A Second Runway for Gatwick

Appendix

A4

Local Economy Impacts

YOUR LONDON AIRPORT
Gatwick

Gatwick R2

Local Economy Impacts

13th May 2014

QUALITY MANAGEMENT

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Date:	13 May 2014
Project Number/Document Reference:	OXF8027/USD Local Economy Impacts

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EXECUTIVE SUMMARY

This report has been prepared on behalf of Gatwick Airport Ltd (GAL) as an appendix to the updated scheme submission of May 2014. It is referenced to Module 3 of the Airports Commission's (the Commission) appraisal framework published in its final form in April 2014 directed at local economy impacts. One of its principal objectives is to assess the degree to which a second runway at Gatwick airport would promote local employment and economic growth. Key to this consideration is an evaluation of the effects on businesses and the additional employment that will be generated by the proposal. The module also considers certain risks including the implications in relation to development pressure for additional employment and housing land.

Prior to the publication of the appraisal framework, GAL commissioned an Employment and Housing Technical Report (EHTR) that addresses most of the relevant issues but in relation to three possible runway options. This work involved consultation with a group (The Housing and Employment Topic Group – HETG) including officers representing the Local Authorities affected by the influence of the airport. The HETG's primary role was to seek to understand, discuss and challenge the work undertaken by GAL as part of a commitment to continuous engagement.

This appendix closely follows the approach adopted in the EHTR but relates solely to GAL's updated scheme design. The updated scheme has a slightly greater capacity of 95 million passengers per annum (mppa) than the highest capacity option considered by the HETG (87mppa). .

This assessment uses the same Study Area as defined in the EHTR and presented to the HETG. This involves 14 local authority areas around the airport within which 80% of the workforce lived in 2012. Within this area, a smaller area comprising most of the "Gatwick Diamond" is also looked at separately. Epsom and Ewell, whilst a member of the Gatwick Diamond grouping, has less than 1% of Gatwick workers living within its boundaries and is thus not included in the Study Area.

The core methodology used in the appraisal framework also follows that adopted in the EHTR. This involves three principal steps which are:-

- estimating the increase in airport related jobs in the Study Area that are likely to occur up to 2050;
- estimating how many households might want to move into the Study Area to take up an airport related job; and
- setting the increase in airport employment and associated housing in the context of general growth scenarios.

Based on the maximum capacity of the expanded airport, it is estimated that up to 22,000 new jobs would be created within the Study Area by 2050, of which over 17,000 would be within the Gatwick Diamond. These jobs (direct, indirect and induced) are either within the airport itself, closely related to its operation or arise directly as a result of the goods and services airport workers buy in the local

economy. The overall figures are based on conservative, low productivity assumptions. If productivity is higher, the jobs required will be fewer.

If Gatwick remains as a single runway airport, it could reach a capacity of 50mppa by 2050, at which point it would account for about 3.5% of total employment in the Study Area. With a second runway, this would increase to about 5.5%. For the Gatwick Diamond, the increase would be from around 8% to 13.5% on the basis that most employment would be created within this area.

In relation to forecast airport employment growth, the *additional* employment associated with a two runway airport is estimated to represent around 2% of the total employment in the Study Area at 2051, although the proportion will again be higher in the Gatwick Diamond at just over 4%. Overall the airport-related employment implications are thus positive.

Based on the maximum increase in 2 runway airport-related jobs of 22,000, the highest estimate of the additional households moving in to the Study Area, specifically associated with those jobs and requiring new homes, is around 9,300 or about 5% of the total increase in households forecast to 2050/51. This is based on conservative assumptions in relation to the potential to recruit people from the existing population and 'zero net migration' which also assumes, conservatively, that additional net population/workforce would not otherwise be moving into the Study Area.

If there is net migration in to the Study Area in the future, which is likely, this figure of 9,300 could fall by several hundred. Similarly, if the general scope to take workers from the existing population, for example by reduced unemployment, is better than expected, housing demand would also reduce. Again, as with employment, the specific implications of the airport in housing terms are nevertheless limited. Over the 25 years from 2025 to 2050, the annualised maximum potential Gatwick related figure of 9,300 homes represents less than 400 homes per year spread over the 14 local authorities in the Study Area. This is less than 7% of current annual planned house building rates in the Study Area as a whole.

The specific estimates of additional airport-related employment and housing in this report are based on the particular needs of a two runway airport where "cause and effect" can be reasonably assessed based, fundamentally, on forecasts of the number of people that are likely to be employed at an expanded Gatwick airport. There will, however, be additional general growth opportunities and pressures associated with the presence of a 2 runway international airport over and above those that already exist in the context of a single runway.

There are no recognised methods for assessing such "catalytic" effects. It seems reasonable, however, to assume that general forecasts of future employment, population and housing are influenced by the existing airport and that will continue in to the future. Current and emerging plans in the Study Area do not currently set out to meet unconstrained, trend-forecast growth suggested by these forecasts, notably in relation to housing. It is, in this regard, ultimately for the individual Local Planning Authorities to determine what balance should be struck between additional economic

opportunities and environmental and other factors. The airport specific employment and housing implications identified in this report represent a relatively small proportion of general forecast growth in the Study Area, so a second runway at Gatwick will not materially affect the ability of local councils to continue to make appropriate choices about meeting growth pressures in the context of any identified constraints.

The approach in this document is consistent with previous airport planning exercises over the last 20 years that have identified similar relationships between airport-related employment and associated housing. These previous exercises have also not attempted to specifically identify any "catalytic" effects.

An assessment of current land supply for employment and housing in the Study Area and the Diamond suggests that there appears to be broadly sufficient land to ensure that current and emerging plans could be realised to around 2030. Beyond that point, and thus during the majority of the period over which a 2 runway airport is expected to be reaching its capacity, there will be a requirement for additional housing and employment land allocations with or without an additional runway at Gatwick.

This appendix also addresses other factors identified by the Commission that were not specifically considered in the previous work. In general these do not change the conclusions reached. In particular, however, the appraisal framework includes a requirement for a review of the local business environment that has been undertaken. This concludes that the Study Area has shown strong levels of growth and is home to many high productivity businesses and associated entrepreneurial activity. It is also evident that the main source of economic growth has been the airport itself. The economic strategies associated with the Gatwick Diamond, the Coast to Capital Local Enterprise Partnership (LEP) and the London Plan are all consistent with further expansion at Gatwick.

The key outputs identified in the Commission's appraisal framework relate to the following principal issues:-

- net additional housing demand
- housing land supply
- changes in land values
- changes in urbanisation

On the first of these, the work undertaken confirms that the additional housing demand arising specifically from an expanded Gatwick Airport will be a small proportion of general growth. Against that background, in the period when the airport is reaching its capacity land supply will be an issue to be addressed by relevant local authorities in any event and over an extended period. As far as land

values are concerned, it is plainly difficult to predict changes that might occur so far ahead. However, there is a reasonable range of prices across the Study Area at present and there is no reason to suggest that this relative situation will change.

In relation to urbanisation, this has been based in the past on a mixture of brownfield sites and greenfield allocations and allowances for "windfall" sites. There is nothing to suggest at this stage that any other approach is required.

The Commission also identifies key risks, principally related to urbanisation pressures, insufficient land supply for all relevant uses and local opposition. Again, the work undertaken demonstrates that the specific effects of a two runway Gatwick airport in this regard will be limited. To the extent that Gatwick may generate additional growth opportunities, as it has in the past, these can be appropriately controlled in the course of the normal planning activities of Local Planning Authorities. It is recognised of course that, whatever the source of housing pressures and provision, there is likely to be some local opposition.

Overall, the development of a second runway at Gatwick would be **Highly Supportive** of the Commission's objective '*to promote employment and economic growth in the local area and surrounding region'.* That includes the provision of housing to support increased employment, which is also supportive, and the potential risks in this regard identified in the framework do not appear to be significant risks. The significant opportunities and benefits arising can also be managed effectively in the context of the normal operation of the statutory planning system. Similarly, given that surface access to an expanded airport can be closely co-ordinated with planned improvements, a second runway at Gatwick is also **Highly Supportive** of this aspect of the Commission's objective.

Section 1 : Introduction

Local Economy

1.1 RPS and Optimal Economics were commissioned by Gatwick Airport Ltd (GAL) to prepare an appendix to support the airport's updated scheme submission in May 2014. This is referenced to the Local Economy Impacts module of the Airport Commission's (the Commission) Appraisal Framework.

1.2 The government has set up the Commission, which is chaired by Sir Howard Davies, to examine the need for additional UK airport capacity and to recommend how this can be met in the short, medium and long term. A second runway at Gatwick has been identified by the Commission as one of the short list of options requiring further consideration.

1.3 In January 2014 the Commission issued a draft Appraisal Framework indicating how it would assess the short listed options. Following consultation a finalised framework was issued in April 2014. The framework has 16 modules of which one is Local Economy Impacts.

1.4 The Local Economy Impacts module states that the objectives against which impacts of options will be assessed are the promotion of economic and employment growth in the local economy and surrounding region and positive outcomes for local communities and the local economy from any surface access required to support the proposal. The surface access issue was added in the final version of the Appraisal Framework.

1.5 The appraisal module contains a figure (A3.1) which details the information and analysis which will be used in the appraisal. It groups the analysis into four areas: business and services attracted (or deterred from) the area, labour demand, housing and social infrastructure demand and land demand. These issues are addressed in this report.

1.6 This document draws on the Employment and Housing Technical Report (EHTR - March 2014) which was produced as part of the process of GAL fulfilling its commitment in the July 2013 submission to the Commission in relation to continuous engagement with stakeholders on these and other matters. That report provides a full account of the methodologies used in assessing the impact of airport expansion on employment and housing demand. During the preparation of the EHTR GAL sought comment and input from representatives of the key local authorities surrounding Gatwick through the Housing and Employment Topic Group

(HETG) which met from September 2013 to March 2014. The group do not, however, endorse the content or conclusions of the EHTR. Both the EHTR and this document represent the sole views and position of GAL.

1.7 The EHTR considers three options with a maximum capacity of 87 million passengers per annum (mppa). This appendix only includes an analysis of the option taken forward by GAL in the updated scheme design which has a maximum capacity of 95mppa.

1.8 Population and household projections and employment forecasts used in this document were commissioned from Cambridge Econometrics who now operate the "Chelmer" demographic model originally constructed by Professor David King in Chelmsford in the mid-1980s.

The Economic Impact of Gatwick

1.9 There are two broad ways in which the expansion of Gatwick airport will impact on the local economy, these are: 1) the direct and supply chain effects; and 2) the effects arising from businesses which seek the benefits of locations with easy access to air travel (this includes impacts on other firms which wish to locate near to those firms). The second set of impacts can be described as "catalytic" or "agglomeration" impacts. In addition Table A3.1 in the Commission's appraisal framework also asks what businesses might be deterred from locating in the area by airport expansion.

1.10 In this appendix both types of effect are considered – the direct and supply side impacts in Section 3 and the catalytic impacts in Section 5. The direct and supply chain effects can be quantified fairly precisely while the catalytic impacts are more complex and the extent to which they are realised will be greatly influenced by policy decisions. These considerations are reflected in the analysis set out below.

Section 2 : Economic and Business Environment

The Study Area

2.1 The impact of the expansion of Gatwick on local economic conditions will be felt over a wide area but the impact will diminish with distance from the airport.

2.2 In order to structure the technical work appropriately, a primary Study Area has been defined based on the home locations of airport employees. Airport employees and those who derive their employment directly from its operation come from a wide area. However, a main catchment has been defined as comprising whole local authority areas (below county level) within which at least 1% of the 2012 Gatwick work force live.

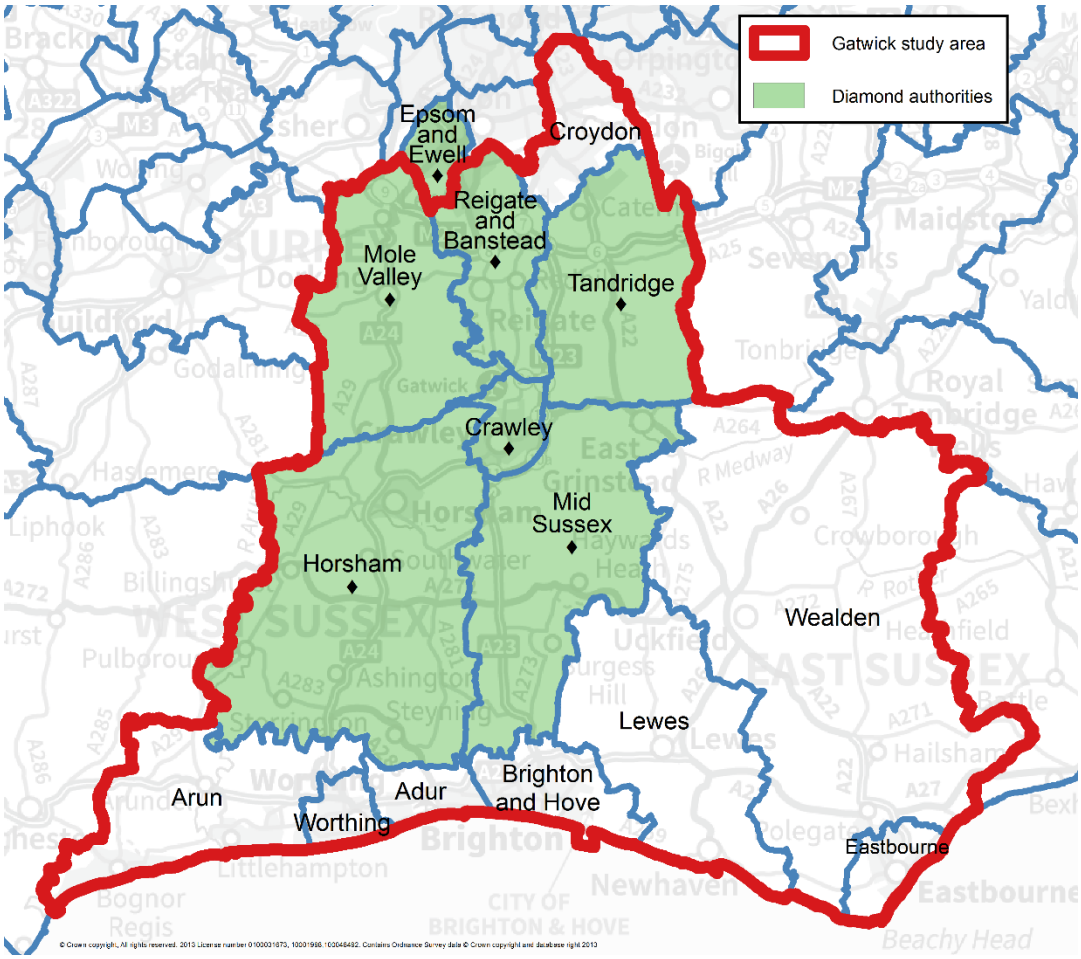
2.3 This approach identifies an area comprising 14 whole local authority areas with the following proportion of the airport work force at 2012. This approach was presented to the HETG.

Table 1.1 Study Area Authorities

Local Authority	% Gatwick On-Airport Employment
Crawley	31.8
Reigate & Banstead	9.4
Mid Sussex	8.2
Horsham	7.1
Brighton & Hove	6.0
Croydon	3.3
Wealden	2.5
Tandridge	2.4
Lewes	1.8
Arun	1.5
Mole Valley	1.4
Adur	1.3
Worthing	1.3
Eastbourne	1.0
TOTAL STUDY AREA	79.1

2.4 The Study Area is shown on the map below. It includes nearly 80% of the current work force and stretches from Croydon in the north to the south coast.

Figure 1.1: Study Area



2.5 The Study Area corresponds quite closely to the Coast to Capital Local Economic Partnership (LEP) area. The LEP area includes all of the study area other than Wealden and Eastbourne.

2.6 Within the Study Area is the "Gatwick Diamond" which is the geographical focus for planning and economic development activity across both the public and private sectors and is a recognised sub-division of the LEP area. The seven council areas of Crawley, Horsham, Mid Sussex, Mole Valley, Tandridge, Reigate and Banstead and Epsom and Ewell are defined as the Gatwick Diamond. Six of these council areas are located within the Study Area, the exception is Epsom and Ewell which has less than 1% of the Gatwick work force living with its boundaries.

2.7 For the purposes of this appendix the term "Diamond" is used to refer to the six relevant council areas *within* the overall study area. Given the importance and established identity of the area, it is considered appropriated to analyse some of the economic development issues at this level. Around 60% of the Gatwick workforce currently live in the six Diamond council areas and the Diamond accounts for 75% of the total Gatwick employment in the Study Area.

Economic Environment

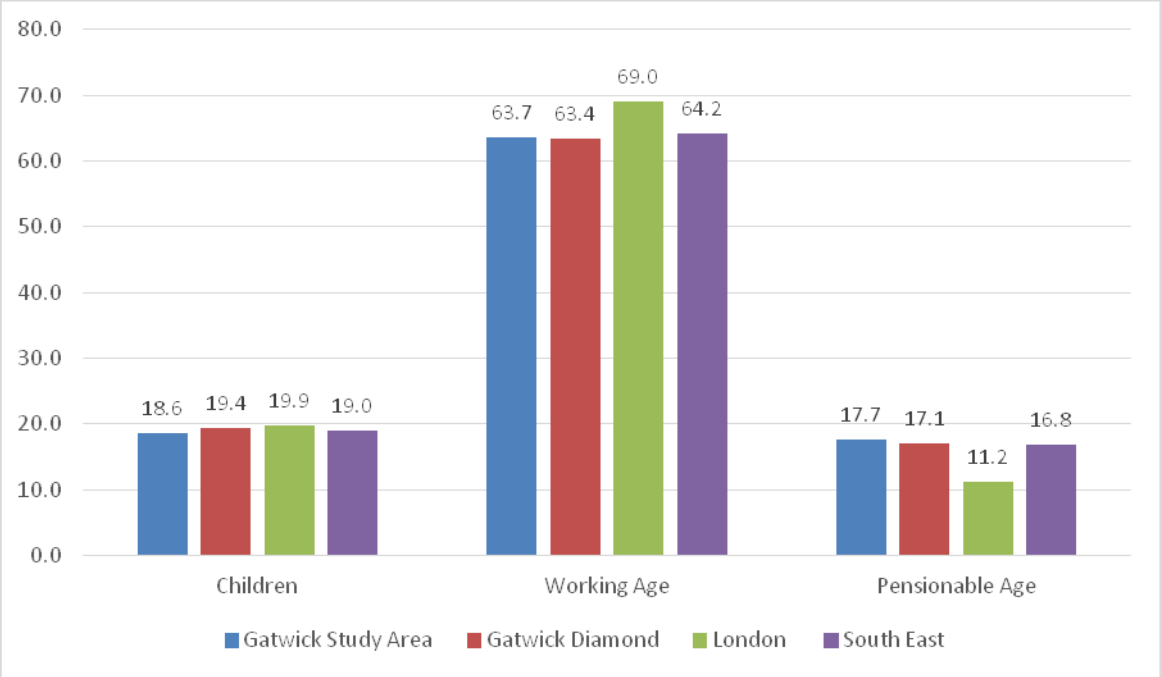
2.8 The current economic environment in the Study Area is analysed below. Where appropriate, reference is made to the LEP area and the Gatwick Diamond.

Population

2.9 The Study area has a population of 1,944,000 within which the Gatwick Diamond has a population of 672,000.

2.10 Figure 2.1 shows the distribution of the 2012 population of the study area, the Diamond, London and the South East broken down by three main age categories – children, working age people and people of pensionable age. The population structure is very similar to that of the region though it is notable that the proportion of the population accounted for by those of working age is high in London and the proportion of population of pensionable age in London is lower.

Figure 2.1: Population Distribution by Main Age Group, 2012



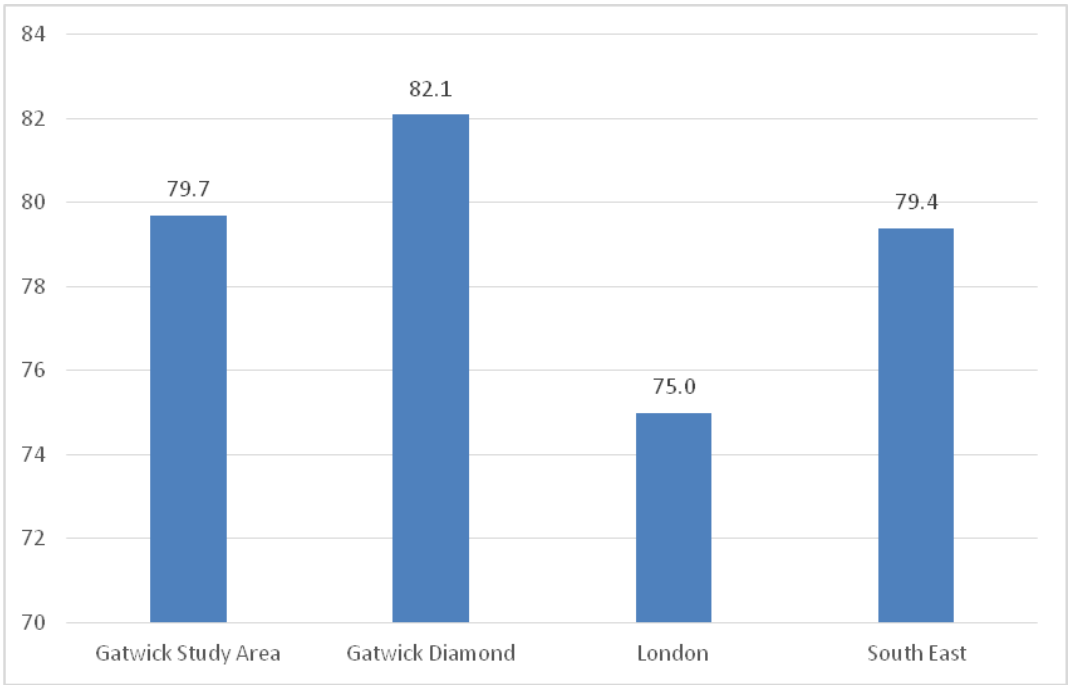
Source: Mid-Year Population Estimates, ONS

2.11 The population of the study area in 2012 was almost 12% of the total population of London and the South East. Between 2009 and 2012 the population of the study area grew more rapidly than at the regional level (3.1% compared to 2.8% in the South East). The population of the Gatwick Diamond authorities within the study area was 691,100 in 2012 which represents 34.5% of the population of the study area. Population growth in the Gatwick Diamond between 2009 and 2012 was 2.8%.

The Labour Force

2.12 The economic activity rate measures the proportion of the population of working age who are employed or seeking employment. A high economic activity rate is generally associated with high labour demand. Figure 2.2 shows that the Study Area has an activity rate of 79.7% which is just above the rate for the South East 79.4% and almost 5 percentage points above the rate for London (75%). The activity rate for the Gatwick Diamond is even higher at 82.1%.

Figure 2.2 Economic Activity Rates, 2012, (%)



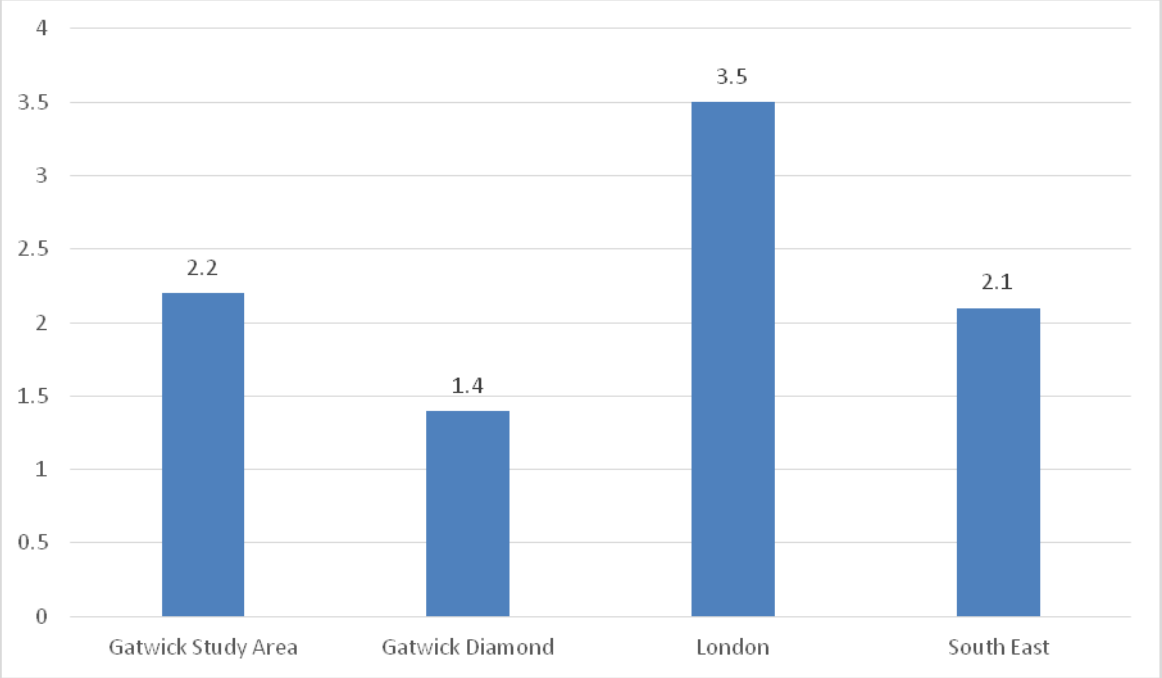
Source: Annual Population Survey, ONS

2.13 Applying the activity rates to the population aged 16-64 yields a labour force of over 1 million in the study area. The Gatwick Diamond accounts for 35% of this labour force at 353,400.

2.14 Following a general reduction in unemployment rates across the UK between 2001 and 2008, unemployment rates rose sharply in 2009 as a result of the financial crisis and subsequent recession. Since 2011, unemployment rates have started to decline but they

still remain above the pre-recession levels. Figure 2.3 shows the current rates of unemployment in the study area, Gatwick Diamond, London and the South East.

Figure 2.3: Unemployment Rates, 2013, %



Source: Claimant Count, ONS

2.15 The total labour supply available to the study area includes people who live outside the study area and who commute into the study area to work. Equally, not all the resident labour supply is available to study area employers given the existence of out-commuting.

2.16 Information on commuting patterns is available from the Annual Population Survey (APS). Analysis of the 2011 data shows that approximately 707,000 people live *and* work in the Gatwick Study Area. There are over 208,000 people living in the study area and commuting to work elsewhere. In addition, 106,000 people living elsewhere commute into the study area for work. Hence, in 2011, the study area was a net "exporter" of labour with out-commuting exceeding in-commuting by over 100,000.

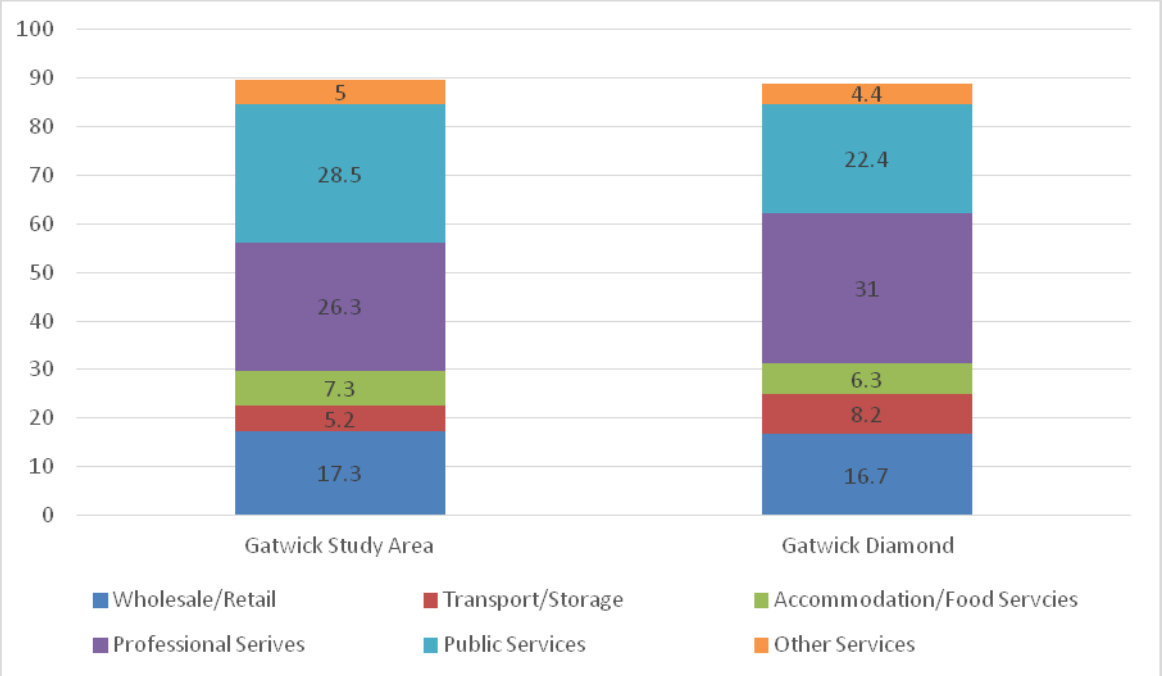
Employment

2.17 Total employment comprises employees and the self-employed. In 2012, as shown in Table 2.1, total employment in the study area was 928,700 with the Gatwick Diamond accounting for 377,200 or almost 41%.

Table 2.1: Employment, 2012 (000s)			
	Employees	**Self Employed**	**Total**
Gatwick Study Area	775.4	153.3	928.7
Of which:			
- Gatwick Diamond	325.5	51.7	377.2
London	4,446.5	673.4	5,119.9
South East	3,767.1	642.1	4,409.2
Source: Census of Population			

2.18 As with the rest of the UK, the Study Area economy is dominated by the service sector which accounts for almost 90% of employees. As Figure 2.4 shows, professional and public services account for 26% and 29% of employees respectively. The Gatwick Diamond also has a similar proportion of employees in service sector jobs (89%) although the Diamond has a slightly higher proportion of employment in professional services and a lower proportion in public services.

Figure 2.4: Distribution of Service Sector Employees, 2012 (% of all employment)



Source: Business Register and Employment Survey, Nomis

2.19 Employment in the study area has grown by 2.6% since 2009. Growth in the Gatwick Diamond was far higher at 3.2% between 2009 and 2012. Both the Diamond and the Study Area enjoyed faster growth in employment over this period than the South East (1.1%) or Great Britain (0.3%). However, practically *all* of the Study Area's growth was accounted for

by the Diamond. If the employment growth of 11,800 in the Diamond is "stripped out" then employment in the rest of the Study Area grew by only 300 over the period (0.1%).

Gross Value Added

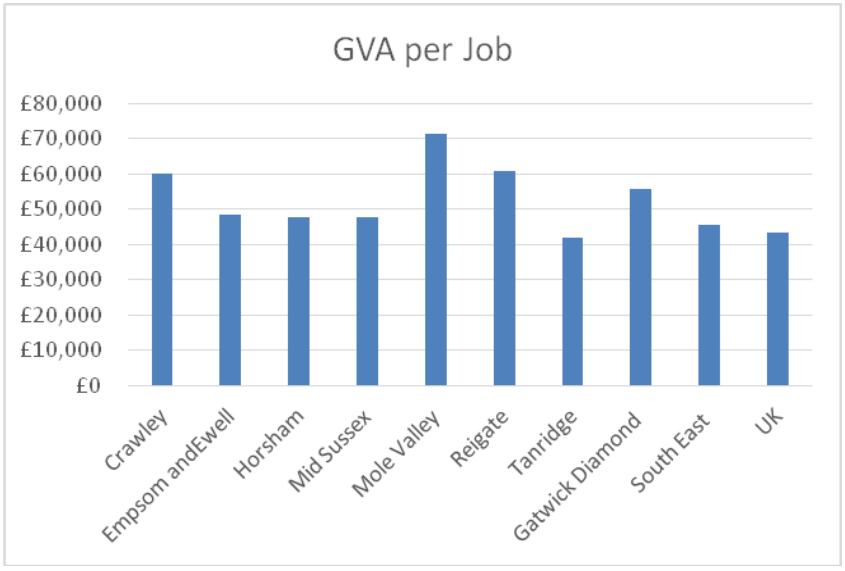
2.20 Gross Value Added (GVA) is a measure of income earned from the production of goods and services in the area. GVA in the Study Area is estimated to be almost £41,700 million[1] in 2012 which is equivalent to £20,300 per head. This is below the UK average and contrasts with the information in the latest Coast to Capital LEP Strategic Economic Plan which indicated that the LEP had an above national average GVA per head in 2010.

2.21 The GVA per head is affected by population change and reflects not the income of people who live in an area but the value of what is produced divided by the number of people who live there. If, for example, there was a large in-movement to an area such as Brighton of highly paid workers all of whom commuted to London each day, the immediate effect would be to depress local GVA per head as the local population would have gone up but not (in the short run) local output.

2.22 A more useful but less readily available measure is GVA per job filled; this truly reflects productivity. Experimental data issued by the Office of National Statistics indicate that Surrey, East and West Sussex areas near to the airport have GVA per job about 6% above the UK average.

2.23 Data on GVA per job have been obtained for the Gatwick Diamond which demonstrates that the area's economy is characterised by relatively highly skilled and high productivity occupations. This is evident from Figure 2.5.

Figure 2.5 GVA per Filled Job



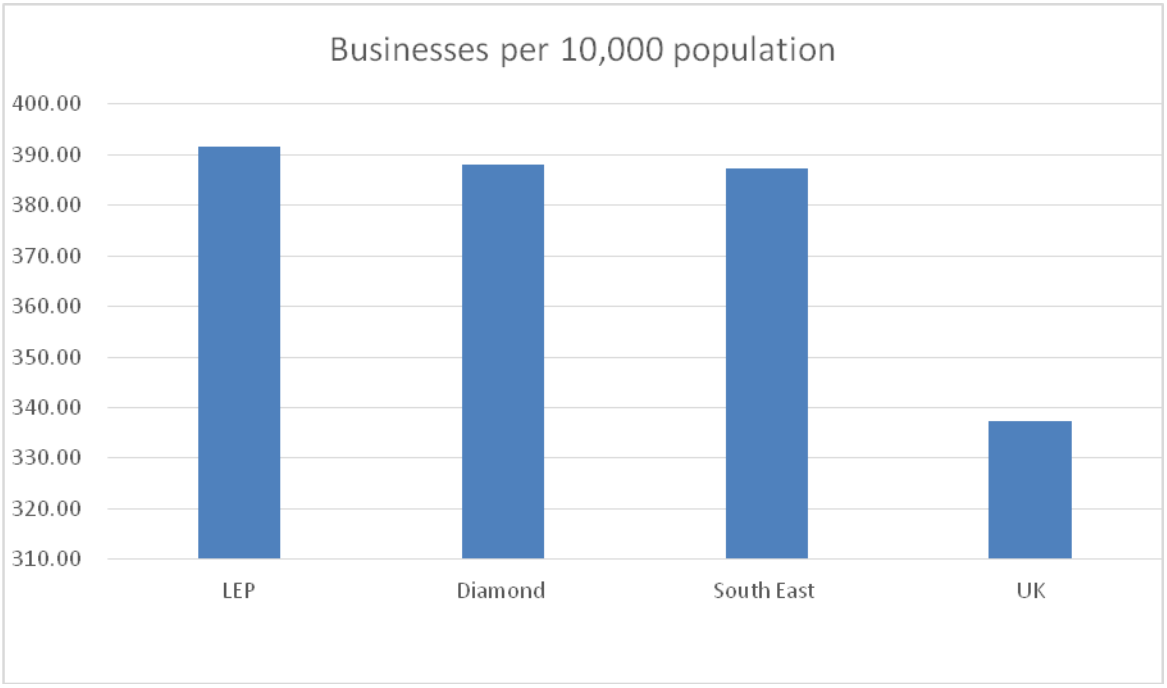
[1] Estimated by applying NUTS 3 GVA per head to the population (by local authority) of the study area.

2.24 Other than in Tandridge (the most distant part of the Diamond from Gatwick), GVA per employee is above the UK and Regional levels: indeed, it is well above those levels in Crawley, Reigate and Mole Valley. GVA per job reflects the presence of highly productive local jobs rather than high earning residents.

Enterprise

2.25 There is limited evidence on levels of entrepreneurship and new business formation in the study area. However, one indicator is the number of businesses per 10,000 persons in the population. This indicator is shown in Figure 2.6 for the LEP area (as a proxy for the study area), the Diamond and the South East.

Figure 2.6 Business Density



2.26 The LEP/Study Area and Diamond are similar to the rest of the South East in having levels of business density well above the UK average.

Conclusions

2.27 The Study Area economy and the wider area within which it is set are large and diversified. It has shown strong levels of growth, is home to many high productivity businesses and demonstrates high levels of entrepreneurial activity.

2.28 At the same time, it is also evident that the sub-area nearest to the airport, the Gatwick Diamond, has been by far the main source of economic growth for the area as a whole and is home to much of the “high value” economic activity. This demonstrates the key role of the airport as a driver of economic growth in the sub-region. This issue will be examined further below with reference to catalytic and wider impacts of airport expansion.

Section 3 : Direct and Supply Chain Impacts

Introduction

3.1 The development of a second runway at Gatwick Airport will result in an expansion of activity at the airport which will give rise to additional (direct) employment and incomes at the Airport and lead to increased demand in the local economy as a result of supply chain effects (indirect employment and income impacts) as well as through the spending of the wages and salaries of the additional direct and indirect employees (induced effects). We may term these effects as increases in "Gatwick related" employment. Increased employment will feed through to demand for labour with potential impacts on migration, population and the housing requirements.

3.2 In this section, therefore, we analyse the predicted impact of the second runway option on employment and on the local labour and housing markets in the Study Area and the Diamond. The estimated levels of Gatwick related employment associated with the second runway are compared to the base case where Gatwick continues to operate as a single runway airport with a maximum capacity of 50mppa.

3.3 The forecasts of Gatwick related employment are then set in context by considering the potential future levels of labour supply and demand in the Study Area.

3.4 The labour market and Gatwick related employment forecasts in this assessment involve dates that extend unusually far in to the future. The second runway is not planned to open until 2025 and the full capacity of the runway may not be reached until around 2050. The analysis of impacts in relation to employment and the labour market have been undertaken for 2025/26, 2030/31, 2040/41 and 2050/51 which are dates consistent with air traffic forecast spot years.

Gatwick Second Runway Construction Employment

3.5 In addition to increased employment related to future operation of Gatwick airport, a second runway would have a (time limited) impact on labour demand and employment related to the construction of the runway. A brief assessment of the employment impacts arising from the construction phase is set out below.

3.6 The construction will take place in four phases and Table 3.1 shows the cost of each phase, the peak labour demand and the peak year.

Table 3.1: Construction Employment			
Phase	Capital Cost	Peak Employment	Peak Year
Runway Open	£2,060 m	2,000 - 4,000	2024/2025
Phase 1	£2,620 m	4,000 – 6,000	2028/2029
Phase 2	£1,070 m	2,500 – 4,500	2033/2034
Phase 3	£2,020 m	3,000 – 5,000	2038/2039

Source: GAL

3.7 This labour demand, although substantial, poses no challenges to labour supply or the labour market. The skills required will be standard civil engineering and construction skills and the peak employment will be equivalent to about 8% of the construction workforce in the study area and about 10% of construction employment.

Gatwick Related Employment and Income

Definition

3.8 The development and operation of a second runway at Gatwick will create specific increased labour demand in the local labour market in the following categories.

- Direct employment: people whose jobs are entirely related to and dependent on the operation of the airport. Direct employment is split into two categories – direct on-airport and direct off-airport. The distinction relates to the location of employment either within or outside the airport boundary.
- Indirect employment: employment created by the airport and businesses located at the airport purchasing goods and services from suppliers in the Study Area who in turn may purchase further goods and services from local suppliers.
- Induced employment: further employment in the Study Area supported by the expenditure of those whose incomes are derived directly or indirectly from the airport.

3.9 Corresponding to this additional employment will be increased local economic output which is measured by Gross Value Added or GVA (essentially the sum of incomes from employment and associated business incomes).

Current Position

3.10 The current position is first considered using the employment categories listed above unless otherwise stated. Forecasts of employment are compared against and start from the 2012 estimates of Gatwick related employment in the Study Area which are shown in Table 3.1. Total Gatwick related employment in the Study Area was 31,100 in 2012 with direct on-airport employment accounting for 67.5% of the total.

3.11 In 2012, there were 928,700 people in employment in the Gatwick Study Area comprising 775,400 employees and 153,300 people who were self-employed. Gatwick related employment therefore accounted for 3.3% of total employment in the Study Area in 2012.

Table 3.2: Gatwick Related Employment in Study Area, 2012	
Direct on-airport	21,000
Direct off-airport	2,200
Indirect	1,900
Induced	6,000
Total	31,100

Source: Optimal Economics *Note: All data have been rounded*

Key Assumptions

3.12 The two main drivers of employment at Gatwick are air traffic growth and productivity growth. Without a second runway air traffic at Gatwick is expected, over the long term, to increase from 45.2mppa in 2025 to 50mppa in 2050/51. With a second runway the airport is predicted to handle approximately 95mppa in 2050/51.

3.13 Given the uncertainties associated with forecasting over a long period, two alternative assumptions have been adopted relating to the annual growth rate of labour productivity: the alternative productivity growth rate assumptions are 1% and 2% per annum. These assumptions generate respectively higher and lower forecasts of future employment. The figure of 2% is very close to the long run trend in the UK economy while the 1% figure may be regarded as a pessimistic estimate which reflects the possibility that the recent economic crisis has adversely affected the long term capacity of the UK to grow.

3.14 The general approach to forecasting direct and indirect employment in the opening year and future years assumes that employment grows from the 2012 baseline in step with traffic growth between 2012 and the relevant forecast year with an allowance for productivity growth. Induced employment is estimated using an employment multiplier. A detailed description of the approach to forecasting each category of employment is given below

.

3.15 **Direct on-airport employment**: Forecasts of direct on-airport employment have been prepared for Gatwick Airport by consultants ICF SH&E for the base case and the runway option at key dates during the forecasting period. These forecasts are based on direct on-airport employment of 21,000 in 2012 and traffic of 33.8 mppa. The effect of productivity growth is that the number of passengers per employee increases.

3.16 **Direct off-airport employment**: direct off-airport employment forecasts are derived from the 2012 estimate of direct-off-airport employment (2,200) which was prepared as part of the

Master Plan[2] process based on a telephone survey of off-airport companies. It has been assumed that employment growth is related to passenger traffic growth between 2011/12 and the relevant forecast date with an allowance for increased productivity.

3.17 **Indirect employment**: the indirect employment estimate for 2012 prepared for the Master Plan reflected the type and level of purchases made by companies at the Airport from suppliers in the London and South East economies. Data are not available to determine the extent to which these purchases would be made in the Gatwick Study Area. We have therefore reviewed the estimates of indirect employment prepared as part of the planning application for the Gatwick North Terminal Extension (NTX) in 2009. The application provided estimates of indirect employment for an area[3] which is very similar to the current study area

3.18 The NTX estimate of indirect employment was almost 1,900 in 2008/9. Given the combination of minimal traffic growth and observed falling productivity in the economy between 2008/9 and 2011/12 it is assumed that there was no change in indirect employment such that the estimate of 1,900 is retained as the 2011/2012 estimate and forms the basis for forecasts in this analysis.

3.19 We have assumed that employment growth is related to passenger traffic growth between 2011/2012 and the relevant assessment date with an allowance for increased productivity. This forecasting methodology assumes that the airlines and businesses operating at the Airport in future have the same broad expenditure patterns as the businesses currently at Gatwick.

3.20 **Induced employment**: it is standard practice in economic impact studies to estimate induced employment using an employment multiplier. The value of the multiplier is influenced by the size and structure of the economy. Economies which are relatively large in output and employment terms have a high capacity to create employment since they produce many of the goods and services on which people spend their incomes. Conversely, smaller economies have a lower capacity to produce these goods and services which are more likely to be imported. Generally the larger the economy the larger the multiplier will be (as there are more potential suppliers firms in large economies than in small ones). We have adopted a value of 1.24 for the multiplier in this analysis which is consistent with the multiplier used in previous work for Gatwick including the NTX project.

[2] "Gatwick Master Plan", Gatwick Airport, July 2012

[3] Adur, Brighton and Hove, Bromley, Crawley, Croydon, Eastbourne, Horsham, Lewes, Mid Sussex, Reigate and Banstead, Tandridge, Wealdon, Worthing

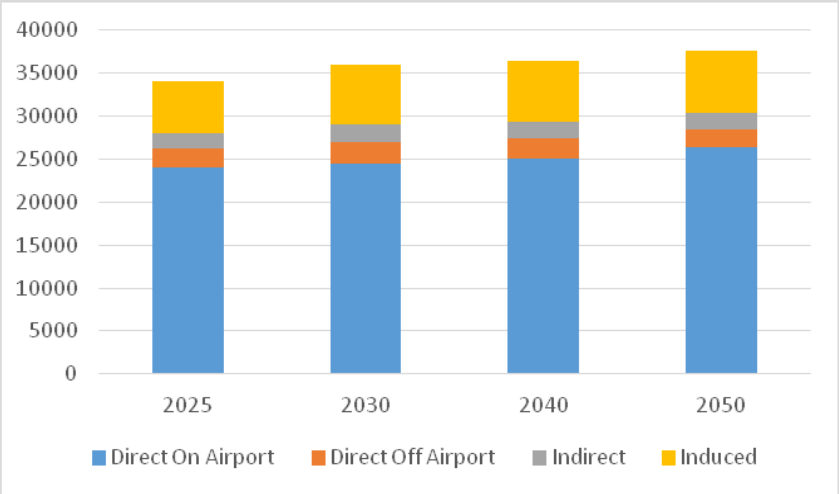
Forecasts

3.21 Figure 3.1 shows total Gatwick related employment by year in the base case and second runway option under the low and high productivity growth assumptions. Without a second runway, total Gatwick related employment in the Study Area is forecast to increase from 34,900 - 35,600 in 2025/6 to 36,100 - 37,700 in 2050/51 depending on the productivity assumptions. Direct on–airport employment accounts for the majority of employment in all years.

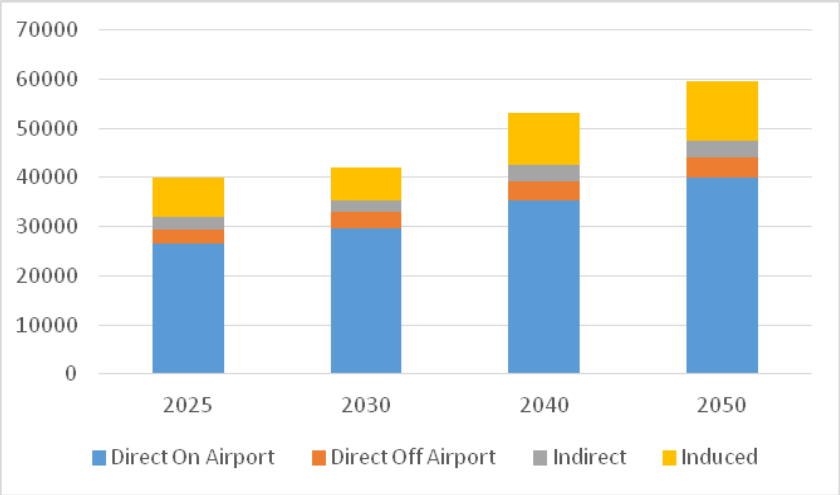
3.22 With a second runway Gatwick related employment is forecast to be between 39,000 and 38,900 in 2025/26. By 2050/51 this is forecast to increase to between 56,700 and 59,700 depending on the productivity assumption.

Figure 3.1: Gatwick Related Employment in Study Area,

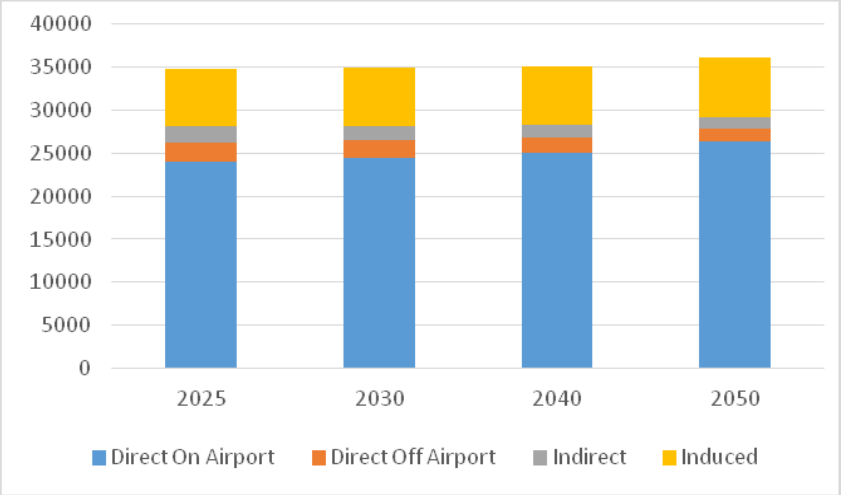
Base – Low Productivity



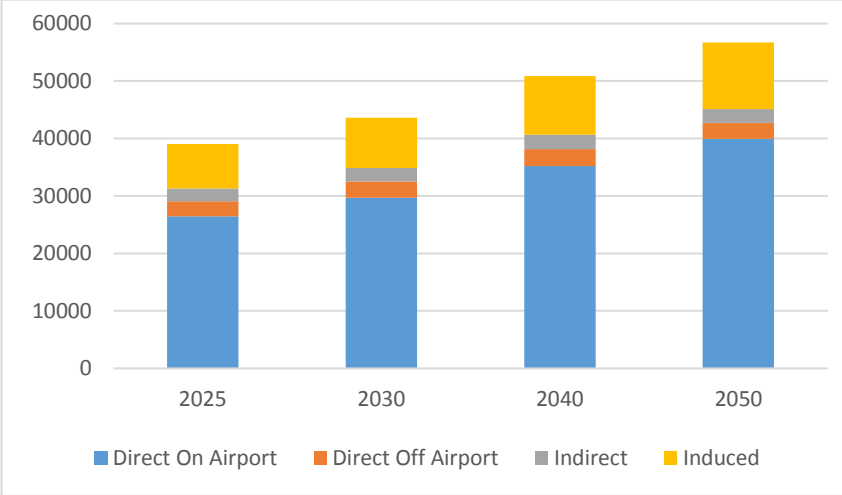
Second Runway Low Productivity



Base – High Productivity



Second Runway – High Productivity



Source: Optimal Economics

3.23 The employment impact of the second runway relative to the base case in each assessment year is shown in Table 3.3 under high and low productivity assumptions. The additional employment associated with the second runway increases throughout the period, reflecting the increasing traffic at the Airport. In 2050/51 the second runway is estimated to generate an additional 22,000 employees in the Study Area compared to a single runway airport under low productivity and 20,600 under high productivity.

3.24 The increase in GVA in the Study Area associated with this increase in employment is between £1,176m (low productivity) and £1,301m (high productivity) in 2040/41 and between £1,728m (low productivity) and £1,943m (high productivity) in 2050/51.

Table 3.3: Impact of Total Gatwick Related Employment in Study Area,

Impact Relative to Base in each year	2025/26	2030/31	2040/41	2050/51
Low Productivity	4,830	9,010	16,700	22,000
High Productivity	4,153	8,650	15,790	20,600

Source: Optimal Economics *Note: All data have been rounded*

Gatwick Diamond Area Impacts

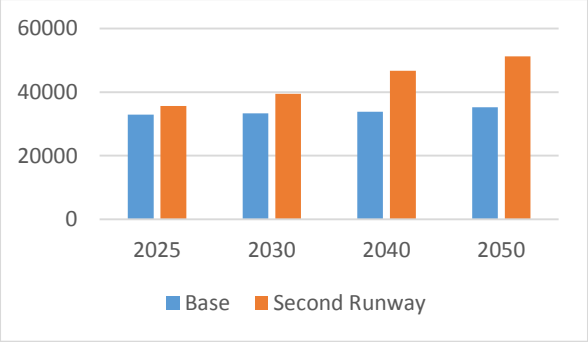
3.25 Gatwick airport related employment impacts have also been calculated for the defined Diamond area. As the estimates of Gatwick related employment are based on the location of employment, direct employment is the same in the Diamond area as in the Study Area. There is no way of knowing the distribution of indirect employment across the Study Area so we have assumed that indirect employment in the Diamond reflects the Diamond's share of total Study Area employment[4]. Induced employment in the Diamond is calculated based on an employment multiplier. The results are shown in Figure 3.2 for the low and high productivity assumptions.

3.26 In the base case, Gatwick related employment in the Diamond is estimated to be between 32,900 and 33,900 in 2040/41 and 34,000 and 35,200 in 2050/51, depending on the productivity assumption. In 2040/41, total Gatwick related employment in the Diamond is estimated to be between 46,600 and 48,000 with a second runway depending on the productivity assumptions. By 2050/51 employment would increase to between 51,900 54,000.

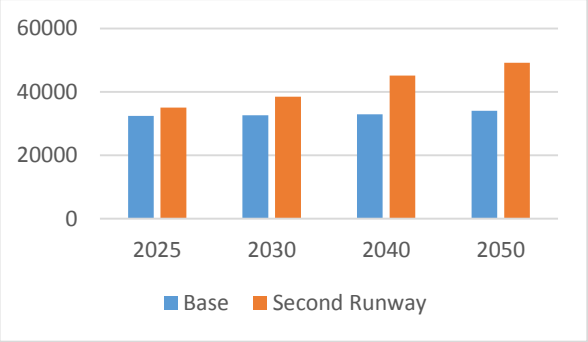
[4] Based on 2012 employees in employment from Business Register and Employment Survey

Figure 3.2: Summary of Total Gatwick Related Employment in the Gatwick Diamond,

Low Productivity Growth



High Productivity Growth



Source: Optimal Economics

3.27 The employment impact of the second runway in the Diamond relative to the base case in each assessment year is shown in Table 3.4. In 2040/41 the second runway will generate an additional 13,900 to 14,500 jobs under the high and low productivity scenarios respectively compared to the base case. By 2050/51 an additional 18,200 to 19,100 employees are forecast with the second runway compared to a single runway airport in 2050/51. This would involve an increase in GVA in the Diamond of up to £1,716m in 2050/51

Table 3.4: Impact of Total Gatwick Related Employment in Gatwick Diamond

Impact Relative to Base	2025/26	2030/31	2040/41	2050/51
Low Productivity	3,380	7,600	14,500	19,100
High Productivity	3,450	7,300	13,900	18,200

Source: Optimal Economics *Note: All data have been rounded*

Labour Supply and Demand in the Study Area

3.28 The forecasts of Gatwick related employment must be placed within the context of the Study Area labour market and the projected future level of labour supply and demand in the Study Area.

Labour Supply

3.29 Labour supply can be defined as the number of people in work or looking for work in the Study Area. It is dependent on the resident population of working age and the proportion of that population who wish to work (the economic activity rate). Forecasts of labour supply

over a long period such as 2025/26 to 2050/51 are subject to high levels of uncertainty particularly around key variables such as future levels of migration and activity rates.

3.30 Forecasts of population and labour supply for the Study Area were commissioned from the Chelmer Population and Housing Model which covers the period to 2036. Beyond 2036, there are no population and labour supply forecasts available, so forecasts for 2041 and 2051 have been produced by extrapolation of the 2031-2036 population growth rates over the period 2041 and 2051.

3.31 Three sets of forecasts were commissioned from Chelmer as follows:

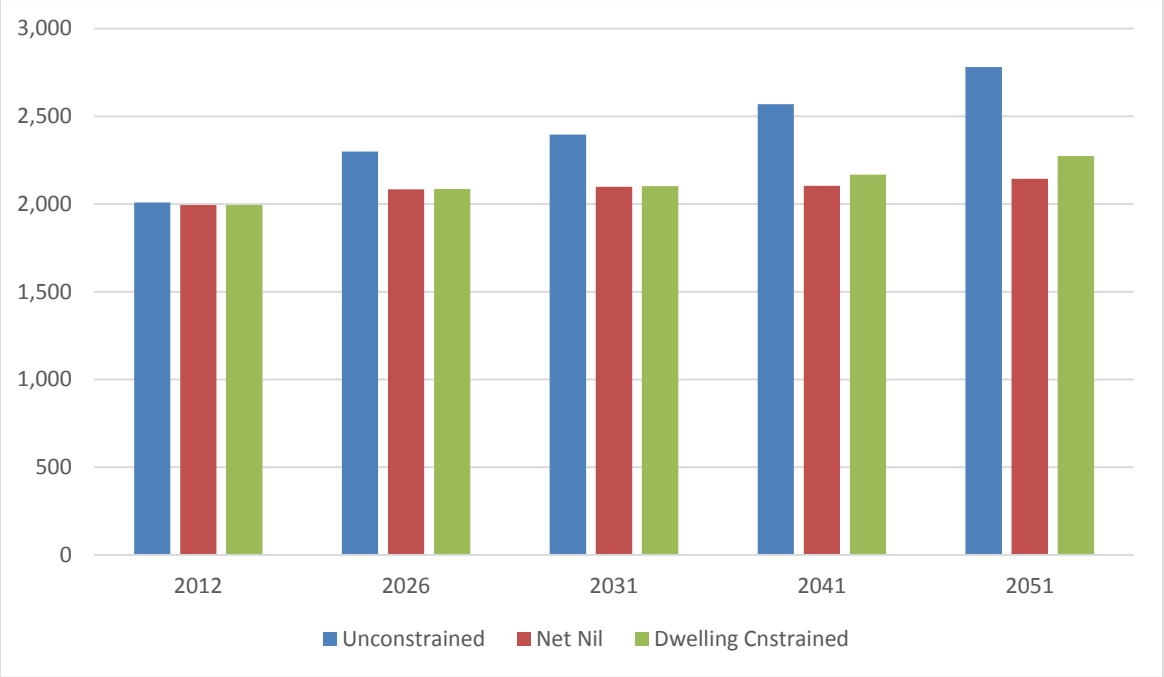
- Unconstrained: these are trend based national projections, similar to those produced by the Department for Communities and Local Government (DCLG);
- Zero net (or net nil) migration: where there is both 'in and out' movement of people but the sum of this is zero;
- Dwelling constrained: where population growth is assumed to be limited by the increase in housing supply based on based on current planning assumptions.

3.32 Figure 3.3 shows projections of population by modelled scenario for the period 2012 to 2051. The unconstrained forecasts show population growth in the study area from 2 million in 2012 to almost 2.3 million in 2026 and 2.78 million in 2051. That is an increase of 38% over the period 2012 to 2051. The majority of the increase in the population is in the over 65 age group which is forecast to increase by almost 449,000 between 2012 and 2051. The population of working age is forecast to increase by over 255,000 (20%) between 2012 and 2051.

3.33 The net nil migration scenario provides the lowest forecasts of population for the Study Area. Under this scenario, the population of the Study Area is forecast to grow from 2 million in 2012 to 2.1 million in 2050/51. The over 65 age group is the only age group forecast to grow between 2012 and 2051. As a result, the population of working age does not increase in this scenario and comprises a smaller proportion of total population than in the unconstrained forecasts.

3.34 The dwelling constrained scenario forecasts of population are higher than those of net nil migration and show growth in population of 278,000 between 2012 and 2051, resulting in a forecast population of almost 2.3 million in 2050/51.

Figure 3.3: Population Forecasts by Scenario, Study Area, 2012 to 2051 (000s)

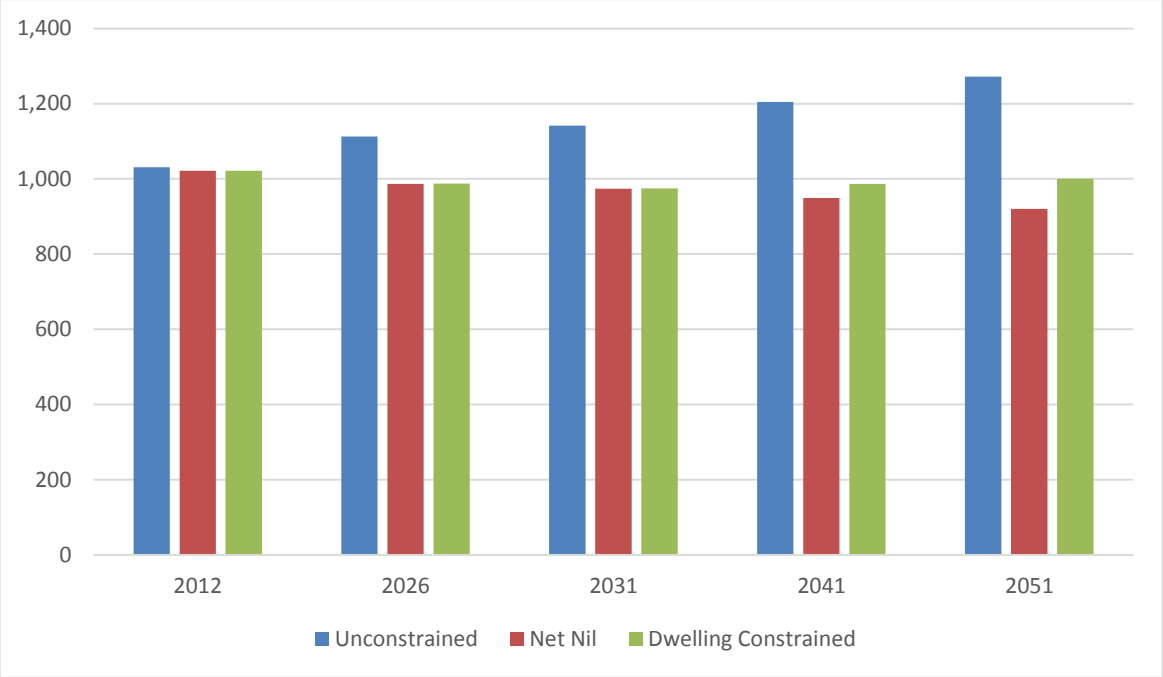


Source: Chelmer Model Forecasts with extrapolation

3.35 Resident labour supply is also forecast from the Chelmer Model to 2036 with the results for 2041 and 2051 derived by extrapolation of the growth rate between 2031 and 2036. Figure 3.4 shows the forecasts of labour supply by scenario for the Study Area for 2012 to 2051. Under the unconstrained forecast resident labour supply is predicted to increase from 1.03 million in 2012 to 1.11 million in 2026 and 1.27 million in 2051 – an increase of just over 241,000.

3.36 In both the net nil migration and dwellings constrained scenarios, the labour force is forecast to fall between 2012 and 2051. In 2051 the net nil migration labour force is forecast to be 920,000 which represents a decrease of 102,000 (-10%) from 2012. With the dwelling constrained scenario, the labour force is predicted to be 1 million in 2051.

Figure 3.4: Labour Supply by Scenario, Study Area, 2012 to 2051 (000s)

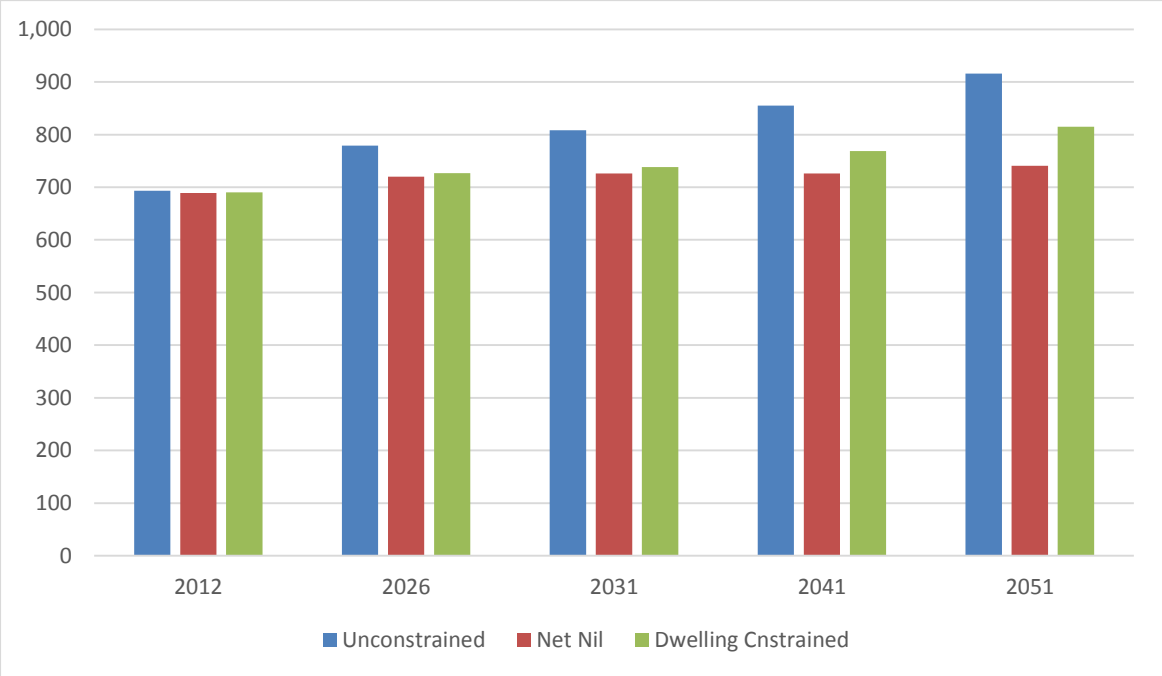


Source: Chelmer Model Forecasts with extrapolation

3.37 Forecasts to 2036 of population and labour supply were also commissioned from the Chelmer Model for the Gatwick Diamond area. Forecasts for 2041 and 2051 are based on extrapolation using the same approach as for the Study Area as a whole. The population forecasts are shown in Figure 3.5 and labour supply is shown in Figure 3.6.

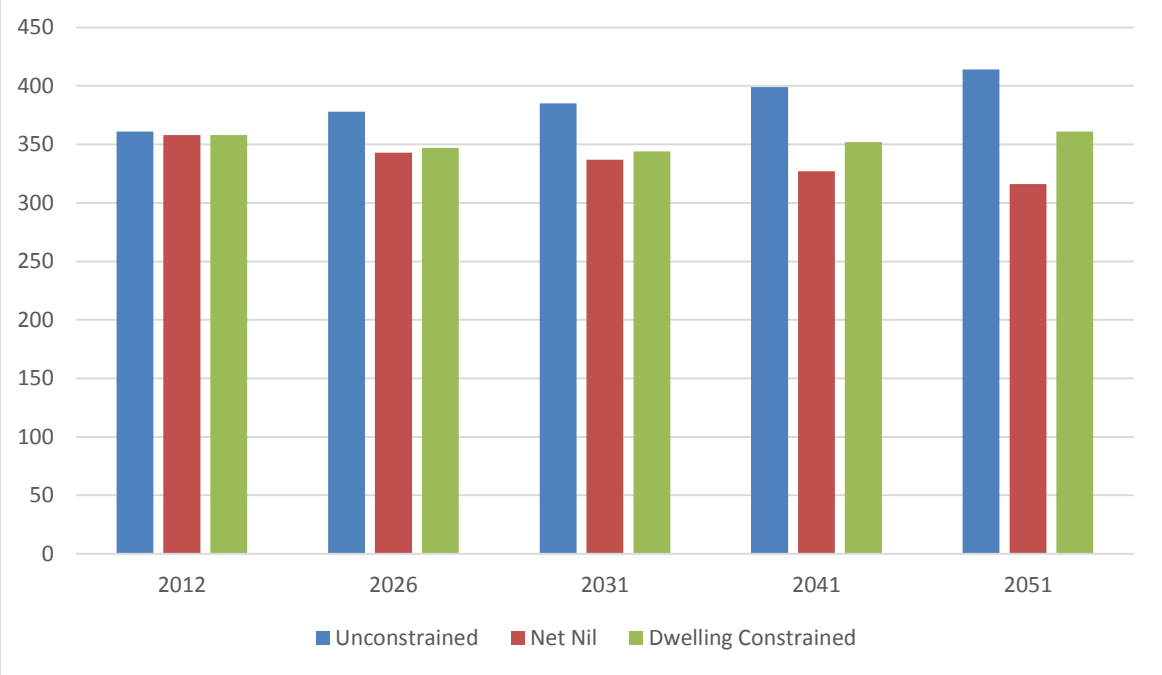
3.38 The Gatwick Diamond population is forecast to increase in the unconstrained scenario from 692,800 in 2012 to 779,400 in 2026 and 916,500 in 2051, that is, an increase 32%, proportionately lower than for the Study Area as a whole. Population growth within the Diamond is less with the other two scenarios and is forecast to be 741,000 in 2051 under net nil migration and 815,000 under the dwelling constrained scenario.

Figure 3.5: Gatwick Diamond Population Forecasts by Scenario (000s)



Source: Chelmer Model Forecasts with extrapolation

Figure 3.6: Gatwick Diamond Labour Supply by Scenario, 2012 to 2051 (000s)



Source: Chelmer Model Forecasts with extrapolation

3.39 Resident labour supply in the Diamond area is forecast to increase from 361,000 in 2012 to 414,000 in 2051 in the unconstrained demand scenario which is an increase of almost 36,000 (9.5%) over the 25 year period. There is a slight growth in labour supply in the dwelling constrained scenario between 2012 and 2051 at 3,000 (0.8%). The net nil migration scenario forecasts a reduction in labour supply between 2012 and 2051 of 42,000 (-12%).

Labour Demand/Employment

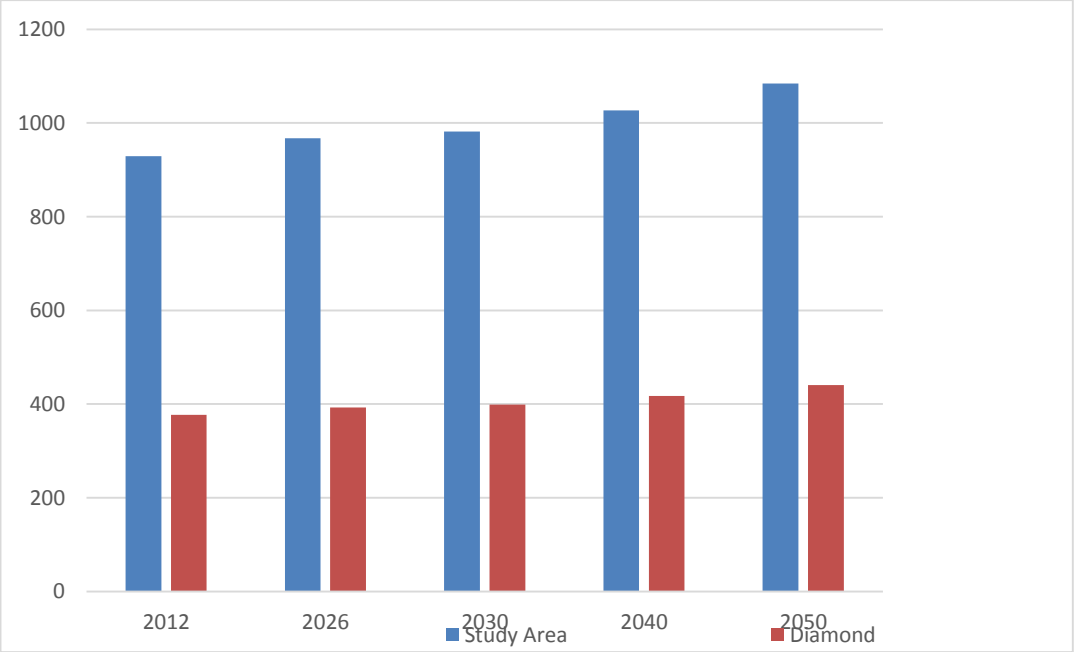
3.40 Forecasts of employment for the Study Area were commissioned from Cambridge Econometrics Local Economy Forecasting Model. The forecast period for the model only extends to 2025 the assumed opening date of a second runway at Gatwick, therefore all forecasts for the assessment period of 2025/26 to 2050/51 have been based on extrapolation. A five year rolling average growth rate was used to derive employment forecasts for all other years in the forecast period.

3.41 Employment in the Study Area is estimated on this basis to increase from 928,900 in 2012 to 967,300 in 2026 and to 1.08 million in 2050. This is an increase of 155,000 (16.7%) between 2012 and 2050.

3.42 Employment in the Diamond authorities has been estimated from the forecasts for the Study Area by assuming that the Diamond retains a constant proportion of Study Area employment.

3.43 Employment in the Diamond authorities within the Study Area is estimated to increase from 377,200 in 2012 to almost 440,300 in 2050. Figure 3.7 shows the forecasts of employment in the Study Area and the Diamond.

Figure 3.7: Employment Forecasts, Study Area and Diamond, 2012-2050 (000s)



Source: Cambridge Econometrics and extrapolation

Labour Market Position

3.44 The employment and resident labour supply forecasts for the Study Area and the Diamond are combined in Table 3.5. The 2012 position is that the Study Area has net out-commuting (more resident workers than jobs). With unconstrained migration the Study Area is forecast to continue to have an excess of resident labour supply over local demand throughout the period 2025/6 to 2050/51. There would therefore be growing net out-commuting. The implication of these forecasts is that the additional employment created by expansion at Gatwick should be able to be easily accommodated from the projected labour supply within the Study Area and, indeed, should contribute to an improved labour supply/demand balance.

3.45 In the unconstrained scenario the level of forecast excess labour supply in the Study Area increases as the forecast period lengthens, although given the length of the forecast period the position beyond 2040/41 in particular should be treated with caution. With the other two scenarios, there is forecast to be an excess of labour demand in the Study Area in the forecast period. The "gap" between resident labour supply and local employment under net nil and dwelling constrained would be expected to be filled by in-commuting. This is the reverse of the position in the unconstrained forecast.

Table 3.5: Labour Market Balance, Study Area and Gatwick Diamond (000s)				
	2025/26	2030/31	2040/41	2050/51
Study Area				
Unconstrained	145.5	160.3	178.1	187.8
Net Nil Migration	20.1	-7.8	-80.3	-163.6
Dwelling Constrained	20.8	-6.7	-39.7	-84.2
Gatwick Diamond				
Unconstrained	-14.8	-14.1	-18.1	-26.3
Net Nil Migration	-50.1	-61.3	-90.6	-124.2
Dwelling Constrained	-45.8	-54.4	-64.7	-79.4

Note: Labour market balance is supply less employment

Source: Optimal Economics

3.46 Within the Gatwick Diamond, there is a projected excess of employment over resident labour supply throughout the forecast period under all three scenarios. While the level of excess employment widens throughout the forecast period, the "gap" widen significantly under the net nil scenario. Once again the longer term needs to be treated with caution.

Relative Impact of Gatwick Related Employment

3.47 This section summarises the impact of the second runway relative to the wider Gatwick labour market. The impact is assessed at 2040/41 and 2050/51 and is considered in two ways:

- The absolute level of Gatwick related employment as a proportion of total employment in the Study Area and Diamond in the assessment year; and
- The *additional* employment associated with a second runway as a proportion of total employment in the Study Area in the assessment year.

3.48 It was noted above that Gatwick related employment accounted for 3.3% of total employment in the Study Area in 2012. Table 3.6 provides details of the absolute and relative effect of the second runway on that figure using the low and high productivity assumptions in 2040/41 and 2050/51.

3.49 In 2040/41 total Gatwick related employment in the single runway base case is forecast to account for 3.5% of total employment in the Study Area labour market which is slightly above the proportion in 2012. The second runway option involves an increased level of Gatwick related employment which is forecast to account for 4.9% (high productivity) to

5.1% (low productivity) of total labour market employment. Even so, Gatwick is thus not forecast to become a dominant employer in what is a large labour market.

3.50 The *additional* employment in 2040/41 is forecast to account for 1.6% to 1.9% of total labour market employment under high and low productivity assumptions respectively. It is of course accepted that the effects will be relatively greater closer to the airport.

Table 3.6: Impact of Second Runway, 2040/41 and 2050/51 – Study Area

	Total Gatwick Employment		Additional Gatwick Employment	
	Number	% of all emp.	Number	% of all emp.
Low Productivity				
2040/41				
Base	36,400	3.5		
Second Runway	53,060	5.1	16,705	1.6
2050/51				
Base	37,700	3.5		
Second Runway	59,710	5.5	22,013	1.9
High Productivity				
2040/41				
Base	35,100	3.5		
Second Runway	50,866	4.9	15,788	1.5
2050/51				
Base	56,712	3.3		
Second Runway	56,712	5.4	20,621	1.9

Source: Optimal Economics

3.51 In 2050/51 total Gatwick related employment in the base case is thus forecast to account for approximately 3.3% to 3.5% of total employment in the study area. With a second runway Gatwick accounts for 5.4% to 5.5% of total labour market employment under high and low productivity assumptions. The additional employment in 2050/51 is forecast to account for 1.9% of total labour market employment in that year.

Gatwick Diamond

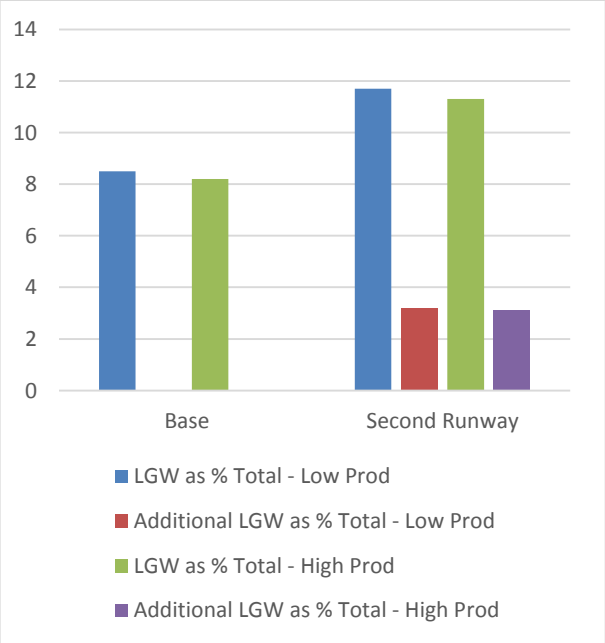
3.52 Given that all direct employment is located in the Diamond area and the Diamond accounts for just over 40% of total employment in the Study Area, the proportion of total employment in the Diamond which is related to Gatwick is much higher than the Study Area as a whole. Figure 3.8 provides a summary of the proportion of total employment in the Diamond which is Gatwick related and the proportion of total employment in the Diamond represented by the additional Gatwick related employment under each scenario.

3.53 In the base case, Gatwick related employment accounts for between 8.2% and 8.5% of total Diamond employment in the assessment years of 2040/41 and 2050/51. In 2040/41 the proportion increases to between 11.7% under high productivity and 12.1% under the low productivity assumptions.

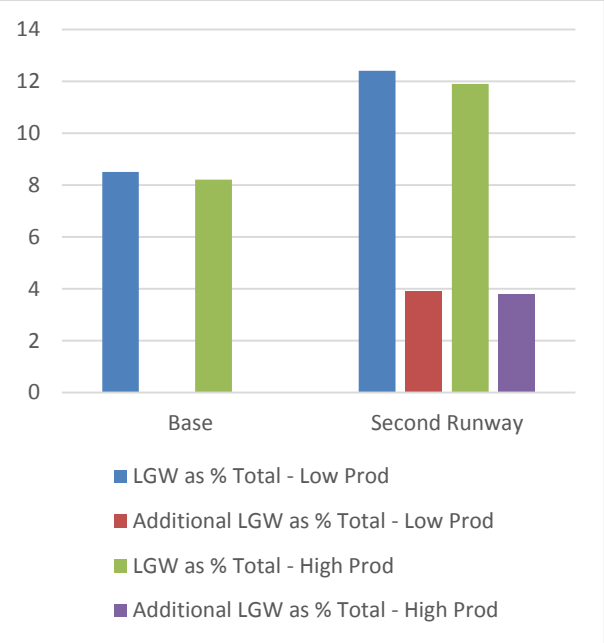
3.54 In 2050/51 the proportion of total Diamond employment which is related to Gatwick is 13.6% under the low productivity assumptions and 13.1% under the high productivity assumptions.

Figure 3.8: Importance of Gatwick Related Employment in Gatwick Diamond, 2040/41 and 2050/51, %

2040/41



2050/51



Other Impacts - Regional

3.55 The development of a second runway at Gatwick will result in there being less traffic at other airports in the region (not the Study Area) than would otherwise be the case. This is a potentially adverse effect on those locations and an offsetting effect at the regional level.

3.56 Traffic at Heathrow (with two runways) will be unaffected by a second runway at Gatwick as Heathrow traffic will be capacity constrained by the time a second Gatwick runway is in operation. There would be some traffic diversion from other airports in London and the South East which would reach 2 million in 2030, 5 million in 2040 and would fall to 2 million in 2050. We estimate that this would lead to employment being lower in the region outside the study area by 950 in 2030, 2,200 in 2030 and 870 in 2040. None of these effects imply reductions on *current* employment levels.

3.57 The main adverse effects of a second runway would be on Stansted which is in the East of England region. Traffic at Stansted would 8 million below forecast in 2030 and 6 million below in 2040 though it would be at forecast level in 2050. This implies that employment would be 3,800 lower at Stansted in 2030 and 2,600 lower in 2040. These are comparisons against forecast future employment levels not current levels. These are minor effects in relation to forecast. There are no effects compared to current levels.

Section 4 : Households

Introduction

4.1 A second runway at Gatwick will, as explained above, increase labour demand in the Study Area. Dependent on what occurs (or what assumptions are made) in relation to factors such as commuting, unemployment and growth in the working population in the Study Area, this could result in an increase in in-migration a growth in the number of households and an increased need for housing and other types of social infrastructure. These impacts are analysed here.

4.2 Not all of the Gatwick related jobs located in the Study Area will be filled by residents of the Study Area; some people will commute from further afield to access the employment offered. To estimate the extent to which the employment supported by Gatwick will be taken up by residents living in the Study Area, the following assumptions have been made:

- Direct on-airport and off-airport employment: it is assumed that 79.1% of forecast direct on-airport and off-airport employment will be resident in the Study Area. This is based on the place of residence of the current Gatwick workforce;
- Indirect and Induced employment: it is assumed that 86.9% of forecast indirect and induced employment will be resident in the Study Area. This is based on the proportion of people who live and work in the Study Area as a proportion of the people working in the area. Commuting data were taken from the Annual Population Survey (APS).

4.3 Applying these assumptions (by component of employment) to the forecasts of the Gatwick related employment yields the additional Gatwick related employees forecast to be resident in the Study Area.

4.4 In 2040/41, the number of additional employees resident in the Study Area with a second runway is forecast to be in the range 13,605 (low productivity assumption) and 12,839 (high productivity assumption). In 2050/51, the number of additional employees resident in the Study Area is in the range 17,934 (low productivity assumption) and 16,763(high productivity assumption).

Recruitment from Within Study Area

4.5 Not all of this increased employment will be reflected in the balance between projected labour supply and demand as it is possible that the increased demand will result in changes to the supply of labour. These potential impacts on supply of labour are discussed below.

Recruitment from the Unemployed

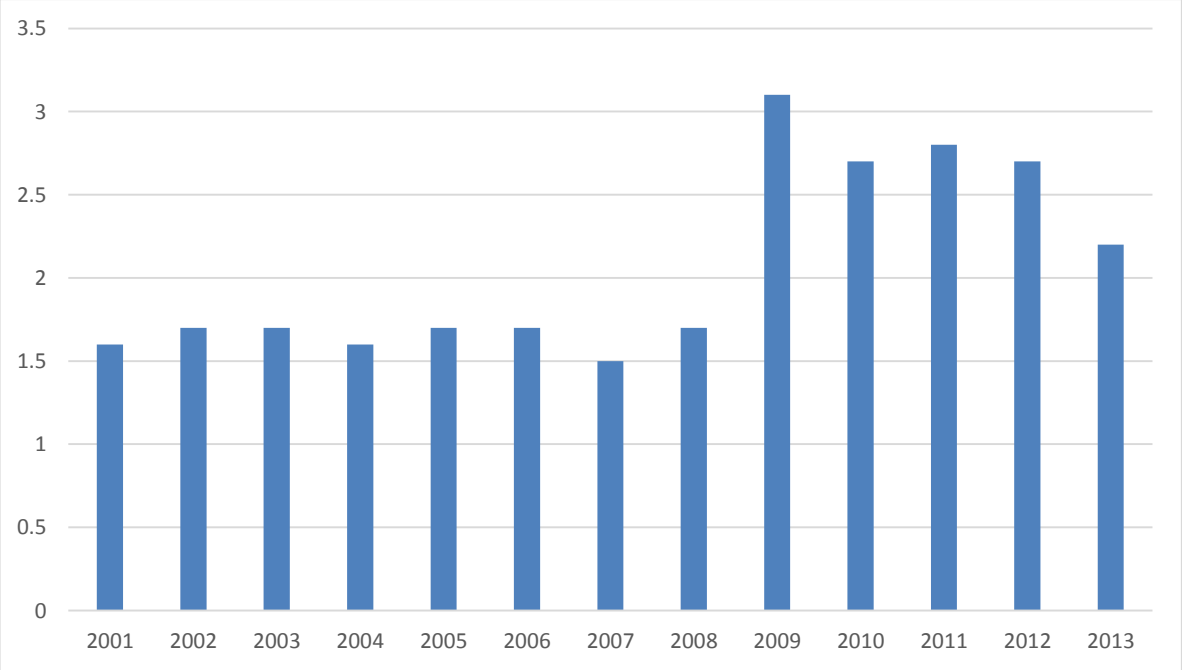
4.6 It is expected that the employment generated by development of a second runway would provide opportunities for people who would otherwise be unemployed. The extent to which

the employment opportunities can be taken up by unemployed people in the Study Area will depend upon the number and characteristics of the unemployed, the availability of training and the other employment opportunities available in the Study Area.

4.7 It is not possible to forecast the number and characteristics of the unemployed in the assessment period of 2025 to 2050, but the current and historical unemployment position provides guidance. Figure 4.1 provides a summary of the unemployment rate in the Study Area for the period 2001 to 2013.

4.8 The unemployment rate was around 1.6% in the Study Area between 2001 and 2008 which is a very low rate. It increased significantly to over 3% in 2009 during the recession, but declined again to 2.2% in 2013.

Figure 4.1: Unemployment Rates in the Study Area, 2001 to 2013, %



Source: Claimant Count, ONS

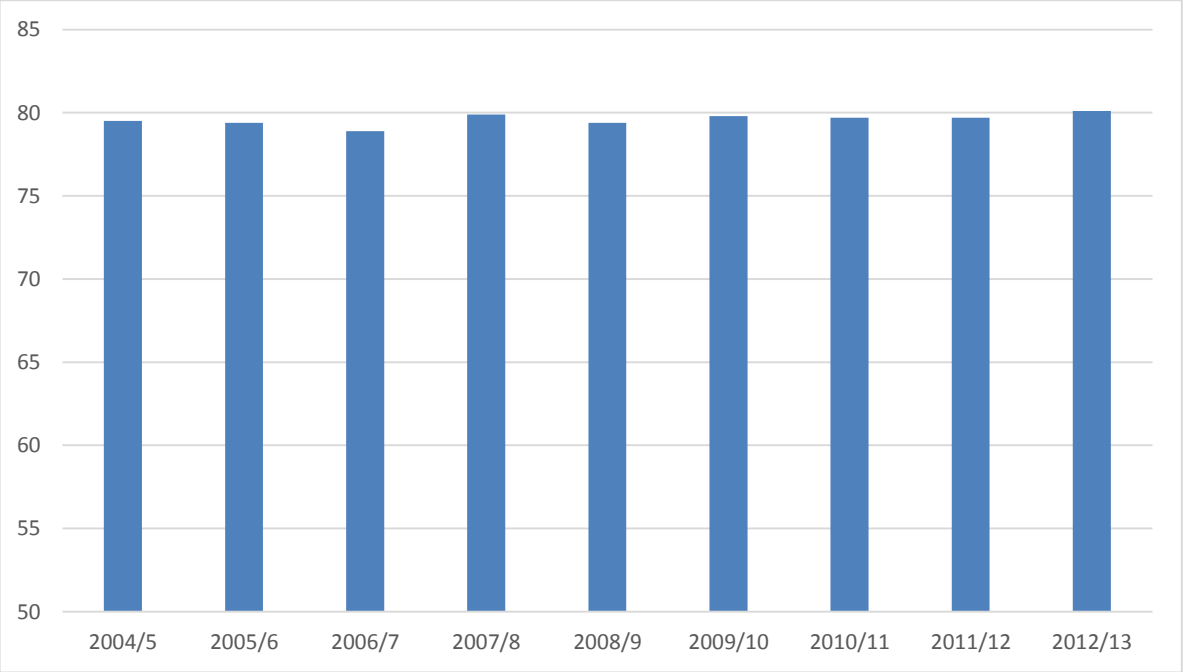
4.9 Given the historically low rates of unemployment, it is likely that there will be quite limited scope to recruit a substantial number of the additional employees from the pool of unemployed workers within the Study Area. For the purposes of this study we have assumed that a second runway at Gatwick might support a reduction in the future unemployment rate of 0.1% that would provide between 1,100 and 1,300 employees throughout the forecast period.

Recruitment from Increased Activity Rates

4.10 It is possible that the labour demand created by the second runway would result in an increase in local activity rates. The availability of more local jobs has the potential to

encourage more people to seek employment. This is the opposite of the so-called "discouraged worker" effect in which lack of employment opportunities causes people to give up seeking work. Figure 4.2 provides a summary of the activity rates in the Study Area for the period 2004/5 to 2012/13. The activity rate was around 79% to 80% in the Study Area throughout the period which is a relatively high rate at approximately 3 percentage points above the GB average.

Figure 4.2: Activity Rates in the Study Area, 2004/5 to 2012/13, %



Source: Annual Population Survey, ONS

4.11 Given the historically high activity rates, there is limited scope to recruit a substantial number of the additional employees in this way. For the purposes of this study we have assumed that an increase in the activity rate of 0.1% may be possible which would provide between 1,400 and 1,500 people throughout the forecast period.

Reduced Out-Commuting

4.12 The additional employment associated with the second runway will offer opportunities for changing jobs. Some people who take up the employment opportunities created by a second runway may, at the time, be living within the Study Area but commuting to jobs outside.

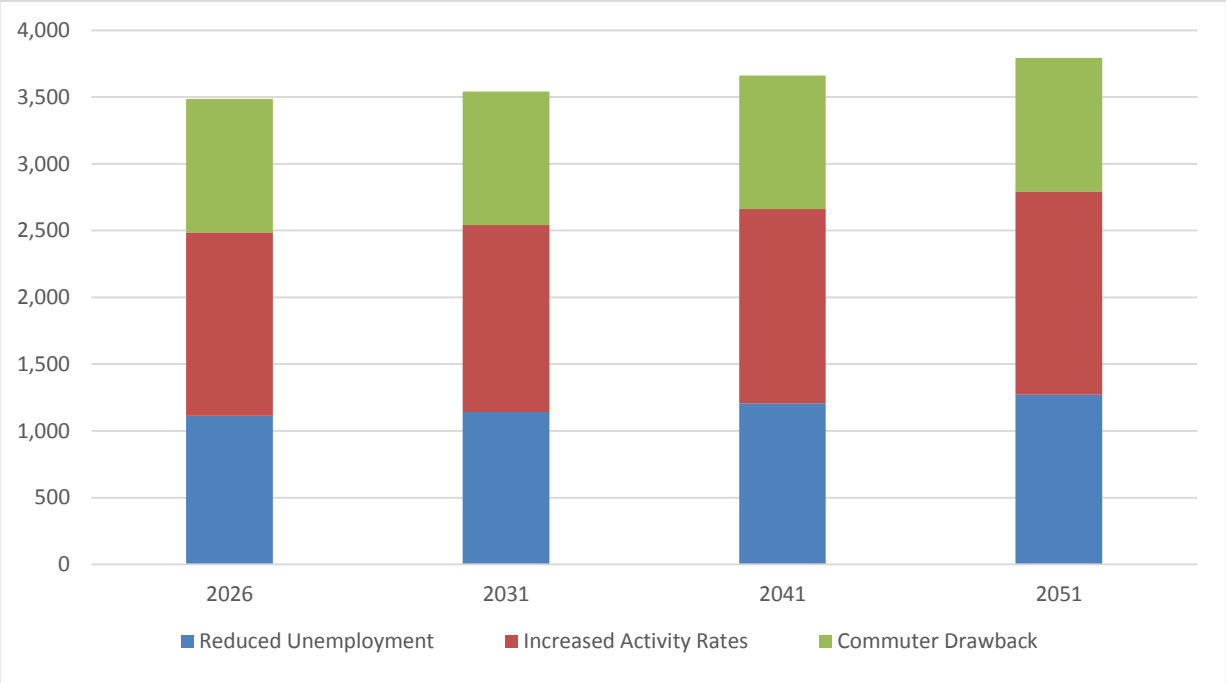
4.13 The Study Area is part of a complex labour market with substantial commuter flows into and out of the area. In 2012, there were almost 209,000 people living in the Study Area and commuting to work outside the area and over 106,000 people working in the Study Area, but living outside the area. Hence, there is a net out-flow of over 102,000 people who live in the Study Area and work elsewhere.

4.14 The extent to which commuter drawback can provide a source of labour for the additional Gatwick related employment will depend upon the current level of out-commuting and the nature and number of jobs available. Any airport transport initiatives may also create opportunities for local residents to take up employment in the Study Area. We have assumed that the level of out-commuting could be reduced by 1% which would provide 1,000 people throughout the forecast period.

Summary of Potential Additional Recruitment from Local Population

4.15 Figure 4.3 provides a summary of the potential level of additional recruitment from within the Study Area. In 2026, 3,700 people could be recruited from the local area and by 2050/51 this is forecast to increase to 4,000.

Figure 4.3: Potential Additional Labour Recruitment from Study Area



Source: Optimal Economics

4.16 The study area labour force is forecast (assuming unconstrained migration in line with Department for Communities and Local Government (DCLG) projections) to increase by about 160,000 between 2026 and 2051. It is expected that some of this additional labour would take up Gatwick related jobs. There is no basis on which to derive a precise forecast of Gatwick's future share of the additional labour force, but it is reasonable to expect that the natural increase in the labour force will be a further potential source of labour as this is predicted to occur irrespective of a second runway at Gatwick. The effect of Gatwick recruiting some employees from this natural increase in labour would reduce the need for additional Gatwick related employment to be met from *additional* in-migration.

4.17 Gatwick is also actively considering how deprived areas such as parts of London and the south coast could benefit from the employment and regeneration opportunities offered by the expansion of the airport. Increasing recruitment from the existing population in such areas could also reduce the amount of employment related to in-migrants.

Potential In-Migration and Households

In-Migration

4.18 The required level of in-migration is calculated by subtracting from the initial forecast of additional Gatwick related employees resident in the Study Area the potential level of increased local recruitment.

4.19 The calculations reported here assume that Gatwick related jobs are not taken up by any of the additional workers whose presence results from population growth. The calculations are, therefore, maximum estimates. On that basis a second runway is forecast to require the in-movement of 9,100 to 9,900 workers by 2041 and 13,000 to 14,100 by 2051. The low productivity growth assumptions generate the higher figures in each case.

Households

4.20 The number of additional *households* requiring housing will be less than the number of in-migrant workers. This is because there will, on average, be more than one economically active migrant worker per migrant household. We are also aware that there is a tendency for some airport workers to 'house share' (e.g. cabin crew). We have not, however, made any allowance in the calculations for this latter factor which would further reduce the need for additional housing.

4.21 The number of migrant households has been estimated by applying the ratio of the labour force (aged 15-64) to the number of households (where the age of the head of the household is 15-64) to generate the number of economically active persons per house. The result (1.6) has been used to calculate the number of additional households shown in Table 4.1. The maximum number of additional households is therefore forecast to be 8,837 in 2050/51 under the low productivity assumption. This is the cumulative number of households required by 2050/51.

Table 4.1: Number of Cumulative In-Migrant Households

Impact Relative to Base	2025/26	2030/31	2040/41	2050/51
Low Productivity	0	2,381	6,214	8,837
High Productivity	0	2,177	5,731	8,111

Source: Optimal Economics *Note:*

4.22 The significance of this need for additional houses can be assessed by comparing it against the forecast increased need for housing based on demographic projections which make no assumption about a second runway. This calculation shows that by 2041 the "extra" houses required as a result of a second runway amount to between just 1.8% and 1.9% of the projected unconstrained additional housing requirement in the area. By 2051 this figure rises marginally to between 1.9% and 2.1%.

Effect in the Gatwick Diamond

4.23 The above calculations of the potential requirement for in-migration and additional households apply to the whole of the study area

4.24 We have also made the calculations set out above for the Gatwick Diamond area. The housing requirements within the Gatwick Diamond arising from potential in-migration have been calculated using the same assumptions as for the Study Area as a whole. That is, it is assumed that there are 1.6 economically active people per household, based on the study area ratio of labour force to households. The maximum estimate of the number of additional households in the Gatwick Diamond is 2,876 in 2050/51 (low productivity growth assumption).

4.25 The additional Gatwick related households in Diamond area will represent at most only 2.3% of the total unconstrained increase in the number of additional households in the area over the period to 2051.

Sensitivity Analysis

4.26 The calculation of "underlying" household growth against which the Gatwick impacts have been assessed above are based on Chelmer baseline (unconstrained) forecasts of population and labour supply which are very similar to those produced by the DCLG.

4.27 If we adopt the different population and labour supply forecasts described above (see section 3 above) there are impacts on the Gatwick related migration assumptions and, more importantly, on the estimated proportion of all new households accounted for by Gatwick related migrants.

4.28 To assess the sensitivity of the results to underlying migration assumptions we have undertaken the analysis for two different forecasts of labour supply/population commissioned from the Chelmer Model:

- Zero net migration: where there is both 'in and out' movement of people but the sum of this is zero;

- Dwelling constrained: where the level of migration is constrained by planned housing supply.

4.29 The results are summarised in Table 4.2 for the low productivity scenario and Table 4.3 for the high productivity scenario. The Tables also show the number of in-migrant households from the unconstrained projections.

Table 4.2: In-Migrant Households under Low Productivity Scenario

	2040/41		2050/51	
	In-Migrant Households	% of Additional Households	In-Migrant Households	% of Additional Households
Unconstrained	6,214	1.9	8,837	2.2
Net Nil Migration	6,573	4.8	9,323	5.4
Dwelling Constrained	6,516	4.1	9,210	4.2

Source: Optimal Economics

4.30 In both years, the number of additional households is greater under the net nil migration scenario, but even in 2050/51 the number of additional households is modest at around 500 or 6% more than the number generated from the unconstrained projection. In 2050/51 with nil net migration, the number of additional Gatwick in-migrant households is estimated to account for 5.5% of the total additional households forecast in the period 2011 to 2050/51. This is the maximum estimated impact.

Table 4.3: In-Migrant Households under High Productivity Scenario

	2040/41		2050/51	
	In-Migrant Households	% of Additional Households	In-Migrant Households	% of Additional Households
Unconstrained	5,731	1.8	8,111	2.0
Net Nil Migration	6,089	4.5	8,597	4.9
Dwelling Constrained	6,033	3.6	8,484	3.9

Source: Optimal Economics

Conclusions – Households

4.31 The highest estimate of the additional households in the study area resulting from the operational demand of a second runway and unconstrained background projections is 8,837 households by 2050/51. This would represent just 2.2% of the total forecast increase

number of households over the period 2011 to 2050/51. Even on the highly restrictive and unrealistic assumption of zero net migration, additional Gatwick related households would be at most 9,323 households and 5.4% of the growth which would happen in any event. Over a 25 year period this is 373 households per year which is about 6.7% of the current planned annual building rates in table 6.4 below.

Catalytic Impacts

4.32 Beyond the operational effects on labour demand disuse here and which are highly predictable, it is possible that the development of a second runway and the expansion of the airport will attract to area many more businesses which benefit from proximity to a major airport and encourage the growth of existing businesses. These catalytic effects are discussed in the next section below.

4.33 Catalytic effects are not however, part of the forecasts set out in sections 3 and 4 of this report because there is no recognised method of calculating them in a planning context and because they will be strongly influenced by planning policy. Unlike the operational effects they are not inescapable.

4.34 The general approach to assessing the employment and housing implications in the RUCATSE assessment of the 1990s was similar to that adopted in this report. In relation to what was termed "attracted" employment in that case, the report of the working group set up to consider the various schemes recorded as follows:

> *"It was recognised that an airport can be expected to attract firms to the area because of the airport and surface access improvements and other opportunities. The scale of this attracted employment would vary with the size, characteristics and location of the airport and the local area, the mix and scale of airport operations, the planning policies and the state of the local economy. Elsewhere within RUCATSE, consideration is being given to the benefits to the UK economy of airport development. Information was sought from the DTI, DE and outside agencies, but while it was useful for qualitative discussions of the regional economic significance of airport development it was inconclusive in relation to predicting the scale of attracted employment. Therefore, in the absence of any recognised and accepted methodology, no quantification was introduced in the calculations"*

Section 5 : Catalytic and Wider Economic Impacts

Introduction

5.1 The catalytic impacts of a second runway involve effects on businesses which benefit from easy access to air travel and seek to locate in areas with such access. Other businesses may also benefit from being located near to those firms who are customers, suppliers or partners. These effects can be described as "catalytic" and involve "agglomeration" impacts. In addition it may be argued that some businesses are deterred from locating in the area of a growing airport (say as a result of congestion or noise) though there is little evidence of such effects in an area where an airport already exists.

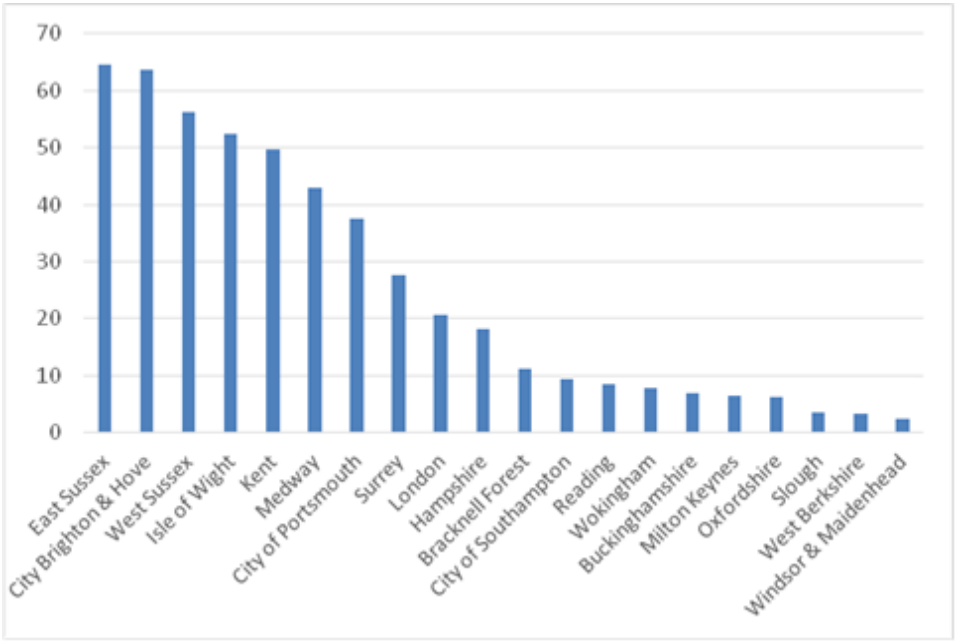
The Importance of Gatwick to its Local Economy

5.2 In addition to being the second largest airport in the UK, Gatwick is the principal airport for a large part of southern England with passengers from the South East accounting for 11.4mppa or 36% of total passengers. Gatwick draws its passengers from across all counties of the South East, but particularly Surrey, West Sussex and Kent which together account for 20% of total passengers.

5.3 While 15.2% of total terminating passengers use the Airport for business purposes, the proportion of business passengers is significantly higher for West Sussex at over 21% and London at over 19%.

5.4 Figure 5.1 shows the proportion of all business passengers with an origin or destination in the South East or London who are travelling through the London airports and who used Gatwick in 2012. The majority of business passengers through the London airports with an origin or destination in East Sussex, West Sussex, Isle of Wight and the City of Brighton and Hove use Gatwick. The airport therefore already performs a critical role for businesses in the sub regional economy.

Figure 5.1: Proportion of London Business Passengers Travelling through Gatwick by Origin and Destination, 2012



Source: CAA Survey of UK Airports, 2012

The Diamond

5.5 The strength of the economy in the study area, and particularly in the Diamond, is closely related to the presence of economic sectors and businesses which benefit from access to air services. Aviation is of particular importance to certain industries and businesses, particularly those that make heavy use of air services or which depend heavily on the movement of goods and people by air. Air intensive sectors have been defined as those where:

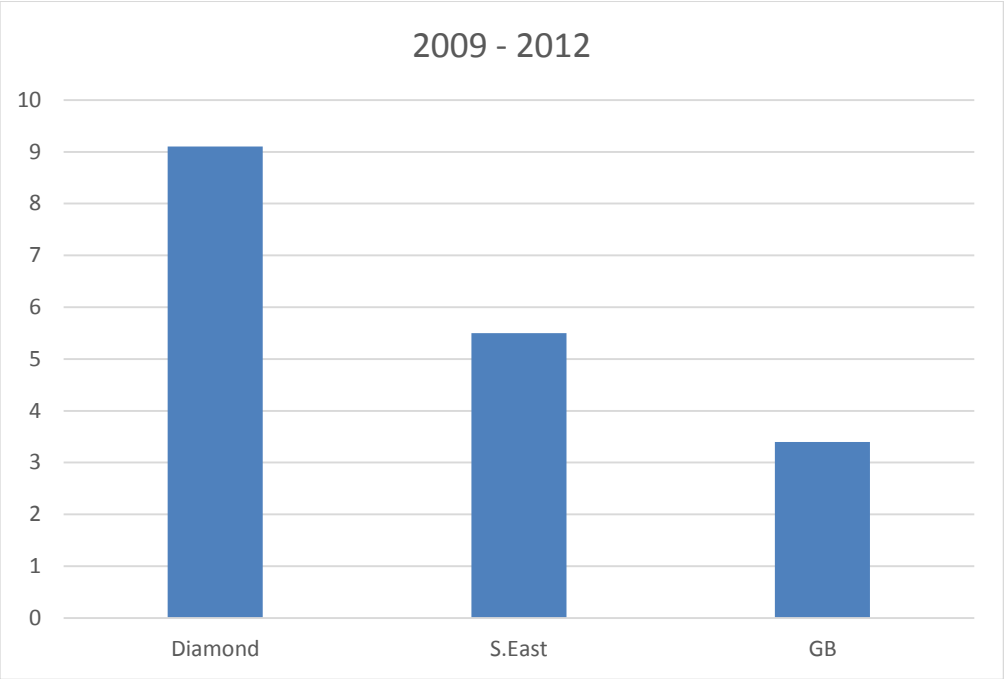
- Expenditure on air transport services accounts for a higher than average proportion of total output; or
- Purchases from air service providers account for a higher than average proportion of final demand.

5.6 This definition includes industries which benefit from the supply side effects of air transport (for example, sectors for which travelling by air is an important part of their business) as well as industries who benefit from demand side effects (sectors who sell a high proportion of their goods/services to the air transport sector).

5.7 Air intensive activities account for 32.5% of total GB employment and for a far higher proportion, 41%, in the Diamond area. Moreover, the growth of employment in air intensive

sectors over the last three years has been higher in the Diamond area than regionally or nationally as shown in Figure 5.2.

Figure 5.2 Employment Growth: Air Intensive Sectors (%)



5.8 The air intensive businesses in the area include over 500 international businesses involved in Research & Development activities, high value manufacturing and professional services. These include the UK headquarters for companies such as ExxonMobil, Unilever and Nestle.

5.9 The current and potential importance of the airport to the development of the local economy was highlighted by recent survey work undertaken by the Gatwick Diamond Initiative. A total of 57 businesses provided information on the importance of air links through Gatwick to their business. The main findings were:

- 14% of respondents had located their business in the area because of proximity of Gatwick Airport;
- Being located near Gatwick was identified as important for their business by 70% of firms within which 21% stated that this factor was very important;
- Gatwick was used by 39% of firms for reaching international customers and by 29% of respondents for reaching customers in London and the UK;
- Over 32% of respondents did business with Gatwick indirectly through the supply chain and 18% of respondents did business directly with the Airport

The LEP Area/Study Area

5.10 The Coast to Capital Local Enterprise Partnership (LEP) area includes all of the Gatwick Diamond as well as the local authority areas of Croydon, Brighton and Hove, Adur, Arun, Chichester, Lewes and Worthing. The area has a population of 1.9 million and accommodates 777,500 jobs. With a working population of 1.2 million there are many out-commuters.

5.11 The LEP area has experienced poorer recent economic performance than has the Diamond area. As Figure 4 shows, this reflects very weak employment growth in the non-Diamond areas. It may be noted that that non-Diamond areas of the LEP have a proportion of employment in air intensive industries which is below the national average (28.4%).

5.12 Thus far there has been some evident agglomeration of air intensive industries relatively near the airport with little or no evidence of impacts in the wider area.

5.13 The UK Competitiveness Index (UKCI) 2013 produced by the Centre for International Competitiveness (an institution founded by academics at Cardiff and Birmingham Universities) ranks the Coast to Capital LEP in 7th position (out of 39) with a score of 103.9. This is slightly below the LEP areas to the west and north of the Coast to Capital area – Enterprise M3 with a ranking of 3 and London with a ranking of 2. The LEP is thus clearly identified as an area of potential.

5.14 The “non-Diamond” Economy of the LEP is very largely composed of Brighton & Hove and Croydon (about 70% of non-Diamond LEP employment).

5.15 Both poles of the LEP corridor, Croydon and Brighton and Hove, are at some degree of economic disadvantage. While Brighton and Hove is ranked 85th among localities in the UKCI and Croydon is at 112th. Both areas have unemployment around 1.4 times the regional average. In contrast, unemployment is below the regional average in the Diamond area.

5.16 Croydon has important assets and strengths - including Purley Way, south London’s most important business park; large scale office accommodation; and excellent transport links. However, over the period 2001 to 2011 it lost 20,000 jobs (15% of employment). Some parts of Croydon are in the most deprived 5% of English “super output areas” and much more extensive parts are affected by high unemployment.

5.17 Croydon's problems are not unique – they reflect in part a recent shift of major businesses back into the centre of London with inner London employment growing by 15% over the first decade of the 21st century and falling in outer London.

5.18 Croydon is the only London Borough within the Study Area. However both the Study Area and the Diamond plainly have strong economic relationships with the Capital and a high degree of connectivity. The London Plan recognises the close relationships with surrounding areas in the South East and East of England and looks to develop them further. There are also opportunities to address some of London's areas of deprivation on the basis of economic activity beyond its administrative boundaries.

The Impact of Expansion

5.19 Both the LEP and the Gatwick Diamond have economic strategies in which the role of the airport is critical. The London Plan also has important policies aimed at consolidating the Capital's economic relationship with the area around the airport.

5.20 The key objectives of the Gatwick Diamond strategy include the following:

- To promote the area as a world class business location
- To attract investment whether from UK, government or foreign
- To help retain existing businesses
- To foster the growth of existing and new businesses.

5.21 The strategy identifies the airport a critical element of that strategy stating that success will include "A resilient international airport with excellent and convenient business connectivity in terms of routes and surface access". It is the case that the Diamond Strategy plan extends at present only to 2016 and thus does not engage with the role of a second runway but the role of Gatwick Airport as a "Global Gateway" is at the core of the Diamond's strategy and its locational advantage.

5.22 Policy 2.3 in the London Plan deals with Growth Areas and Co-ordination Corridors. It indicates that The Mayor and other agencies will co-ordinate planning and investment in corridors of city region importance including the Wandle Valley corridor through south London and outwards towards Gatwick Airport. This is one of only three such corridors identified around London. More generally the plan looks to encourage greater economic synergies between the constellation of business locations in and around London.

5.23 A second runway at Gatwick airport represents a clear opportunity to strengthen the existing economic relationships with the Capital in accordance with the policy approach set out in the London Plan.

5.24 The vision for the Coast to Capital LEP is to help create a high performing economy with a global outlook where knowledge and creativity drives growth and prosperity for all. The strategic objectives of the LEP are:

- To increase levels of enterprise and entrepreneurship; and
- To increase levels of international trading.

5.25 The LEP strategy has a strong focus on internationalisation and global links as exemplified in these statements from the strategy:

> *"Support for international trade, with a focus on growing markets, potentially fronted by a new ASEAN business hub at Gatwick Airport. We retain our target of doubling the numbers of businesses who are regular international traders.*
>
> And
>
> *"The future growth of the Coast to Capital economy will be driven by growth in international trade and collaboration".*

5.26 The Coast to Capital LEP also recognises that development of a second runway at Gatwick would create a new strategic context for economic development. The strategy states:

> "*A second runway would not just be a boost for the airport, but also a massive injection of pace into the whole Coast to Capital economy."*

5.27 The Commission's research review undertaken by Steer Davies and Gleave (SDG), identified a compelling body of evidence which demonstrates that large scale airport development can and does impact on regional economic development.

5.28 The main mechanism of impact identified in that research, other than the movement of firms to supply the airport, arises from the economies of agglomeration created by the clustering of businesses in the areas around airports.

5.29 The economic and commercial value of locations with good access to airports is clearly revealed by locational choices. Recent research presented at the European Regional Science Association considered development at major European airports, specifically Schipol[5]. That research concluded that "*international airports have gone through a morphogenesis from original pure infrastructure facilities into multimodal and multilayered spatial growth poles and centers of competence. Landside infrastructure investments have converted airports and their hinterlands into spaces of highest accessibility. The airports unique locational advantages and the growing segment of non-aviation activities on the part*

[5] "The knowledge economy, hub airports and accessibility. A location based perspective". The Case of Amsterdam-Schiphol. Sven Conventz, Alain Thierstein Munich University of Technology Chair for Territorial and Spatial Development . ERSA Conference 2011

of the airport operators have made airports an advantageous business location for knowledge- intensive industries".

5.30 The research paper also noted that the area containing Schipol has achieved the highest commercial rents in the Netherlands. This remains a feature almost unique to that country within Europe (peak rents are normally found in city centres and this is so to a striking degree in London). However, the authors see Schipol as exemplifying the market value of locations near airports with the attraction driven not simply by access to air services but by the reinforcing effects of agglomeration economies.

5.31 The SDG research review concludes that if aviation connectivity (e.g. from airport expansion) increases the economic density of the region or changes business composition, (both of which are implied by the research discussed above) there can be additional agglomeration benefits. Firms enjoying agglomeration economies tend to be in high- value activities, and the activities attracted can therefore raise internal firm productivity levels.

5.32 The SDG review notes that evidence from the US finds a significant relationship between airport capacity and regional employment. A 10% increase in passengers at US airports leads to a 0.5%-1.5% increase in service employment with no or negative impacts on manufacturing and goods-related jobs.

5.33 The economic processes which are driven by large scale international airports have been established. The Gatwick region has already demonstrated the effects of these processes at a significant scale.

5.34 Businesses already in the Gatwick Diamond support the development of the airport. The Gatwick Diamond survey mentioned above found that the majority of survey respondents (60%) agreed that airport capacity should be increased at Gatwick and that this would be beneficial to respondents' businesses (56%). The reasons for supporting expansion at Gatwick included:

- Increasing exports to emerging economies and wealth generation that this will bring to the Gatwick Diamond and UK;
- Expansion would encourage businesses to relocate/remain in the Gatwick Diamond area;
- Routes to international clients would improve leading to more investment;
- Better international connectivity and flight times which are suitable for business;
- Opportunities for additional business during construction and on-going supply chain;
- General growth to the local economy and more people to do business with;
- Growth in inbound and outbound tourism;

- Increased employment opportunities which will encourage local people to remain in the Diamond rather than commuting elsewhere.

5.35 Six of the responding businesses indicated that if capacity was developed at an airport other than Gatwick this would affect their willingness to remain the in the area. The main reason for considering leaving the area was the concern that the area would become a significantly less attractive location and "shrink" from a business perspective as businesses were attracted to the area around the Airport where capacity would be increased.

Conclusions

5.36 The catalytic effects on the regional economy (encompassing the Gatwick Diamond and Coast to Capital LEP area) of expansion of Gatwick through development of a second runway would be of major significance because those impacts would capitalise on the existing strengths and potential of regional economy. These strengths include the established presence of international and globally-trading businesses which demonstrates the viability of the area as a location for international business and the commitment of the strategic development partners in the Diamond Initiative and LEP.

5.37 The development of a second runway at Gatwick and the consequent expansion of passenger numbers and services would double the size of the airport as measured by passenger traffic over the next 30 – 40 years and make it the equivalent of Heathrow today. Expansion of the airport to the level made possible by a second runway would intensify the catalytic and agglomeration processes described above, enabling the sub-region to develop the same dynamic clustering process which has been evident in the M4/Thames Valley area and thus providing the UK with a further attractive destination for mobile international investment. Gatwick is the only airport in the UK with the same critical mass of traffic and depth of local economy needed to replicate the clustering effects which have been occurred around Heathrow airport.

5.38 Critically, the Gatwick region has the physical and business infrastructure to enable development. While the requirements of 30 or more years of development cannot be set out or created in full now, it is relevant that the Gatwick area is a proven successful international business location which presently has available 4.2 million square metres of business space and includes locations such as Manor Royal, the largest business park in the UK.

5.39 The catalytic/agglomeration impact of a two runway Gatwick airport can be expected to continue and intensify the established effects of the airport in attracting significant numbers of high value jobs to the local economy over the period to 2040 and beyond. It is, however, not possible to quantify this impact and the full extent of any job gain would be strongly

affected by the extent to which planning policies were formed to accommodate or restrain growth.

Section 6 : Land Demand and Supply

Introduction

6.1 This section of this appendix is based principally on work already undertaken in the preparation of the Employment and Housing Technical Report (EHTR) in relation to the key aspects of demand and supply. It then goes on to review some other specific factors that have been identified in the Commission's appraisal framework and examines any issues that might affect the conclusions reached in the previous work.

Land Supply Assessments

6.2 These assessments use existing information from the local authorities within the Study Area. This is considered to be the best available data to undertake this exercise although it is fully acknowledged that there are issues associated with differing base dates and methodologies used by different authorities. However, the exercise is only intended to present a general perspective on the supply side of the equation bearing in mind that the growth of a two runway airport at Gatwick would occur largely well beyond current planning horizons.

Employment Land

6.3 Employment land supply is more dynamic than housing principally because of greater variations in vacancy rates and the fact that the way that jobs relate to floor space and land varies much more than for residential development across different geographical areas and also over time.

6.4 The way that data is collected and monitored for employment land and property also varies more than for housing which makes the task of aggregating information for different local authority areas more difficult. The picture presented here is thus fairly "coarse". In general however, there is probably a tendency for available floor space to be under estimated because vacant space is not always included in local authority information and there are obvious gaps in the comparative data particularly in relation to mixed developments. As indicated above, converting floor space to jobs is also sensitive to small changes in floor space/worker ratios particularly for office and mixed development that make up the bulk of the total, assessed supply.

6.5 The available information has been categorised under four headings that generally correspond with most local authorities assessments. These categories are offices, industrial, warehousing and mixed employment. Categories such as retail, education and health area thus not specifically included but may potentially feature in the "mixed" category.

6.6 In most cases, local authority information is expressed in terms of floor space. In the few cases where it is not, land has been converted to floor space on the basis of the following plot ratios.

Offices	100%
Industrial	40%
Warehousing	40%
Mixed	80%

6.7 For assessing possible job generation from floor space the 2010 Drivers Jonas Deloitte (DJD) guide on employment densities (2nd Edition 2010) has been used. This was undertaken for offPAT and the Homes and Communities Agency (HCA). The following densities have been used based on this document.

Offices – 12m^2

6.8 This is based on the "general office" category in the DJD guide. The guide also includes rates ranging from 8m^2 for call centres to 47sq m for IT/Data centres within an overall B1(a) Use Class Category. On this basis 12sq m is thus seen as a reasonable overall representative rate.

Industry – 41m^2

6.9 This is slightly less than the mid-point between the rates for Use Class B2 (36m^2) and B1(c) (47m^2)to reflect the fact that the DJD Guide suggests that these categories should be based on Gross Internal Area (GIA) and Net Internal Area (NIA) respectively.

Warehousing – 75m^2

6.10 This is the mid-point between the densities in the guide for general and large scale, high bay warehousing. On the basis that the amount of warehousing in the supply is relatively small and worker/floor space ratios are high for this form of use, no adjustment is made to reflect net to gross differences.

Mixed Employment – 30m^2

6.11 This relates to the mid-point between B1(a). General offices and B1(c) light industry. Given there is no specific, mixed category in the DJD guide, no adjustment has been made in relation to a gross to net assumption.

6.12 All the above relate to Full Time Equivalents (FTE).

6.13 In relation to offices specifically; the DJD guide suggests a reduction of 15% to 20% when converting from gross to net internal floor space when applying employment densities. For

the purposes of this exercise the total office floor space has thus been reduced by 17.5% before applying a rate of 12sq m/FTE.

6.14 Table 6.1 below summarises the position in terms of employment land supply for the defined Study Area as a whole and the 6 Gatwick Diamond districts within it.

6.15 The figures in Table 6.1 relate to local authority exercises varying from 2008 to 2013 in terms of publication and/or base date and, as referenced above, involve different approaches and methodologies.

Table 6.1 Employment Land Supply – Gatwick Study Area and Diamond (m^2)

	OFFICES	INDUSTRIAL	W'HOUSE	MIXED	TOTAL
DIAMOND AUTHORITIES	263,556	43,809	47,281	203,628	558,274
REMAINING STUDY AREA AUTHORITIES	286,477	272,092	22,720	210,880	792,169
STUDY AREA TOTAL	550,033	315,901	70,001	414,508	1,350,443

Source: Local Authority Employment Land Assessments 2008-2013

6.16 Across the Study Area as a whole the aggregation of this information amounts to some 1.35 million square metres of available floor space. Of this around 40% is in the offices category and 30% is defined as mixed. Industrial space accounts for about 23% of the identified space. The gaps in the information relate principally to the warehousing and mixed categories.

6.17 For the Diamond authorities the proportion in the office category of around 47% is higher than for the Study Area as a whole whilst the amount of industrial land is lower at 8%. The mixed category is at about 36%.

6.18 Given the significant gaps in the data, particularly in the Study Area outside the Diamond, it can be expected that the mixed and warehousing categories represent a higher proportion of the Study Area total than these figures suggest. The effects of filling the gaps this would be

to increase the overall totals and thus reduce the office and industrial proportions for the Study Area as well as the overall supply.

6.19 Notwithstanding the obvious issues with the information there does seem to be a different relationship in relation to industrial and office floor space in the Diamond and the Study Area with the latter having a larger proportion of the total.

6.20 Table 6.2 takes the total floor space for the Diamond and the Study Area and converts floor space to potential jobs on the basis of the assumptions outlined above. The total job figure for the Study Area is 56,504 with the Diamond at 25,232 or 45% of the total. The proportion of jobs in the Diamond is slightly higher than the proportion of floor space because of the information gaps and also because the Study Area outside the Diamond includes a higher proportion of industrial land.

6.21 Given the amount of office floor space and the associated high employment densities, this category is the most sensitive to changes in density assumptions. Thus an increase in density of 1sq m from 12 to 13sq m per worker would result in a decrease in the number of potential jobs in the Study Area of around 3,000.

Table 6.2 Jobs from Land Supply – Gatwick Study Area

	OFFICES	INDUSTRIAL	W'HOUSE	MIXED	TOTAL
DIAMOND	18,120	882	630	5,600	25,232
REMAINDER OF STUDY AREA	19,695	5,475	303	5,799	31,272
TOTAL STUDY AREA	37,815	6,357	933	11,399	56,504

6.22 The employment forecasts provided by Cambridge Econometrics have been disaggregated to relate to the Standard Industrial Classification (SICs) that they are based on and assigned to the 4 general categories of floor space in the supply information. As explained above, these four categories do not cover all sources of employment whilst the forecasts do. Whilst this is relatively straightforward in relation to offices, industrial and warehousing it is more difficult in respect of the mixed employment category. It has been assumed for the purposes of this exercise however that “mixed” means a mixture of the other three categories.

6.23 The relationship between supply and demand on this basis is that crude supply suggests that current supply is around half of forecast for the Study Area and about 40% for the Diamond. If the supply information is incomplete, as seems likely, these proportions would obviously be higher

6.24 The general relationship between the forecasts and the supply in relation to the four categories used for the supply analysis is also reasonably correlated with the emphasis on office/service employment and notwithstanding a notional "over supply" of industrial land against forecast particularly in the Study Area. The latter is probably indicative of structural changes in relation to the nature of employment generally with a decline in industrial employment occurring faster than associated adjustments in land use and supply.

6.25 No attempt has been made to estimate how many years' supply of employment land the totals in Table 6.1 might represent. Attempting to look forward on the basis of future take-up rates is unrealistic on the basis of the information available.

6.26 It is relevant to note, however, that the identified supply is over half the forecast demand in overall terms. Given that the period to 2050 is around 40 years from the base date of the local authority data in many cases, this could suggest that there might be around 20 years supply of employment land in the Study Area if unconstrained forecast employment growth is to be met.

Housing Land

6.27 Housing Land supply is approached in a slightly different way to employment. It is, in most respects, simpler than the exercise in relation to employment because the operation of the housing market is less complex and less prone to variability except in relation to overall volume. Local authorities also tend to approach the key variables in a more consistent way.

6.28 Future housing provision also tends to be more specifically projected in terms of overall housing targets to be achieved and associated annual house-building rates. In this respect it is easier to get a perspective on how land supply relates to possible future scenarios than for employment.

6.29 Table 6.3 summarises the housing land supply position as set out principally in the relevant local authorities' Strategic Housing Land Availability Assessment (SHLAAs). It is important to note that the inclusion of land within these assessments does not confirm its acceptability in planning terms. The SHLAAs focus on basic site suitability and deliverability and thus

represent a potential supply source rather than a committed one. This is different to the situation with employment land where identification of a site is usually associated with an implicit recognition of the principle of the use being acceptable.

6.30 Table 6.3 sets out the information from this source for the relevant authorities. Where identified, sites that are deemed undeliverable or unsuitable have been omitted. No "windfall" estimates have been included on large and small sites yet to be identified. As with the employment data, there are also variances in the base dates relating to SHLAAs.

Table 6.3 Housing Land Supply – Gatwick Study Area and Diamond

	NO OF DWELLINGS
DIAMOND AUTHORITIES	36,627
REMAINING STUDY AREA AUTHORITIES	78,380
STUDY AREA TOTAL	115,007

Source: Local Authority Assessments 2008-2013

6.31 Of the total of around 115,000 potential dwellings identified, nearly 37,000 or about 32%, are in the Diamond.

6.32 Table 6.4 shows the planned average annualised house building rates for local authorities in the Study Area in current and emerging forward plans. It is fully accepted that some of these figures have yet to be tested through the statutory process and there are variations in the time periods over which they operate. However, they do enable an overall perspective to be obtained of planned house building rates for the Study Area and the Diamond. For the Study Area as a whole the planned average annual rates amount to just over 5,500 dwellings per year. Using this annual figure, the total supply of 115,000 dwellings in the Study Area would represent about 20 years' supply. For the Diamond districts the equivalent figure is similar at around 17.5 years.

6.33 As indicated in previous sections of this document, three different population and household projections have been obtained for the Study Area and the Diamond using the Chelmer forecasting model. These include a "baseline" or unconstrained projection which is based on demographic trends, a "planned growth" projection that uses the annual house building

rates in table 6.4 as a controlling factor and a projection based on "zero net migration" (ZNM). A ZNM projection involves the balance of inward and outward population movement associated with a defined area being set at zero. This can still involve significant gross movement but is often used as a reference or neutral scenario on the basis that economic success is usually associated with net in-migration and decline with net out movement.

Table 6.4 Planned House Building – Gatwick Study Area and Diamond

	NO OF DWELLINGS (per annum to 2026+)
DIAMOND AUTHORITIES	2,114
REMAINING STUDY AREA AUTHORITIES	3,443
STUDY AREA TOTAL	5,557

Source: Current and Emerging Plans

6.34 The two graphs in Figure 6.1 below summarises these three projections for the Study Area. As the Chelmer population and household model only forecasts to 2036, the final five year period increase from 2031 to 2036 is rolled forward to 2051 at the same rate.

6.35 As can be seen the planned rates are about half the unconstrained rates in the Study Areas and about two thirds in the Diamond. This simply reflects the level of restraint that is already in operation in relation to housing development.

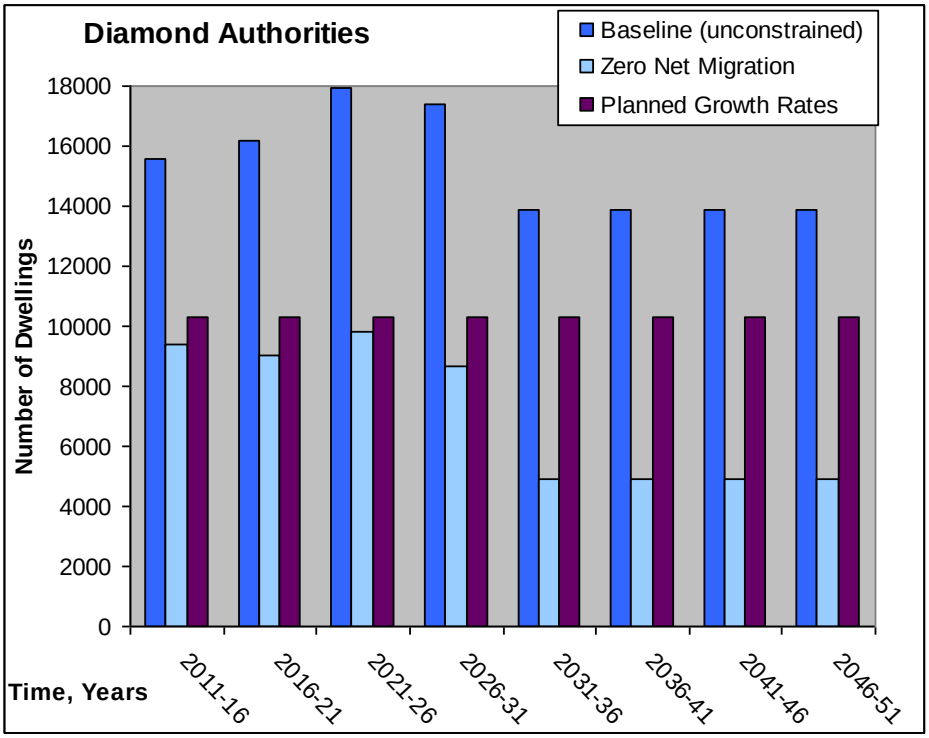
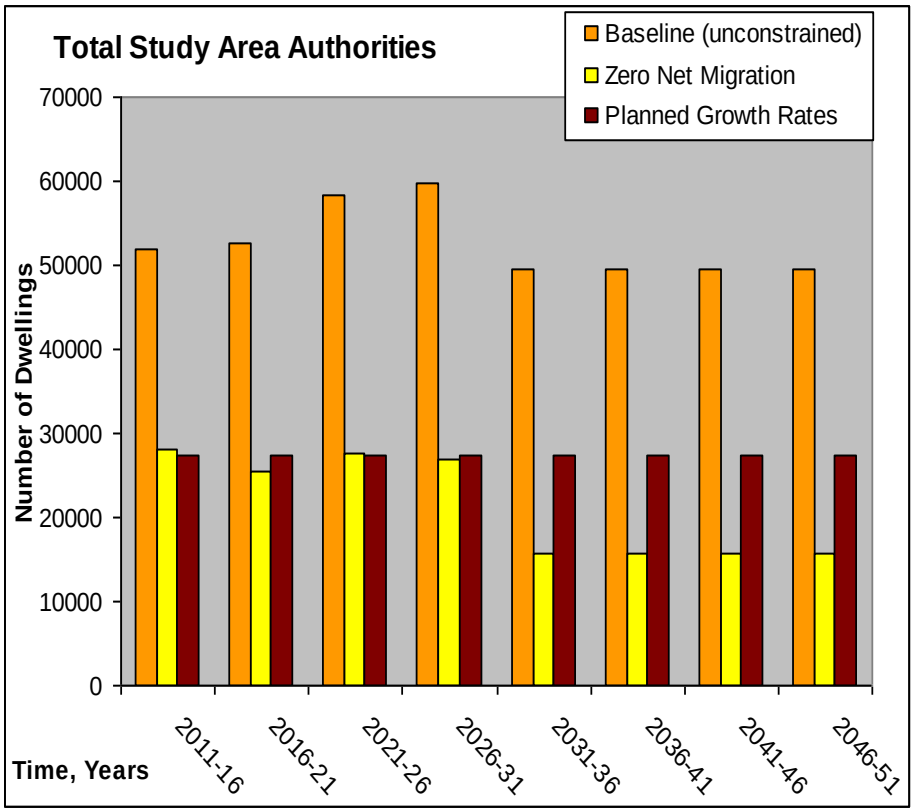


Figure 6.1: Projected Household Increase Gatwick Study Area and Diamond



6.36 The total unconstrained household growth to 2051 from a 2011 base for the Study Area as a whole based on the Chelmer model projection is about 420,000. The potential supply in

Table 6.3 represents about 27% of this total. The equivalent figures for the Diamond are 123,000 and around 30%.

Land Supply – Conclusions

6.37 The overall broad picture emerging in relation to both employment and housing land supply is that there would appear to be sufficient land generally in the Study Area and the Diamond to be reasonably confident in relation to the period to the end of the 2020's and into the early 2030's in relation to current levels of planned growth. The position appears to be generally more favourable in relation to employment on the basis of the way housing and employment land supply relate to the respective unconstrained, trend base projections. This general view does not account for what are likely to be local variations in supply and the different challenges that individual Local Planning Authorities face in relation to environmental and other constraints.

6.38 For the period beyond 2030 the situation changes. Irrespective of whether a second runway is constructed at Gatwick, further significant land will be needed, to meet housing requirements in particular, for the 20 years from 2030 to 2050 which is the main period over which any second runway at Gatwick is forecast to reach capacity.

Other Factors

(i) Housing Stock

6.39 Table 6.5 below sets out the housing stock position for the Study Area and the Diamond Authorities as at 2013.

Table 6.5 Housing Stock and Tenure in 2013

	Local Authority*	Private Registered Provider	Other public sector	Private Sector	**Total**
DIAMOND AUTHORITIES	10,760	27,610	1,730	251,390	**291,450**
REMAINING STUDY AREA AUTHORITIES	41,850	33,130	90	506,390	**581,440**
STUDY AREA TOTAL	52,610	60,740	1,820	757,780	**872,890**

Source: Table 100 Dwelling stock: Number of Dwellings by Tenure and district: England [www.gov.uk/government/statistical-data-sets/live-tables-on-dwelling-stock-including-vacants]

6.40 The maximum of 9,300 additional dwellings that can be related specifically to a second runway at Gatwick represents a 1.0% increase over this figure albeit occurring from around 2025 by which time the general stock will have increased in the interim period.

6.41 If it is assumed that, over the period 2025 – 2050, general house building rates in the Study Area were as summarised in Table 6.4 above (5,557 pa) the equivalent increase over the 2013 stock would be around 16%.

6.42 The comparative position in relation to the Diamond is likely to be similar. Even it is assumed that all the maximum additional 9,300 dwellings were to be provided within the Diamond the increase over the 2013 stock would be 3.2% compared with 18% using the same approach as outlined above.

6.43 This general picture confirms the conclusion that the overall impact of a second runway at Gatwick is relatively small when set against general growth trends and pressures.

(ii) Development on previously developed land

6.44 Table 6.6 below includes data on the proportion of dwellings that have been built on previously developed or "brownfield" land between 1996 and 2011. It suggests high levels of completions on such land particularly in the existing established urban areas such as Croydon and Brighton where there are very limited opportunities on undeveloped or "greenfield" sites.

Table 6.6 Proportion of new dwellings constructed on previously developed land (%)

	1996-1999	2000-2003	2004-2007	2008-2011
DIAMOND AUTHORITIES				
Crawley	24	69	60	76
Reigate and Banstead	79	85	95	60
Mid Sussex	33	76	58	55
Horsham	31	57	69	69
Mole Valley	87	85	90	85
Tandridge	72	92	90	79
REMAINING AUTHORITIES				
LB Croydon	83	99	99	98
Brighton and Hove	77	94	99	94
Adur	53	95	96	90
Worthing	49	90	96	94
Lewes	54	57	71	61
Eastbourne	90	29	46	94
Wealden	62	79	74	53
Arun	63	63	69	50

Source: Table P213 https://www.gov.uk/government/statistical-data-sets/live-tables-on-land-use-change-statistics

6.45 Some caution needs to be expressed in relation to these figures that only extend to 2011. Much of the period between 1996 and 2011 was characterised by a strong policy emphasis on prioritising brownfield sites. This policy position has recently changed to some extent and the potential supply of such sites is also likely to be diminishing.

6.46 The land supply information in Table 6.3 above from the local authorities' strategic assessments includes both greenfield and brownfield sites and thus represents a reasonable general picture of overall capacity. Beyond the early 2030s, which is the limit of current plan horizons, it is not possible to predict whether the contribution from previously developed land would increase or decrease. However, given the nature of the Study Area in terms of its varied mix of urban and rural environments, development on green field sites is likely to feature significantly in the future.

(iii) Vacancy Rates

6.47 Residential vacancy rates in 2012 for the Study Area and the Diamond Districts were 2.4% and 2.2% respectively. This represents a “frictional” level associated principally with people moving house. On the basis of this evidence it is highly unlikely that decreasing vacancy rates are likely to be a source of additional housing.

(iv) Proportion of planning applications refused by type

6.48 There is no detailed data on the proportion of planning applications refused on the basis of specific categories or types of development. DCLG publishes information under the sub-heading of major, minor and other development. Overall, this suggests that between 20% and 30% of all submitted planning applications are refused which is consistent with the national picture.

6.49 Given the varied nature of the Study Area there is nothing to suggest that the planning system is operating in an unusually restrictive way that would impact on the issues covered in this report.

(v) Unimplemented planning permissions

6.50 Of the total land supply of 115,000 dwellings identified in Table 6.3 above, about 25% is accounted for in terms of unimplemented planning permissions. The remainder is in the form of allocated sites in existing development plans and other land that is deemed broadly suitable for housing in the longer term but in respect of which there is no acceptance of the principle of development.

6.51 The land with planning permission in the Study Area corresponds to about 5 years supply of the annual planned total building rate of 5,557 in Table 6.4. Whilst this is not equivalent to the 5 year housing supply required by the National Planning Policy Framework, it is indicative that there is not a significant issue in relation to planning consents remaining unimplemented on the basis of "land banking".

6.52 It is of course unlikely in any event that a significant proportion of existing planning permissions would still be yielding new dwellings in the period beyond 2030 when permanent airport employment arising from the introduction of a second runway would be required.

(vi) House Prices

6.53 Outside London, the South East has the highest level of average house prices in the United Kingdom. In June 2013, according to the Office for National Statistics (ONS) the average house price for the UK was £242,000 with the South East at £299,000.

6.54 For the Gatwick Study Area, the range of average prices is from around £200,000 in parts of the south coast area and in Crawley to over £400,000 in the areas within the Green Belt in the northern part of the Gatwick Diamond.

6.55 Overall, despite the fact that Gatwick is in a region where average house prices are high, there is a fairly steep price gradient generally from north to south with Crawley offering the prospect of some relatively inexpensive housing close to the airport.

(vii) Land Prices

6.56 Land prices and values area a function of the sales value of the residential or commercial development proposed on any particular site. The final land value is related to the cost of development and the costs associated with affordable housing and other aspects of "planning gain" that are legitimately sought as part of the process of obtaining planning permission.

6.57 Whilst lack of availability may have some local effects on house prices, land prices will thus tend to closely follow the market on the basis of property prices. Where there are shortages individual developers may also reduce their profit margins which will increase the residual land value. In the long term however land values and property values are closely correlated.

6.58 Reliable recent data on residential land values is difficult to obtain since the Homes and Communities Agency (HCA) ceased collecting the information in 2010. The HCA time series records the significant drop in residential land values of around 40% from the 2008 peak. More recently there have been significant increases as the market turned upwards from around the beginning of 2012 but values remain well below 2008 levels. Overall, land prices would be expected to vary across the Study Area in the same general pattern as house prices.

Outputs

6.59 The Commission identifies four main issues as outputs from the housing demand and land requirement topics in table A3.1 of the appraisal framework.

6.60 The first of these is the assessment of overall housing demand and the key output here is the net additional demand arising from a second runway that has been identified as up to 9,300 additional dwellings in the Study Area based on a nil net migration scenario. There are no issues arising from the additional factors identified in the appraisal framework that suggest that any modifications to that output are necessary.

6.61 Secondly, in relation to land requirements, the overall conclusions of the technical report remain valid. These are, in summary, that current land supply is unlikely to meet general growth needs much beyond the early 2030s. However, as the net additional housing demand associated with Gatwick Airport is a relatively small proportion of wider growth considerations it will not add significantly to the challenges that the planning authorities in the Study Area will face in the medium and long term in any event.

6.62 Thirdly, the question of land values cannot be directly related to a situation that will not arise until around 2030 when the first employees needed to operate a two runway airport are recruited at Gatwick. In general terms, however, it is likely that the general pattern of house and land prices in the Study Area will continue in relative terms. Whilst this may lead to challenges in terms of affordability as it does today, there is a reasonable range of house prices throughout the Study Area.

6.63 Finally, as far as changes in urbanisation are concerned there does not appear to be any obvious need for a different approach to that which is generally adopted in the current plans of the relevant local authorities. This involves a mixture of brownfield and greenfield land allocations and allowances for unexpected or "windfall sites". Given the limited impact of the second runway in the context of general growth pressures over what is, in planning terms, an unusually extended period, there is no indication that any other approach is likely to be required.

Risks

6.64 The risks identified in the Commission's appraisal framework in relation to housing demand and supply cover potential problems associated with the identification of sufficient land to meet housing needs and the effect of development constraints. These risks also include possible local opposition to housing development.

6.65 In relation to the specific housing requirements associated with the two runway airport the work that has been undertaken demonstrates clearly that these risks are very low. This is largely because the assessed maximum level associated with the airport expansion is a small proportion of the likely wider growth scenarios and occurs over a long period. The risks can thus be managed effectively in the context of the statutory planning process.

6.66 Similarly, the extent to which local planning authorities may wish to respond to the wider opportunities that an expanded airport will create is a matter for local consideration and choice. Although the expanded airport is likely to create such opportunities they do not have to be fully accommodated.

6.67 On the specific question of local opposition, it is fully recognised that housing in particular is often not well received for a variety of reasons. However, it is highly unlikely that such any opposition to housing would represent a significant risk in terms of the operation or impact of the airport primarily due to its limited proportional impact in housing terms. To the extent that local opposition may be based on the proposition that the expanded airport will inevitably lead to significant additional housing provision over and above that which would occur without a second runway development, this is likely to remain as a limited residual risk based on perceived effects rather than the available evidence base as set out in this report.

Section 7 : Summary of Findings

Employment and Households

7.1 The analysis in this report suggest that construction of a second runway will result in airport related employment within the defined Study Area increasing by a maximum of 16,700 by 2040/41 and 22,000 by 2050/51. Around 90% of the increase would be located within the six Gatwick Diamond authorities in the Study Area.

7.2 The maximum estimated increase in employment would represent about 14% of the forecast total employment growth in the study area of the period. For the Gatwick Diamond, the growth of airport related jobs within this smaller area is equivalent to around 30% of total forecast employment growth to 2050.

7.3 As far as potential additional households and pressures on housing and services are concerned, the forecast maximum increase in households in the Study Area resulting from a second runway will amount to 2.2% of the total forecast household growth in the area to 2050.

7.4 For the Diamond the maximum forecast household growth related to the airport expansion is about 2.3% of projected total household growth over the period.

7.5 These conclusions were tested by examining the implications of an extreme “zero net migration” background population forecast. Even on this assumption, household growth related to a second runway would be no more than 5.4% of total growth in household numbers.

7.6 It is thus concluded that the development of a second runway has no significant adverse implications for housing demand or pressure on social infrastructure arising from the operation of the airport although Gatwick is committed to considering ways in which residual and or local effects can be positively addressed if they arise.

Economic Development

7.7 Expansion of the airport to the level made possible by a second runway would intensify the catalytic and agglomeration already at work around Gatwick, enabling the sub-region to develop a dynamic clustering process and providing the UK with an attractive destination for mobile international investment. Critically, the Gatwick region has the physical and business infrastructure to enable development.

7.8 While it is not possible to provide a precise figure for the catalytic/agglomeration impact of the airport, it could be expected to involve significant additional employment opportunities over the period to 2040 and beyond.

7.9 However, the actual outcome in relation to the realisation of catalytic growth will be profoundly influenced by which planning policies are formed to accommodate or restrain growth. It is for the local authorities to determine precisely where this balance should be struck.

Land supply

7.10 The general picture in relation to land supply is that, in crude terms, sustaining planned levels of growth to the end of the 2020s in terms of housing and employment seems to be achievable. Beyond that point the situation becomes much less clear with obvious implications in relation to how and where growth should be accommodated. As is often the case, and notwithstanding the significant uncertainties associated with the relevant information, the situation in relation to employment land in both the Study Area and the Diamond relates better to unconstrained growth than the equivalent picture for housing which tends to be more tightly controlled.

7.11 This report does not attempt to explore specific options for where growth beyond 2030 might be a located. As will be clear from the above comments in relation to potential catalytic effects, given the timescales involved it is considered that there will be ample opportunity for the relevant Local Planning Authorities to deal with the issues arising. The continuing presence of a growing Gatwick airport and its associated operational needs is not likely to unduly affect the scope for local authorities to determine how future growth will be addressed.

7.12 At the same time GAL fully appreciates some of the issues that will need to be faced in due course, whether there is a second runway at Gatwick or not, such as the capacity of the town of Crawley to accommodate additional development within its administrative boundaries, key constraints such as the Metropolitan Green Belt and the nature and capacity of surface access infrastructure. As it has done in the past, GAL will play an active and positive part in the process of resolving these and other issues in the context of the plan making system and including any identified mitigation measures.

Section 8 Scheme Assessment and Mitigation

8.1 The principal economic objective in the local economy module in the Commission's appraisal framework is:

> **"To promote employment and economic growth in the local area and surrounding region".**

8.2 The work undertaken in preparing this report demonstrates clearly that a second runway at Gatwick Airport would bring significant benefits in terms of additional permanent employment that can be directly attributed to its operation.

8.3 Whilst the associated catalytic effects are difficult to identify in numerical terms, it is also reasonable to expect an additional runway at Gatwick to significantly enhance the airport's role as the main economic driver in the local economy, the significance of which is already acknowledged in relation to the Gatwick Diamond concept and the existing single runway airport. Whilst a single runway airport would continue to fulfil this role, if additional runway capacity is located elsewhere in the south-east these wider benefits might be expected to diminish to some degree.

8.4 There is also potential to direct some of the employment related benefits to areas of high deprivation particularly to the north and south of the airport that are already well connected to it.

8.5 As far as housing is concerned, to the extent that it is required to facilitate the employment benefits it must also be highly supportive in terms of the local economy. Employment and housing growth tend to come together and the results of this exercise indicate that this is likely to be the case in relation to the proposed Gatwick second runway scheme. In an area where the economy is not as buoyant as it is around Gatwick, it could be suggested that the relatively limited additional employment generated by the scheme might be absorbed within the existing population. However, the area is already successful in economic terms and so appropriately conservative assumptions have been adopted including in relation to the potential for relying on significant decreases in unemployment and commuting and increases in the economically active population.

8.6 Some additional housing demand is thus predicted although, even with such conservative assumptions, it is shown to be a small proportion of future overall housing requirements beyond current planning horizons.

8.7 It is acknowledged that development generally, and housing in particular, can be controversial and generate significant local objections for a variety of reasons related to need, environmental considerations and perceived impact on infrastructure and services.

8.8 Balancing overall economic benefits and associated development pressures against these factors over time is a function of the planning system. As the work outlined in this appendix demonstrates, currently planned housing provision within the local area is already significantly below unconstrained projections. This is to be expected as the planning process determines the appropriate balance. Any additional development pressures arising from an expanded airport can thus be managed in the context of the multiple iterations of development plans that will be prepared by the relevant local authorities over the period during which the airport expands.

8.9 Whether the propensity for the local economy to grow is constrained by planning policies in the future or not, the work undertaken demonstrates that these choices will not affect the growth and operation of the expanded airport. This is because the off airport development increment it generates will be a small proportion of wider growth over the extended period within which the expanded airport is reaching capacity.

8.10 Whilst the operation of the planning system provides the general basis for mitigating the overall effects of local economic growth and development including that which might be attributable to the catalytic effects of an expanded Gatwick Airport, GAL remains fully committed to exploring ways in which it can appropriately address any specific effects that might be related to the second runway project and to explore and implement strategies and programmes that complement the planning process.

8.11 It is thus concluded that the updated scheme for and additional runway at Gatwick would be **highly supportive** in respect of the local economy appraisal objective**.**

8.12 In relation to the additional surface access component of the main Local Economy module objective added in the Commission's final appraisal framework, this issue is dealt with in detail in other appendices. Gatwick already has very good surface connections however and, in delivering a second runway, the airport would build on the current Airport Surface Access Strategy making best used of existing and improved rail and road links. One of the benefits of the Gatwick location is the ability to co-ordinate airport expansion with committed and planned improvements aimed at providing for future wider growth. Like the housing issue, the additional access infrastructure required for a second runway is thus limited. The updated scheme is thus also **highly supportive** in relation to this aspect of the module objective.