jobs [3]				Total jobs [2+3] *							
	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043
Bedford	200	200	200	300	600	600	700	800	800	800	900	1,100	1,000	1,000	1,200	1,400
Central Bedfordshire	300	300	300	300	700	700	800	1,000	900	1,000	1,200	1,300	2,200	2,400	2,800	3,200
Luton	300	300	300	400	500	600	600	700	11,800	12,700	14,400	16,600	3,100	3,300	3,800	4,400
Broxbourne	100	100	100	100	100	100	100	200	200	200	200	200	<50	100	100	100
Dacorum	100	100	100	100	100	100	100	200	200	200	200	300	300	300	400	400
East Hertfordshire	100	100	100	100	100	100	100	200	200	200	200	300	100	100	200	200
Hertsmere	100	100	100	100	100	100	100	200	200	200	200	200	100	100	100	100
North Hertfordshire	100	100	100	100	100	100	100	200	200	200	200	200	500	500	600	700
St Albans	100	100	100	100	100	100	100	200	200	200	200	300	400	500	500	600
Stevenage	100	100	100	100	100	100	100	100	200	200	200	200	100	200	200	200
Three Rivers	100	100	100	100	100	100	100	100	200	200	200	200	100	100	100	100
Watford	100	100	100	100	100	100	100	100	200	200	200	300	100	100	100	100
Welwyn Hatfield	100	100	100	100	100	100	100	200	200	200	200	300	100	100	200	200
Harlow	<50	<50	100	100	<50	<50	<50	<50	100	100	100	100	<50	<50	<50	<50
Epping Forest	<50	<50	100	100	<50	<50	<50	100	100	100	100	100	<50	<50	<50	<50
Brentwood	100	100	100	100	<50	<50	<50	<50	100	100	100	100	<50	<50	<50	<50
Basildon	100	100	100	100	<50	<50	<50	100	100	100	100	100	<50	<50	<50	<50
Castle Point	<50	<50	100	100	<50	<50	<50	100	100	100	100	100	<50	<50	<50	<50
Rochford	<50	<50	<50	100	<50	<50	<50	100	100	100	100	100	<50	<50	<50	<50
Maldon	<50	<50	<50	100	<50	<50	<50	100	100	100	100	100	<50	<50	<50	<50
Chelmsford	<50	<50	<50	100	<50	<50	<50	100	100	100	100	100	<50	<50	<50	<50
Uttlesford	100	100	100	100	<50	<50	100	100	100	100	200	200	100	100	100	100
Braintree	<50	<50	<50	100	<50	<50	<50	100	100	100	100	100	<50	100	100	100
Colchester	<50	<50	<50	100	<50	<50	<50	100	100	100	100	100	<50	<50	<50	<50
Tendring	<50	<50	<50	100	<50	<50	<50	100	100	100	100	100	<50	<50	<50	<50
Thurrock	100	100	100	100	<50	<50	100	100	100	100	100	100	<50	<50	<50	<50
Southend-on-Sea	<50	<50	<50	100	<50	<50	<50	100	100	100	100	100	<50	<50	<50	<50

* No direct workplace employment in these locations

Local Authorities	EMPLOYMENT BASELINE - WORKPLACE BASED												RESIDENCE BASED DIRECT JOBS			
	Indirect jobs [2]				Induced jobs [3]				Total jobs [2+3] *							
	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043
Cambridge	100	100	100	100	100	100	100	100	200	200	200	300	<50	<50	<50	<50
South Cambridgeshire	100	200	200	200	100	100	100	100	200	200	300	300	100	100	100	100
Huntingdonshire	100	100	100	100	100	100	100	100	200	200	200	300	100	100	100	100
Fenland	100	100	100	100	100	100	100	100	200	200	200	300	<50	<50	<50	<50
East Cambridgeshire	100	100	100	200	100	100	100	100	200	200	200	300	<50	<50	<50	<50
Peterborough	100	100	200	200	100	100	100	100	200	200	300	300	<50	<50	<50	<50
Babergh	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Breckland	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Broadland	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Forest Heath	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Great Yarmouth	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Ipswich	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
King's Lynn and West Norfolk	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Mid Suffolk	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
North Norfolk	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Norwich	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
South Norfolk	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
St Edmundsbury	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Suffolk Coastal	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Waveney	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
East Northamptonshire	100	100	100	200	100	100	100	100	200	200	200	300	100	100	100	100
Northampton	100	100	200	200	100	100	100	100	200	300	300	300	100	100	100	100
South Northamptonshire	100	100	100	100	100	100	100	100	200	200	200	300	100	100	100	100
Corby	100	100	100	200	100	100	100	100	200	200	300	300	<50	<50	<50	<50
Kettering	100	100	100	100	100	100	100	100	200	200	200	200	<50	<50	<50	<50
Daventry	100	100	200	200	100	100	100	100	200	200	300	300	<50	<50	<50	<50

* No direct workplace employment in these locations

Local Authorities	EMPLOYMENT BASELINE - WORKPLACE BASED												RESIDENCE BASED DIRECT JOBS			
	Indirect jobs [2]				Induced jobs [3]				Total jobs [2+3] *							
	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043
Wellingborough	100	100	200	200	100	100	100	100	200	200	300	300	100	100	100	100
Barnet	<50	<50	100	100	<50	<50	100	100	100	100	100	100	100	100	100	100
Camden	100	100	100	100	<50	100	100	100	100	100	100	200	100	100	100	100
Islington	100	100	100	100	<50	100	100	100	100	100	100	200	<50	<50	<50	100
City of London	100	100	100	100	100	100	100	100	200	200	200	200	<50	<50	<50	<50
Southwark	100	100	100	100	<50	<50	100	100	100	100	100	200	<50	<50	<50	<50
Lambeth	<50	100	100	100	<50	<50	100	100	100	100	100	100	<50	<50	<50	<50
Merton	100	100	100	100	<50	<50	100	100	100	100	100	100	<50	<50	<50	<50
Sutton	100	100	100	100	<50	<50	<50	100	100	100	100	100	<50	<50	<50	<50
Croydon	<50	100	100	100	<50	<50	100	100	100	100	100	100	<50	<50	<50	<50
Enfield	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	100	100	100	100
Haringey	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Hillingdon	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	100	100	100	100	100	100
Barking and Dagenham	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Bexley	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Brent	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Bromley	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Ealing	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Greenwich	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Hackney	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Hammersmith and Fulham	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Harrow	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	100	100
Havering	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Hounslow	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	100	100	<50	<50	<50	<50
Kensington and Chelsea	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Kingston-upon-Thames	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50

* No direct workplace employment in these locations

Local Authorities	EMPLOYMENT BASELINE - WORKPLACE BASED												RESIDENCE BASED DIRECT JOBS			
	Indirect jobs [2]				Induced jobs [3]				Total jobs [2+3] *							
	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043
Lewisham	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Newham	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Redbridge	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Richmond-upon-Thames	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Tower Hamlets	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	100	<50	<50	<50	<50
Waltham Forest	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Wandsworth	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Westminster, City of	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	100	<50	<50	<50	<50
Aylesbury Vale	100	100	100	100	100	100	100	100	200	200	300	300	200	200	300	300
Chiltern	100	100	100	100	100	100	100	100	200	200	200	300	100	100	100	100
Milton Keynes	200	200	200	300	100	200	200	200	300	400	400	500	300	300	300	400
South Buckinghamshire	100	100	100	100	100	100	100	200	200	200	300	300	<50	<50	<50	<50
Wycombe	100	100	100	100	100	100	100	200	200	200	300	300	100	100	100	100
Cherwell	100	100	200	200	100	100	100	100	200	200	300	300	<50	<50	<50	<50
West Oxfordshire	100	100	100	100	100	100	100	100	200	200	200	300	<50	<50	<50	<50
Oxford	100	100	100	100	100	100	100	100	200	200	200	200	<50	<50	<50	<50
Vale of White Horse	100	200	200	200	100	100	100	100	200	300	300	300	<50	<50	<50	<50
South Oxfordshire	100	100	100	200	100	100	100	100	200	200	300	300	<50	<50	<50	<50
Adur	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Arun	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Ashford	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Basingstoke and Deane	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Bracknell Forest	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Brighton and Hove	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Canterbury	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Chichester	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50

* No direct workplace employment in these locations

Local Authorities	EMPLOYMENT BASELINE - WORKPLACE BASED												RESIDENCE BASED DIRECT JOBS			
	Indirect jobs [2]				Induced jobs [3]				Total jobs [2+3] *							
	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043
Crawley	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Dartford	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Dover	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
East Hampshire	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Eastbourne	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Eastleigh	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Elmbridge	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Epsom and Ewell	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Fareham	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Gosport	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Gravesham	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Guildford	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Hart	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Hastings	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Havant	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Horsham	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Isle of Wight	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Lewes	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Maidstone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Medway Towns	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Mid Sussex	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Mole Valley	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
New Forest	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Portsmouth	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Reading	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Reigate and Banstead	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0

* No direct workplace employment in these locations

Local Authorities	EMPLOYMENT BASELINE - WORKPLACE BASED												RESIDENCE BASED DIRECT JOBS			
	Indirect jobs [2]				Induced jobs [3]				Total jobs [2+3] *							
	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043
Rother	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Runnymede	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Rushmoor	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Sevenoaks	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Shepway	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Slough	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Southampton	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Spelthorne	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Surrey Heath	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Swale	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Tandridge	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Test Valley	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Thanet	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Tonbridge and Malling	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0
Tunbridge Wells	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Waverley	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Wealden	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
West Berkshire	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Winchester	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Windsor and Maidenhead	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Woking	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Wokingham	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Worthing	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	0	0	0	0

* No direct workplace employment in these locations

APPENDIX 5: GDP DATA TABLES

Local Authorities	GVA BASELINE (£ millions, 2019 prices) - WORKPLACE BASED															
	Direct GVA				Indirect GVA				Induced GVA				Total GVA*			
	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043
United Kingdom	789	925	1,236	1,532	434	509	673	822	553	647	858	1,045	1,776	2,081	2,767	3,399
Standard regions																
East of England	789	925	1,236	1,532	129	150	199	242	232	270	352	427	1,151	1,345	1,786	2,201
South East					79	92	122	149	88	104	139	169	167	196	260	318
London					69	79	104	126	69	82	108	132	138	161	212	258
Aggregated sub-regions																
Three Counties	789	925	1,236	1,532	97	113	149	182	204	238	311	378	1,091	1,276	1,696	2,092
Six Counties	789	925	1,236	1,532	184	214	286	350	294	343	451	549	1,267	1,483	1,973	2,430
Sub-regions																
Bedfordshire	789	925	1,236	1,532	33	38	50	60	101	117	153	185	923	1,080	1,438	1,777
Buckinghamshire					32	38	50	62	40	47	63	77	72	84	113	139
Hertfordshire					32	37	49	60	64	74	95	116	96	112	145	176
Thameslink Corridor					48	55	72	88	45	52	68	83	93	108	140	171
Essex					29	34	45	55	33	38	50	61	62	72	95	117
Cambridgeshire					31	37	49	61	30	35	47	57	62	72	96	118
Oxfordshire					27	31	42	52	27	32	43	52	53	63	85	104
Northamptonshire					35	43	58	70	33	40	54	65	69	82	111	136
Local Authority																
Luton	789	925	1,236	1,532	12	14	18	21	29	34	43	53	831	973	1,297	1,606

* Figures may not sum due to rounding

Local Authorities	GVA BASELINE (£ millions, 2019 prices) - WORKPLACE BASED											
	Indirect GVA				Induced GVA				Total GVA*			
	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043
Bedford	9	11	14	17	33	39	50	61	43	50	64	78
Central Bedfordshire	11	13	18	21	38	45	59	72	49	58	77	93
Broxbourne	3	3	4	5	7	8	11	13	10	11	15	18
Dacorum	4	4	6	7	6	7	9	11	10	12	15	18
East Hertfordshire	3	4	5	6	6	7	9	11	10	11	14	18
Hertsmere	3	4	5	6	8	9	12	14	11	13	17	20
North Hertfordshire	3	3	5	6	7	9	11	14	10	12	16	20
St Albans	3	4	5	6	6	7	9	11	9	11	14	17
Stevenage	3	3	4	5	5	6	8	10	8	9	12	15
Three Rivers	3	4	5	6	7	8	10	12	10	11	14	17
Watford	4	4	6	7	6	6	8	10	9	11	14	17
Welwyn Hatfield	3	3	4	5	6	7	9	11	9	10	13	16
Harlow	2	2	3	4	2	2	3	3	4	4	6	7
Epping Forest	2	2	3	4	3	3	4	5	5	6	7	9
Brentwood	2	3	4	5	2	3	3	4	5	5	7	9
Basildon	2	3	4	5	3	3	4	5	5	6	8	9
Castle Point	2	2	3	4	2	2	3	4	4	5	6	7
Rochford	2	2	3	4	2	3	4	5	4	5	7	8
Maldon	2	2	3	3	2	3	4	4	4	5	6	8
Chelmsford	2	2	3	4	2	3	4	4	4	5	7	8
Uttlesford	3	4	5	6	2	3	4	4	6	7	9	11
Braintree	2	2	3	4	2	3	4	5	4	5	7	9
Colchester	2	2	3	3	3	3	4	5	5	5	7	9
Tendring	2	2	2	3	2	2	3	4	4	4	6	7
Thurrock	3	3	4	5	2	3	3	4	5	6	8	9
Southend-on-Sea	2	2	3	3	2	3	4	4	4	5	6	8

* Figures may not sum due to rounding

Local Authorities	GVA BASELINE (£ millions, 2019 prices) - WORKPLACE BASED											
	Indirect GVA				Induced GVA				Total GVA*			
	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043
Cambridge	5	6	8	10	5	6	8	9	10	12	15	19
South Cambridgeshire	7	8	11	13	5	6	8	9	12	14	18	22
Huntingdonshire	5	5	7	9	5	6	8	10	10	12	16	19
Fenland	4	5	7	8	4	5	7	8	9	10	14	17
East Cambridgeshire	5	6	7	9	5	6	7	9	9	11	15	18
Peterborough	6	7	9	12	6	7	9	11	12	14	18	23
Babergh	0	0	0	0	0	0	0	1	1	1	1	1
Breckland	0	0	0	0	0	0	0	1	1	1	1	1
Broadland	0	0	0	1	0	0	1	1	1	1	1	1
Forest Heath	0	0	0	0	0	0	0	1	1	1	1	1
Great Yarmouth	0	0	0	0	0	0	0	0	0	1	1	1
Ipswich	0	0	0	1	0	0	1	1	1	1	1	1
King's Lynn and West Norfolk	0	0	0	0	0	0	0	1	1	1	1	1
Mid Suffolk	0	0	0	0	0	0	0	0	1	1	1	1
North Norfolk	0	0	0	0	0	0	0	1	1	1	1	1
Norwich	0	0	0	0	0	0	1	1	1	1	1	1
South Norfolk	0	0	0	0	0	0	0	0	0	1	1	1
St Edmundsbury	0	0	0	1	0	0	0	1	1	1	1	1
Suffolk Coastal	0	0	1	1	0	0	0	1	1	1	1	1
Waveney	0	0	0	0	0	0	0	1	1	1	1	1
East Northamptonshire	5	6	8	9	5	5	7	9	9	11	15	19
Northampton	7	8	11	13	7	8	10	13	13	16	21	26
South Northamptonshire	5	5	7	9	5	6	8	9	9	11	15	18
Corby	5	6	8	10	4	5	7	8	9	11	15	18
Kettering	4	5	6	8	4	5	7	8	8	10	13	16
Daventry	5	6	9	11	5	6	8	9	10	12	16	20

* Figures may not sum due to rounding

Local Authorities	GVA BASELINE (£ millions, 2019 prices) - WORKPLACE BASED											
	Indirect GVA				Induced GVA				Total GVA*			
	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043
Wellingborough	5	6	9	10	4	5	7	9	10	12	16	19
Barnet	3	4	5	6	5	6	9	10	9	10	13	16
Camden	6	6	8	10	5	6	7	9	11	12	16	19
Islington	6	7	9	11	5	6	8	9	12	13	17	21
City of London	12	14	19	23	10	12	16	19	22	26	34	42
Southwark	6	7	9	11	5	6	7	9	11	12	16	20
Lambeth	3	4	5	6	4	4	5	7	7	8	10	13
Merton	4	5	6	8	4	5	6	7	8	9	12	15
Sutton	3	4	5	6	3	3	4	5	6	7	10	12
Croydon	4	4	6	7	4	5	6	7	8	9	12	14
Enfield	1	1	1	1	1	1	1	2	2	2	3	3
Haringey	1	1	1	1	1	1	2	2	2	2	3	4
Hillingdon	1	1	2	2	1	1	1	2	2	2	3	4
Barking and Dagenham	1	1	1	2	1	1	1	2	2	2	3	3
Bexley	1	1	1	2	1	1	2	2	2	2	3	3
Brent	1	1	1	1	1	1	1	2	2	2	3	3
Bromley	1	1	1	1	1	1	2	2	2	2	3	3
Ealing	1	1	1	2	1	1	2	2	2	2	3	4
Greenwich	1	1	1	1	1	1	1	1	1	2	2	3
Hackney	1	1	2	2	1	2	2	2	2	3	4	4
Hammersmith and Fulham	1	1	1	2	1	1	2	2	2	2	3	4
Harrow	1	1	1	1	1	1	2	2	2	2	3	4
Havering	1	1	1	1	1	1	1	2	1	2	2	3
Hounslow	1	2	2	3	1	1	2	2	2	3	4	5
Kensington and Chelsea	1	1	1	2	1	2	2	3	2	3	4	4
Kingston-upon-Thames	1	1	1	1	1	1	1	2	2	2	2	3

* Figures may not sum due to rounding

Local Authorities	GVA BASELINE (£ millions, 2019 prices) - WORKPLACE BASED											
	Indirect GVA				Induced GVA				Total GVA*			
	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043
Lewisham	1	1	1	1	1	1	2	2	2	2	2	3
Newham	1	1	1	1	1	1	1	2	2	2	3	3
Redbridge	1	1	1	1	1	1	1	2	2	2	3	3
Richmond-upon-Thames	1	1	1	2	1	1	2	2	2	2	3	4
Tower Hamlets	2	2	2	3	2	2	3	3	3	4	5	6
Waltham Forest	1	1	1	1	1	1	1	2	2	2	2	3
Wandsworth	1	1	1	1	1	1	1	2	2	2	3	3
Westminster, City of	1	1	2	2	2	2	3	4	3	4	5	6
Aylesbury Vale	5	6	8	10	7	8	11	13	12	14	19	23
Chiltern	5	6	8	10	7	9	12	15	13	15	20	25
Milton Keynes	11	12	17	20	10	12	16	20	21	25	33	40
South Buckinghamshire	5	6	8	10	8	9	12	15	13	15	20	24
Wycombe	6	7	9	12	7	9	12	14	13	16	21	26
Cherwell	5	6	8	10	6	7	10	12	11	13	18	22
West Oxfordshire	5	5	7	9	6	7	9	11	10	12	16	20
Oxford	5	5	7	9	4	5	7	8	9	10	14	17
Vale of White Horse	7	8	10	13	6	7	9	11	12	15	19	24
South Oxfordshire	6	7	9	11	5	6	9	10	11	13	17	21
Adur	0	0	1	1	0	0	1	1	1	1	1	1
Arun	0	0	0	0	0	0	1	1	1	1	1	1
Ashford	0	0	0	1	0	0	1	1	1	1	1	1
Basingstoke and Deane	0	0	1	1	0	0	1	1	1	1	1	1
Bracknell Forest	0	0	1	1	0	0	1	1	1	1	1	1
Brighton and Hove	0	0	1	1	0	1	1	1	1	1	1	1
Canterbury	0	0	0	0	0	0	1	1	1	1	1	1
Chichester	0	0	0	0	0	0	1	1	1	1	1	1

* Figures may not sum due to rounding

Local Authorities	GVA BASELINE (£ millions, 2019 prices) - WORKPLACE BASED											
	Indirect GVA				Induced GVA				Total GVA*			
	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043
Crawley	1	1	1	1	0	0	1	1	1	1	2	2
Dartford	0	0	1	1	0	0	1	1	1	1	1	1
Dover	0	0	1	1	0	0	1	1	1	1	1	1
East Hampshire	0	0	1	1	0	0	1	1	1	1	1	1
Eastbourne	0	0	0	0	0	0	1	1	1	1	1	1
Eastleigh	0	1	1	1	0	1	1	1	1	1	1	2
Elmbridge	0	0	0	1	0	0	1	1	1	1	1	1
Epsom and Ewell	0	0	0	1	0	0	1	1	1	1	1	1
Fareham	0	0	1	1	0	0	1	1	1	1	1	1
Gosport	0	0	0	0	0	0	0	1	1	1	1	1
Gravesham	0	0	0	1	0	0	1	1	1	1	1	1
Guildford	0	0	0	1	0	0	1	1	1	1	1	1
Hart	0	0	1	1	0	0	1	1	1	1	1	1
Hastings	0	0	0	0	0	0	1	1	1	1	1	1
Havant	0	0	0	1	0	0	1	1	1	1	1	1
Horsham	0	0	0	1	0	0	1	1	1	1	1	1
Isle of Wight	0	0	0	0	0	0	1	1	1	1	1	1
Lewes	0	0	0	0	0	0	1	1	1	1	1	1
Maidstone	0	0	0	1	0	0	1	1	1	1	1	1
Medway Towns	0	0	1	1	0	0	1	1	1	1	1	1
Mid Sussex	0	0	0	1	0	0	1	1	1	1	1	1
Mole Valley	0	0	1	1	0	0	1	1	1	1	1	1
New Forest	0	0	0	1	0	0	1	1	1	1	1	1
Portsmouth	0	0	0	1	0	0	1	1	1	1	1	1
Reading	0	1	1	1	0	0	1	1	1	1	1	2
Reigate and Banstead	0	0	1	1	0	1	1	1	1	1	1	2

* Figures may not sum due to rounding

Local Authorities	GVA BASELINE (£ millions, 2019 prices) - WORKPLACE BASED											
	Indirect GVA				Induced GVA				Total GVA*			
	2019	2027	2039	2043	2019	2027	2039	2043	2019	2027	2039	2043
Rother	0	0	0	1	0	0	1	1	1	1	1	1
Runnymede	0	0	1	1	0	0	1	1	1	1	1	1
Rushmoor	0	1	1	1	0	0	1	1	1	1	1	2
Sevenoaks	0	0	0	1	0	0	1	1	1	1	1	1
Shepway	0	0	0	0	0	0	0	0	0	0	0	0
Slough	1	1	1	1	0	0	1	1	1	1	1	2
Southampton	0	0	1	1	0	0	1	1	1	1	1	1
Spelthorne	0	1	1	1	0	0	1	1	1	1	1	2
Surrey Heath	0	0	0	1	0	0	0	1	1	1	1	1
Swale	0	0	1	1	0	0	1	1	1	1	1	1
Tandridge	0	0	0	0	0	0	1	1	1	1	1	1
Test Valley	0	0	1	1	0	0	1	1	1	1	1	1
Thanet	0	0	0	0	0	0	1	1	1	1	1	1
Tonbridge and Malling	0	0	1	1	0	1	1	1	1	1	1	2
Tunbridge Wells	0	0	0	1	0	0	1	1	1	1	1	1
Waverley	0	0	0	1	0	0	1	1	1	1	1	1
Wealden	0	0	0	0	0	0	1	1	1	1	1	1
West Berkshire	0	1	1	1	0	0	1	1	1	1	1	2
Winchester	0	0	1	1	0	0	1	1	1	1	1	1
Windsor and Maidenhead	0	0	1	1	0	0	1	1	1	1	1	1
Woking	0	0	1	1	0	0	1	1	1	1	1	1
Wokingham	0	1	1	1	0	0	1	1	1	1	1	1
Worthing	0	0	0	0	0	0	1	1	1	1	1	1

* Figures may not sum due to rounding

APPENDIX 6: TOWN LEVEL AND PARLIMENTARY CONSTITUENCY ESTIMATES, 2019

	EMPLOYMENT BASELINE - WORKPLACE BASED				GVA (£ millions, 2019 prices) - WORKPLACE BASED			
	Direct [1]	Indirect [2]	Induced [3]	Total [1+2+3] *	Direct [1]	Indirect [2]	Induced [3]	Total [1+2+3] *
Parliamentary consistencies								
Broxbourne	0	100	100	200	0	2	6	9
Hemel Hempstead	0	100	100	200	0	4	5	8
Hertford and Stortford	0	100	100	200	0	3	6	9
Hertsmere	0	100	100	200	0	3	7	10
Hitchin and Harpenden	0	100	100	200	0	3	5	8
North East Hertfordshire	0	100	100	200	0	2	7	9
South West Hertfordshire	0	100	100	200	0	3	6	9
St Albans	0	100	100	200	0	3	6	9
Stevenage	0	100	100	100	0	2	5	7
Watford	0	100	100	200	0	3	6	9
Welwyn Hatfield	0	100	100	200	0	3	5	8
Bedford	0	100	300	400	0	5	19	24
Luton North	0	100	200	300	0	3	10	13
Luton South	10,900	200	300	11,400	789	8	18	815
Mid Bedfordshire	0	100	300	500	0	5	16	21
North East Bedfordshire	0	100	300	400	0	5	17	22
South West Bedfordshire	0	100	300	500	0	6	22	27
Towns								
Luton	10,900	300	500	11,800	789	12	29	831
Harpenden	0	<50	<50	<50	0	<0.5	1	2
St Albans town	0	<50	100	100	0	1	3	4
Stevenage	0	100	100	100	0	2	5	7
Dunstable	0	<50	100	200	0	2	5	7
Leighton Buzzard	0	<50	100	100	0	1	6	7
Hitchin	0	<50	<50	<50	0	<0.5	1	2
Tring and Pitstone	0	<50	<50	<50	0	<0.5	<0.5	2
Welwyn Garden City	0	<50	<50	100	0	1	2	3
Aylesbury	0	<50	<50	100	0	2	2	4
Caddington_SlipEnd	0	<50	<50	<50	0	<0.5	1	2
Markyate and Flamsted	0	<50	<50	<50	0	<0.5	<0.5	<0.5
Beachwood Green and Whitwell	0	<50	<50	<50	0	<0.5	<0.5	<0.5
Kimpton	0	<50	<50	<50	0	<0.5	<0.5	<0.5

* Figures may not sum due to rounding

OXFORD
ECONOMICS

Global headquarters
Oxford Economics Ltd
Abbey House
121 St Aldates
Oxford, OX1 1HB
UK
Tel: +44 (0)1865 268900

London
Broadwall House
21 Broadwall
London, SE1 9PL
UK
Tel: +44 (0)203 910 8000

New York
5 Hanover Square, 8th Floor
New York, NY 10004
USA
Tel: +1 (646) 786 1879

Singapore
6 Battery Road
#38-05
Singapore 049909
Tel: +65 6850 0110

Europe, Middle East and Africa

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Asia Pacific

Singapore
Sydney
Melbourne
Hong Kong
Tokyo

Email:
mailbox@oxfordeconomics.com

Website:
www.oxfordeconomics.com