



Airports Commission:

Proposals for providing Additional Runway Capacity in the Longer Term

Gatwick Airport Limited response

19th July 2013

Airports Commission: London Gatwick 008

YOUR LONDON AIRPORT
Gatwick

The case for a second runway at London Gatwick Airport

It would deliver:

The connectivity that the UK needs

Our vision would see all of London's existing airports supporting growth in air travel to strategic destinations. Gatwick is already supporting new connections to China, Vietnam, Russia and Turkey, with services to Indonesia expected to commence soon. Our vision is not unique - many of the world's large cities have more than one major airport rather than a single 'mega hub', to deliver the air travel connections passengers want.

True competition leading to more passenger choice, better service and lower fares

Reducing reliance on one dominant airport will give passengers a greater choice of carriers and destinations, and would lead to more competitive prices. Journey times to home or the office would also be shorter overall.

More certainty

We believe our solution is deliverable and will give passengers, communities and businesses the certainty they need. We are confident that when all the evidence is taken into account Gatwick will be the preferred option for the next runway.

Less environmental impact

Putting the next runway at Gatwick would have a much lower environmental impact than simply expanding Heathrow - whose noise impact easily exceeds the combined impact of all the other hub airports in Western Europe. With a second runway at Gatwick, there would still be significantly fewer people affected by noise than at Heathrow. That doesn't mean Gatwick doesn't take local community concerns about noise and air quality seriously - we do, and our planning will address these issues.

An affordable, privately financed solution

We are backed by a strong group of experienced shareholders. Initial estimates indicate that a new runway and airport facilities at Gatwick could be funded privately and has a viable business case. We would also share with the Government a proportion of the cost of improved rail and road infrastructure.

Economic benefits spread more widely across the south east

Expanding Gatwick will help spread the economic benefits of airport expansion across the south east rather than concentrating it in one location.

Greater resilience to disruption

By spreading new capacity across different locations, rather than concentrating it all in one place, passengers at London's airports would be less vulnerable to the effects of disruption at a single mega hub.

Flexibility in an uncertain future

An airports system in London and the South East needs to be flexible enough to respond and adapt to future changes. A two-runway Gatwick, as part of a constellation of major airports, is the best option to provide long term flexibility in an industry that will continue to evolve and change.

Building on our successful airports

Our vision means using all of London's airports to their full potential, not having to close any of them.

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Executive Summary

London is one of the World's leading cities. The world-class air links it enjoys makes London, by far, the World's best connected city by air and a destination for many millions of passengers in its own right. The UK, as a whole, benefits from the international connectivity provided by the 'constellation' of airports serving London, as well as from the direct and indirect connectivity from other airports around the UK (including via London's airports) to international destinations.

The UK's unrivalled global connectivity has largely resulted from a consistent Government policy fostering liberalisation and competition in the airline market allowing airlines to compete to meet passenger needs. This focus on competition has been extended with the decision to introduce competition between airports - by breaking up BAA's London monopoly and generating improvements in airport choice and service quality. We believe that the right course is to build on that successful policy with a constellation of competing airports serving London. This will bring the additional benefits of greater operational resilience, and longer term flexibility for a future which nobody can predict with certainty.

There is a compelling case for providing additional airport capacity in order to maintain the UK's status as a global aviation hub and London's status as the World's best connected city. Our studies indicate that if the UK's long term air passenger demands are to be met, London will need a new runway by the mid-2020s and that a further runway could be needed some time during the 2040s. We believe that the right place for the first of these runways is London Gatwick.

Building a second runway at Gatwick would enable accelerated expansion of the airport's traffic, including further growth in the spread and density of its short to medium haul traffic base covering the UK, Europe and adjoining regions. This core traffic base is already comparable to that at Heathrow and Gatwick's further expansion will provide a feeder base that will, in turn, attract additional long haul operations. Gatwick has demonstrated its ability to serve cost-effectively those carriers with business models that demand quick turnaround times. In contrast, Heathrow has shown that it cannot serve this market and its short haul

traffic base is likely to continue its long term relative decline. Gatwick will also continue to build on its many advantages compared with Heathrow including better punctuality, shorter check-in times, a more user friendly passenger experience and, for many, easier access. The cost of developing Gatwick will be significantly lower than other options and this, together with competition, will result in lower fares than expanding other airports elsewhere.

We strongly contend that the UK does not have, and does not need, a so-called 'mega hub' airport to maintain its global connectivity and status as one of the best connected countries in the World and London's standing as a World City. Our studies demonstrate that the proponents of mega hubs overstate the importance of transfer passengers in supporting London and the UK's connectivity. Transfer passengers represent only 13% of passengers using London's airports. The number of routes which supporters of mega hubs argue can be facilitated only with transferring passengers is overstated. Moreover, trends in the international aviation sector, aircraft technology, structural changes to global economies and the eastward shift of the world's economic centre of gravity will continue to reduce the relative importance of traditional transfer traffic through London.

We believe that the advantages from runway expansion at Gatwick and from the retention of a competing constellation of airports, far outweigh the connectivity advantages (if any) that could be offered by the development of a mega hub airport. Expansion at Gatwick will deliver the additional capacity and connectivity which the UK and London need until the 2040s. The cost of developing Gatwick will also be much less than expanding Heathrow or building a new mega hub (and closing Heathrow) and this, combined with increased competition, will lead to lower fares which in turn will stimulate traffic growth and support greater connectivity.

Since the setting up of the Airports Commission last year, and the publication of the Commission's first Guidance Document, Gatwick has been progressing a range of detailed studies and assessments to inform this response to the Commission's invitation for interested parties to submit Outline Proposals for how the UK's long term aviation capacity needs could be met.

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We have been exploring options for how a second runway at Gatwick might be configured. This has included understanding potential locations, configurations and operating modes for a second runway, and the passenger capacity that different options would offer. We have also been assessing the layout of associated terminal and other facilities, the cost and viability of different options, their performance in terms of airline and passenger efficiency and service, the on and off airport surface access needs, and the environmental, economic and social impacts.

Although the process of arriving at the optimum configuration for such an important but also sensitive development is long and complex, it is already clear that there are several credible and plausible ways in which an additional runway could be configured to form a two-runway airport at Gatwick. The options which appear to perform better against a range of criteria are options for one new runway located to the south of, and parallel to, the existing runway, rather than development of a runway to the north of Gatwick airport. Our Outline Proposal, therefore, is for one additional runway to the south of the existing runway.

We are not yet in a position to conclude the precise design of such a new runway. Considerations include the exact length of the runway, how it would be operated and how the related infrastructure, such as new taxiways, aprons and passenger terminal and surface access connections would be provided. In addition, we do not believe we can come to firm conclusions on such issues without first engaging properly with key stakeholders and the public – something which we currently plan to do early next year (accepting that guidance from the Airports Commission may affect or inform that process).

We have identified three southern runway options for further consideration, each of which would offer different capacity and benefits and give rise to different impacts and effects. We know enough about these options to be able to respond with confidence as to how they perform against key criteria set down by the Airports Commission

These southern runway options would increase Gatwick's total passenger handling capacity to a range between about 60 million passengers per year for a close parallel runway and up to about 90 million for a wide spaced runway, and would provide the additional capacity needed to meet forecast air traffic demand for London and the South East until the 2040s.

- These options would be viable, affordable and deliverable. Current early indicative cost estimates are in the range £5bn to £9bn, including our estimate of an equitable contribution towards the costs of improving local transport infrastructure. We anticipate that any of the three Gatwick options could be privately funded.
- None of these options presents significant project complexity or risk, and we believe that any of them could be built and operating by 2025.
- Over the period to 2050, a second runway would generate trade, connectivity and investment benefits. The investment benefits alone are calculated to be some £56 billion. It would also support an additional 4.5m tourist visits annually to the UK, equivalent to an annual £3 billion of tourist spending in 2050 and act as a catalyst for the development of further aviation related and international businesses in the Gatwick Diamond economic sub-region, stretching between south London to the South Coast. A second runway would create up to nearly 19,000 new jobs and support wider economic and social regeneration priorities in East and West Sussex and parts of London, Kent, Hampshire and the Thames Gateway.
- A key aim of our second runway development will be to deliver strong regional connectivity within the UK.

Executive Summary

- Gatwick already has good surface access connectivity. Our vision for a constellation of airports disperses and reduces overall airport related travel, supporting sustainable travel patterns. With direct rail connections to 129 rail stations including many of London's major transport hubs, and from the south coast to well beyond London, Gatwick is already London's best connected major airport by rail. Gatwick also has direct access to the strategic road network via the M23. Our access studies have identified a number of important enhancements to both the rail and road network that would be needed to support a second runway. These will further improve connections to the north of London as well as to the east and west, and will also support wider economic, community and social objectives.
- Land required for the construction of a second runway has been formally safeguarded in accordance with the recommendations in the 2003 Air Transport White Paper. We believe that all of our options would be broadly consistent with the designated safeguarded area.
- We recognise that environmental issues are a key factor in considering expansion of airport capacity. Our vision for a constellation of airports offers the advantage of dispersing the unavoidable noise impacts of aircraft operations over a much wider area than would occur from the intensive concentration from flights to a mega hub airport, particularly if this was close to a heavily populated area – as Heathrow is today. Our noise studies demonstrate that, whilst a second runway would increase the total number of people affected by noise, the overall number of people affected would still be one twentieth of the people currently impacted by Heathrow. Nevertheless, we recognise fully the impact of noise on local communities and we will explore measures to minimise and reduce the noise impacts of our runway proposals, including innovative ways to offer respite and relief to local residents.

- As regards other environmental effects, none of our options would lead to any breach of the statutory European and national air quality limits. Nor would any nationally or internationally designated habitats be directly affected.

Our aim, as we progress to the next phase of our studies, will be to identify a preferred, optimum solution for a two runway airport at Gatwick – a solution that is not only sustainable, viable and deliverable, but also one which has been designed taking into account views of key stakeholders and the diverse community interests in and around Gatwick.

We are confident that the case for building the next runway at Gatwick is credible and compelling. A scheme for one new runway at Gatwick should be included in the Commission's short list of options for further detailed study next year.



Introduction

Gatwick Airport Ltd is pleased to respond to the Airports Commission's invitation for submission of Outline Proposals for providing additional airport capacity in the longer term.

Since the setting up of the Airports Commission in the second half of last year, we have been progressing a range of studies to explore all realistic options for the provision of additional capacity at Gatwick. In this submission, we report on initial outputs from our studies, and, in particular, how our Outline Proposals perform against the Airports Commission's long term options sift criteria¹ including the operational, technical and commercial deliverability of our Outline Proposals and the broad economic, social and environmental impacts.

The UK, and London in particular, already enjoy world-class air links. However, maintaining the UK's status as one of the World's best connected countries and London's status as one of the best connected cities will, we believe, require the provision of additional runway capacity.

A GUIDE TO THIS DOCUMENT

Section 1: Sets out some background to previous studies for further runways at Gatwick. We also identify some key changes in the aviation sector which have occurred since the previous Government's 2003 Air Transport White Paper, and which support our case for a second runway at Gatwick.

Section 2: Summarises the nature, scale and timing of the aviation capacity and the connectivity that would be delivered by a further runway at Gatwick. With data from studies we have commissioned, we also explain why the UK's connectivity and status as Europe's most important aviation hub can best be maintained through building upon the constellation of competing London airports rather than through further expansion of Heathrow or the construction of a mega hub.

Section 3: Describes the nature and configuration of the runway options we have been considering.

Section 4: Summarises the results of our surface access studies, including the road and rail improvements which we foresee could be needed to support growth and manage surface transport demands sustainably.

Section 5: Summarises the broad economic implications of the development of a second runway including wider economic benefits, regional and local benefits, and growth in airport related employment. Opportunities to support wider social and economic regeneration are also presented.

Section 6: Summarises the main environmental impacts relating to noise, air quality, carbon, heritage, designated sites and other local features.

Section 7: Considers the benefits for passengers. Impacts on local communities, including the indicative land and property take, are also considered.

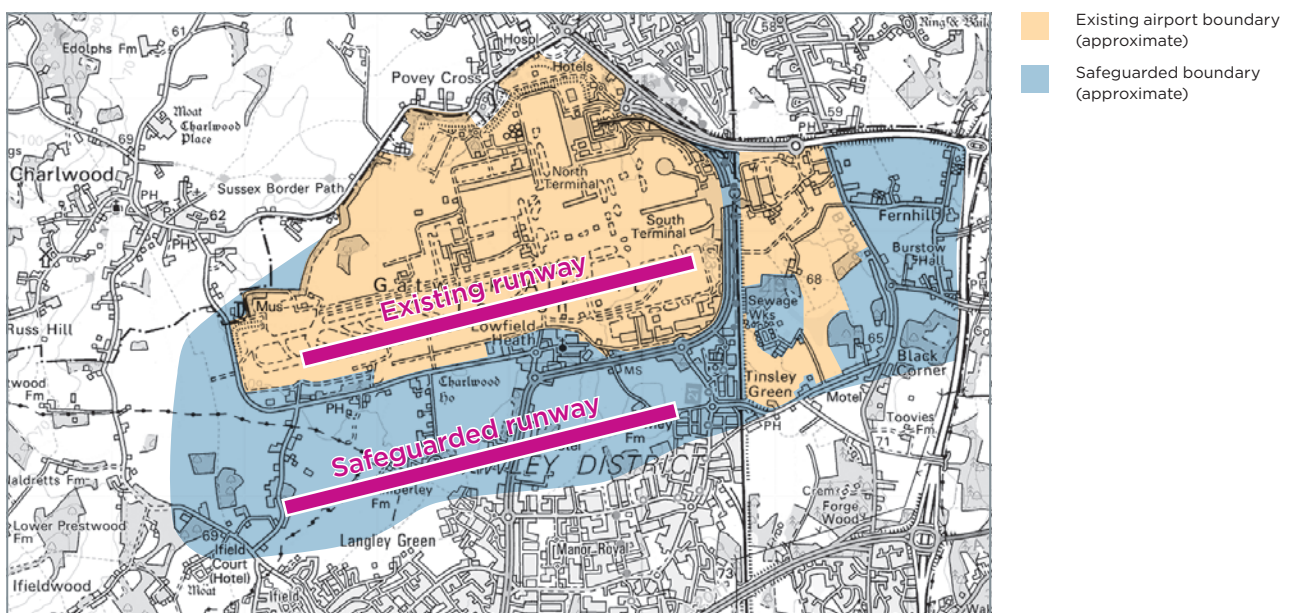
Sections 8, 9 and 10: Consider the cost of our main runway options and their operational and financial viability and deliverability.

¹ Long Term Capacity Options: Sift Criteria, Airports Commission Guidance Document 02: Airports Commission, May 2013

Section 1: Historical Background and Changes in the Air Transport Sector

- 1.1 The opportunity to add more runways at Gatwick has been recognised for many years². As far back as 1953, when the Government first announced plans to develop a new civil airport at Gatwick, the original masterplan featured a second parallel runway.
- 1.2 The CAP570³ and RUCATSE⁴ studies in the 1990s considered the provision of additional runways, and it was the SERAS⁵ studies in the late 1990s and early 2000s that ultimately led to the 2003 Air Transport White Paper⁶ (ATWP) policy for the formal safeguarding of land for a second runway to the south of the airport.
- 1.3 The ATWP concluded that additional capacity at Gatwick would be very attractive to passengers, was supported by a strong economic case and that a new runway at Gatwick should be kept available as an option. That policy, which remains in place today, led to the formal safeguarding of over 550 hectares of land to the south of the airport and north of the town of Crawley as shown on Figure 1.
- 1.4 This policy has protected the safeguarded area from development that would be incompatible with the development of the second runway in this location.
- 1.5 The ATWP's conclusions, which followed the extensive research, examinations and consultations undertaken during the SERAS studies, demonstrated clearly that a further runway at Gatwick was a credible option.
- 1.6 Since the time of the ATWP, there have been numerous changes that serve to enhance the credibility of Gatwick as a new runway option:
 - **'The 2019 agreement'**
An issue that prevented the 2003 Government from endorsing a new runway at Gatwick for immediate development was the 1979 legal agreement preventing the construction of a new runway before 2019. The Government made it clear that, unless there was no alternative way forward, it would not be appropriate to overturn the agreement⁷. Although Gatwick remains fully committed to honouring the 2019 agreement, the timescale for the Airports Commission's work, the need thereafter for the government to prepare a National Policy Statement, and the time required thereafter for a Development Consent Order process to be progressed, mean that, in effect, and unlike the situation in 2003, construction could not commence before 2019, and that the 2019 agreement is no longer a constraint on development at Gatwick.

FIGURE 1:
GATWICK SECOND RUNWAY SAFEGUARDED AREA



² A summary of previous Gatwick expansion studies can be found in "Tangled Wings" by Brendon Sewill
³ Traffic distribution policy and airport and airspace capacity: the next 15 years - Civil Aviation Authority July 1990
⁴ Runway Capacity to Serve the South East - Department of Transport July 1993
⁵ South East and East of England Regional Air Study - Department of Transport Local Government and the Regions 2000 to 2003
⁶ The Future of Aviation White Paper, Department for Transport, December 2003
⁷ Ibid. Para 11.70

Section 1: Historical Background and Changes in the Air Transport Sector

- **Competition between airports**

The advent of competition between airports in London and the South East has introduced a major new dynamic. The Competition Commission (CC)⁸ was clear that the common ownership of Gatwick, Heathrow and Stansted by BAA had led to under-investment at all the airports and, in particular, at Gatwick. The CC concluded that BAA's monopoly should be broken up and a competitive airport market encouraged. A natural corollary of this is that competition issues must now be central to decisions on future runway capacity.
- **Hubs and connectivity**

The dynamics of connectivity at airports and the concept of the need for 'hub' airports to serve transfer passengers have changed dramatically since the work leading up to the ATWP. At Gatwick, despite the lack of a second runway, the largest British airline – easyJet – has established a major base, without the need for hub-like infrastructure. At Stansted, due to the availability of capacity in the early 1990s, the largest European airline – Ryanair – has established a major base. These carriers have expanded on the philosophy of high aircraft utilisation and streamlined operations to deliver low fares and expand the point-to-point market, as well as their own market shares. At the same time, Heathrow is home to three legacy carrier alliances and has further developed infrastructure to serve traditional airside transfers.
- **Airline Alliances and Code Sharing**

Airlines themselves are working more closely together, and not just within the traditional 'alliance' structure. There are now the first signs of interline and code-share agreements between low cost airlines and long haul carriers. There is substantial potential for this to grow, especially as the low cost airlines increasingly impinge on the business routes traditionally dominated by full service carriers. These arrangements enhance the profitability and reach of the carriers, enhance the connecting options of passengers and are an increasingly major source of revenue. This has significant implications for future runway infrastructure in the UK. The evidence in the UK is that only 13%⁹ of London's passengers are transfer passengers, which is a relatively small proportion of air passengers and underlines the attraction of London as the World's most important O&D market.
- **The Low Cost Carrier Phenomenon**

A major change in the aviation market since the time of the ATWP has been the rapid growth of Low Cost Carriers (LCCs). This is a feature of the market that has been assisted by a combination of displacement of other types of carrier and usage of some spare capacity at Gatwick, leading to the growth of easyJet, and by the large amount of spare capacity at Stansted in the early 1990s, which assisted the growth of Ryanair to be Europe's largest carrier. This LCC growth follows similar trends around the World where LCCs have grown enormously at the expense of legacy carriers. This growth has been to the benefit of passengers, who have seen new routes, lower fares and innovative service offerings. LCCs are rapidly evolving and easyJet, for example is now increasingly targeting business traffic. Whereas some of the work leading up to the ATWP forecast a drop in LCCs (at Gatwick), the fact that they are now the fastest growing sector of the aviation market means that much emphasis must now be placed on how this sector of the airline market can be accommodated when considering the provision of new runway capacity.

⁸ BAA airports market investigation, Competition Commission, 2009

⁹ IATA PaxIS data, contained in SH&E forecasts

¹⁰ Aviation Connectivity and the Economy, Discussion Paper 02, Airports Commission, 2013

Section 1: Historical Background and Changes in the Air Transport Sector

- **Technology**

Technological enhancements in aircraft engine and airframe technology have led to the deployment of new aircraft that do not need to operate from a hub in order to offer profitable long haul point-to-point operations. Many large orders have been placed for Boeing's long-range 787 Dreamliner and for the Airbus A350, nearly six times the number of orders placed for Airbus' A380 'superjumbo', which was designed for classic hub-to-hub operations. Passengers will now have access to many more direct flights to new destinations that are further afield and London could increasingly be bypassed as a transfer point regardless of the capacity or form of its airports.

- **The Growth of Low Cost, Efficient Hubs in the Middle East and Turkey**

Since the ATWP, the growth of Middle Eastern and Turkish airlines, and the hubs at which they are based, has been very significant. The national airlines are well resourced and able to afford large investments in the latest generation of aircraft and their hubs have benefited from massive government investment and resources. Many believe that Dubai will overtake Heathrow as the World's largest international airport in the next year or so. This partly reflects the growth of flights to and from the Far East, for which the Middle East is much better placed than Europe to offer a viable transfer location. It should be noted that while this is a threat for some European hubs, the comparatively small proportion of transfer traffic in London means that this is less of a risk to the status of London as the World's best connected city.

- **Global Economic Changes**

Finally, we are now seeing dramatic growth – although from a low base – of flights to / from developing economies, particularly countries in the Far East such as China and Indonesia. These countries are able to connect directly to London from hubs in their own countries, rather than relying on traditional hubs in Europe. The connection of London to Indonesia via Gatwick is noted by the Airports Commission as an example of new connectivity being provided outside of traditional hub airports¹⁰.

1.7 The trends highlighted above are changing the way the UK and global aviation industries operate. In the next section we set out how these changes support the case we make that the best solution to meet the UK's connectivity needs is not to build a mega hub, but to continue to develop the existing constellation of competing airports serving London and the UK.

Section 2: Strategic Fit

- 2.1 The Commission has invited submissions as to the nature, scale and timing of the aviation capacity and connectivity delivered by each proposal, and has asked how the proposal will support or enhance the UK's status as Europe's most important aviation hub.
- 2.2 In London Gatwick's view, a constellation of competing airports, around London (and potentially beyond), is the best way to maintain the UK's status as Europe's most important aviation hub. We propose that the first step should be an expansion of Gatwick airport, by construction of one additional runway.
- 2.3 We address the first question posed by the Commission in three parts.
- What will be the demand for airport capacity in London and the South East?
 - How will an expansion of Gatwick meet that demand for extra capacity, while maintaining the excellent connectivity of London and the UK today?
 - Why is a proposal to expand Gatwick better than competing proposals to expand Heathrow, or develop a new mega hub?
- WHAT WILL BE THE DEMAND FOR AIRPORT CAPACITY IN LONDON AND THE SOUTH EAST?**
- 2.4 Analysis of the need for capacity should start with the demand for capacity in the South East, i.e. is there likely to be need for extra airport capacity?
- 2.5 In order to understand whether additional capacity might be needed, it is first necessary to consider the scale of future demand for air travel and how much of this can be met by the existing runway capacity serving London¹¹. The starting point for our work has therefore been the preparation of long term air traffic forecasts for the London airport system as a whole. A detailed report by our forecasting consultants - ICF SH&E - is in Appendix 2. What follows is a summary of that work.
- 2.6 Historically, the demand for aviation has grown at a rate faster than GDP as rising incomes, falling prices and market liberalisation led to a sustained boom in aviation in Europe. Although these trends continue in parts of the World (e.g. Asia, Latin America), the UK market is now relatively mature, and is characterised by more modest growth rates.
- 2.7 Nevertheless, even at modest growth rates, demand for access to the airports which serve London is forecast to exceed capacity within the next decade or so. At several airports, and elsewhere at particular times of the day or year, this is already the case. Accordingly we first use "unconstrained forecasting" to estimate the future growth that the London system could expect if capacity was not a constraint, and thus to identify when additional capacity might be needed and how quickly such additional capacity is likely to be utilised.
- 2.8 The forecasts consider a 40 year time horizon, from a 2012 base year. The approach has four distinct steps.
- First, identify the scale and make up of air passengers using the London's airports today and what have been the key drivers of this pattern of demand?
 - Second, how much growth is expected in the London system over the next 40 years?
 - Third, based on these forecasts, when will a new runway at Gatwick be needed?
 - Fourth, how quickly would we expect a new runway to fill, and what kind of traffic might a second runway attract?

¹¹ We have not at this stage undertaken analysis at the UK level

Section 2: Strategic Fit

The London system today

Who uses London’s airports today?

- 2.9 Figure 2 below shows the number of passengers across London’s airports today. In 2012, the six London airports accommodated 135m passengers. As a result, London is today the largest aviation market in the World, considerably larger than New York (106m), Tokyo (91m), Paris (88m) and Beijing (81m).
- 2.10 In forecasting demand for London and the South East, ICF SH&E use two broad categories of demand. First, there is the demand of passengers whose journeys start or end in London - “Origination and Destination passengers” (O&D). Second, there is the demand of passengers whose journey involves a transfer through one of the London airports - “transfer passengers”.
- 2.11 Of the 135m passengers who used London’s airports in 2012, 117m were O&D passengers, while 18m¹² were transfer passengers¹³. The vast majority of transfer passengers used Heathrow, and the majority of those (around 75%) were transferring via the One World alliance, most of these being to and from North America.

2.12 Thus, the overwhelming feature of the London market is that it is dominated by the very large O&D market, with only 13% of passenger being transfer passengers. This demonstrates the importance of London as a World destination in its own right.

What is the connectivity position today?

- 2.13 The position of London today is that it is a city served by a dispersed system – or constellation – of airports. London is, as a result, the World’s largest aviation market, as well as one of the best connected cities in the World¹⁴. That strong position has not come about because of the strength of a single hub (Heathrow’s limitations have been widely recognised), but as a result of successive Governments’ consistent support¹⁵ for a policy of liberalisation and competition, including the development of the constellation of airports – Heathrow, Gatwick, Stansted, Luton, London City and most recently Southend. As Figure 2 shows, the majority (some 64.5 million) of origin and destination passengers travelling to London chose to use airports other than Heathrow (54 million O&D passengers).
- 2.14 The Airports Commission highlights the frequency of services to global regions from selected airports and cities. On this basis, it concludes that London is better connected than Frankfurt, Paris, Amsterdam and Madrid. This is despite the fact that most of those cities are served by airports with much higher percentages of transfer passengers than London’s airports, and by airports which are much closer to being classic hub airports. It follows that hub airports do not determine the level of connectivity. In addition, connectivity is not defined by whether or not a destination is served - it should take account of the value of that service and include considerations of frequency, capacity and price. We address later how the benefits of connectivity (from Gatwick) could lead to lower fares (than connectivity from Heathrow).

FIGURE 2:
PASSENGERS USING LONDON AIRPORTS BY TYPE (2012)



¹² The 13% transfer percentage used earlier.

¹³ Source: IATA PaxIS data. Although estimates based on CAA Passenger Survey indicate a higher percentage, the key message remains that that overwhelming majority of passengers in the London system is O&D passengers

¹⁴ Aviation Connectivity and the Economy, Discussion Paper 02, Airports Commission, 2013, Table 2.1

¹⁵ 1978 White Paper, 1985 White Paper, 2003 White Paper.

Section 2: Strategic Fit

FUTURE GROWTH - HOW MUCH DEMAND WILL THERE BE TO USE LONDON'S AIRPORTS?

- 2.15 Over the last 20 years, the London air passenger market has grown at around 3% per annum. This rate of growth is not forecast to continue. ICF SH&E's growth forecast for the next 20 years is 2%, and for the next 40 years is 1.5%. Nevertheless, these tapering growth rates would still yield more than 100 million additional passengers a year at London's airports by 2052.
- 2.16 ICF SH&E's total unconstrained passenger forecasts are summarised in Table 1 below.
- 2.17 Figure 3 illustrates these forecasts in graphical form. The continued dominance of O&D demand for traffic in the future is clear.

TABLE 1:
UNCONSTRAINED LONDON FORECASTS AND COMPOUND ANNUAL GROWTH RATES (2012, 2032 AND 2052)

Terminal passengers (millions)	Passengers (millions)			20yr CAGR	40yr CAGR
	2012	2032	2052		
London O&D Demand	117.1	169.3	215.1	1.9%	1.5%
Europe Transfers	10.3	14.2	14.8	1.6%	0.9%
UK-World Transfers	4.7	7.5	9.1	2.4%	1.7%
Other Long Haul Transfers	3.2	8.5	8.4	5.0%	2.5%
Total	135	199	248	2.0%	1.5%

SOURCE: ICF SH&E

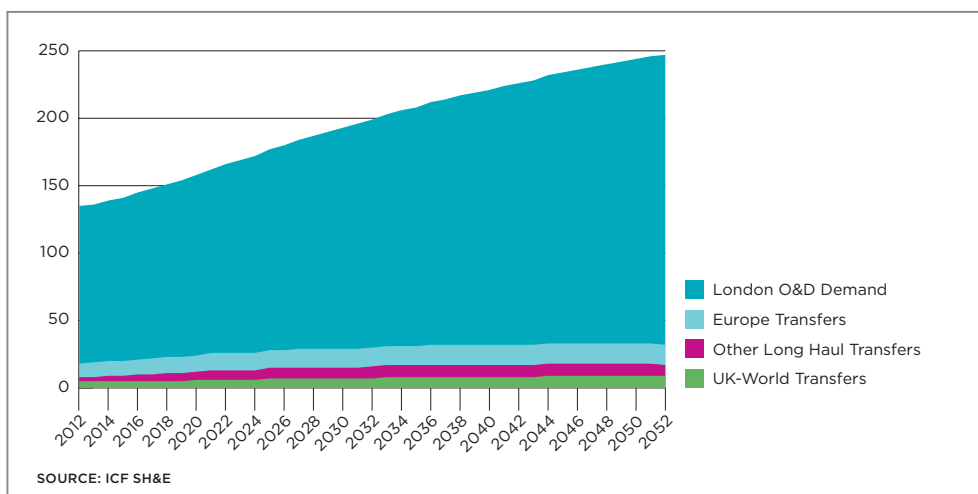
- 2.18 These unconstrained forecasts are comparable to the latest DfT forecasts¹⁶, although they are produced on a slightly different basis, and a comparison is included in Appendix 2.
- 2.19 ICF SH&E then produced a breakdown of the London O&D traffic forecasts for 2032 and 2052 into the markets that would be served. This is shown in Table 2 below.

TABLE 2:
BREAKDOWN OF O&D TRAFFIC FORECASTS

Market	Passengers (millions)			20yr CAGR	40yr CAGR
	2012	2032	2052		
LON-Europe	72	101	125	1.7%	1.4%
LON-North America	13	16	19	1.2%	1.0%
LON-United Kingdom	10	13	15	1.3%	1.2%
LON-Africa	6	8	11	2.1%	1.8%
LON-Far East	5	8	12	2.7%	2.2%
LON-Middle East	4	6	8	2.6%	2.1%
LON-Indian Subcontinent	3	6	9	3.3%	2.6%
LON-Australasia	2	3	4	2.3%	1.9%
LON-Caribbean	1.4	2	3	1.9%	1.7%
LON-South America	1.0	3	4	5.1%	3.6%
LON-Far East (China)	0.8	3	5	7.3%	4.6%
LON-Central America	0.4	0.7	1.1	3.6%	2.8%
Total London O&D	117	169	215	1.9%	1.5%

SOURCE: ICF SH&E

FIGURE 3:
LONDON UNCONSTRAINED PASSENGER DEMAND FORECASTS mppa (2012-2052)



SOURCE: ICF SH&E

¹⁶ UK Aviation Forecasts, Department for Transport, January 2013

Section 2: Strategic Fit

2.20 This breakdown of the forecasts demonstrates the continued dominance of traffic to and from the UK and Europe - remaining at around 60% throughout.

2.21 Finally, ICF SH&E looked at the analysis in a 2040 snapshot. This date is relevant as it is around the point that the next runway might be full. Figure 4 shows that demand in the London system will increase by 45mppa between 2025 and 2040, with the majority of the increase being O&D traffic, mainly to Europe, the UK and the Americas.

2.22 Taken together, these forecasts demonstrate several key points:

- Demand for access to London's airports is, and will remain, overwhelmingly O&D. Of a forecast 248 mppa demand for London's airports in 2052, only around 13% is forecast to be transfer traffic;
- Demand for access to London's airports is, and will remain, overwhelmingly to and from the UK and Europe;
- Growth rates to other destinations, particularly Far East and Australasia, will be higher than growth rates to the more mature destinations of Europe, North America and the UK;
- A growth rate of just under 5% a year to China will mean that, by 2052, the annual number of passengers to and from China will rise to just under 5mppa, compared to less than 1mppa today; and

- Whilst the absolute number of transfer passengers is forecast to rise, the overall percentage of London airport capacity that will be needed for transfer passengers will remain broadly the same as today - around 13% of passenger

2.23 A very important conclusion to be drawn from this analysis is that focusing the solutions for future aviation capacity on a mega hub, on the premise that only it can deliver this relatively small proportion of transfer passengers, is not the obvious way to maintain the UK's and London's current pre-eminent status in terms of connectivity to the World.

WHEN MIGHT A NEW RUNWAY BE NEEDED?

2.24 The unconstrained forecast base case - which forms the starting point for capacity requirements - starts by considering what might happen if **no new runway capacity** was added during the forecast period to 2052.

- Heathrow is already virtually full year-round, and Gatwick is approaching capacity in the summer peak; additional growth at these airports will come mostly from larger aircraft carrying more passengers;
- Gatwick could accommodate perhaps another ten million passengers by 2025. Beyond 2025, however, Gatwick's growth will be very limited. With a single runway and over an extended time period, Gatwick is forecast to handle around 48 million passengers by 2050; and

FIGURE 4:
THE GROWTH OF LONDON PASSENGER DEMAND (mppa to 2040)

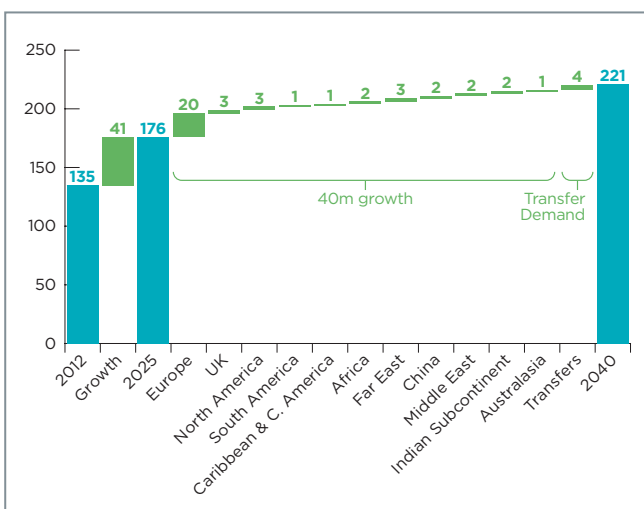
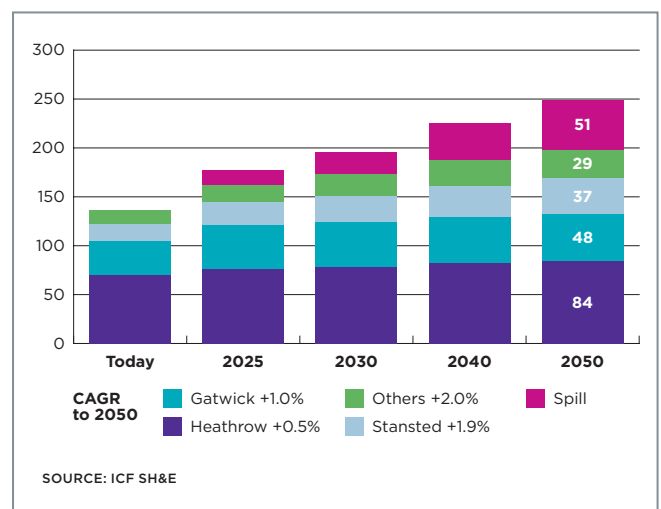


FIGURE 5:
LONDON AIRPORTS CAPACITY AND PASSENGER DEMAND NOT MET (mppa)



SOURCE: ICF SH&E

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- All the London airports will be used as intensively as airline business models and passenger demand will support. By 2050, traffic will be very significantly constrained, with over 50 million passengers who wish to use the airports not being accommodated.

2.25 Figure 5 shows that the London system begins to “spill” traffic from about 2025. This date also happens to be a reasonable estimate of the earliest date when we consider that UK planning processes, and a realistic construction programme, would allow a new runway at Gatwick to be delivered. Our current estimate is that neither expansion at Heathrow, nor a mega hub would be deliverable by the mid 2020s, if at all.

HOW WILL AN EXPANSION OF GATWICK MEET THAT DEMAND FOR EXTRA CAPACITY, WHILE MAINTAINING THE EXCELLENT CONNECTIVITY OF LONDON AND THE UK TODAY?

2.26 On the basis that there is a capacity need from the mid 2020s, we commissioned a range of traffic forecasts for different runway capacity scenarios. The 2040 forecast is shown in Figure 6.

2.27 The scenarios are as follows:

- SC1 shows no additional capacity at Gatwick or the other main airports;
- SC2 is with a close spaced parallel runway at Gatwick, operated in dependent segregated mode;

- SC3 is with a wide spaced parallel runway, operated in independent segregated mode;
- SC4 is with a wide spaced parallel runway, operated in independent mixed mode;
- SC5 is with no runway at Gatwick and with a third runway at Heathrow, modelled to show the ATWP environmentally constrained capacity of 605,000 movements, compared to 480,000 movements today.

2.28 For each scenario ICF SH&E developed a range of traffic forecasts. The higher traffic forecasts are described as Gatwick “higher bound” in Figures 6, 7 & 8.

2.29 The Figure shows that the wider parallel options (SC3 and SC4) provide greater capacity than the close parallel option (SC2) at Gatwick. Scenario SC5 – which models an environmentally-constrained third runway at Heathrow – shows that the wide-spaced Gatwick options provide more capacity than an expansion at Heathrow. At this stage, without any knowledge of any mega hub options, we have not assessed the capacity of these hypothetical proposals.

2.30 The Airports Commission has requested “Outline Proposals” to indicate the nature, scale and timing of the aviation capacity and connectivity delivered by the proposals. Gatwick’s response is as follows:

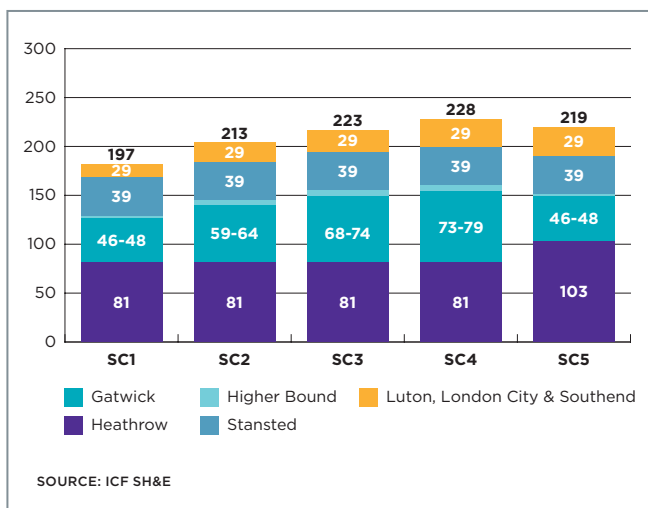
The vast majority of traffic to be accommodated is O&D

2.31 The forecasts show that the vast majority of traffic seeking access to London and the South East will remain as O&D traffic. We are not forecasting a significant growth in transfer traffic seeking to use the London airports. Transfer traffic will therefore continue to represent around 13% of the demand for use of the London airports.

Connectivity to Europe will remain by far the biggest demand for access to and from London

2.32 The principal requirement for the London airports will continue to be to provide capacity to Continental Europe and the UK. Even the impressive annual growth figures assumed by SH&E for the Far East show that connectivity to that region will remain a relatively small proportion of overall demand for access to and from London and the South East.

FIGURE 6:
LONDON AIRPORTS PASSENGER CAPACITY (mppa)
IN 2040 ASSUMING DIFFERENT RUNWAY
DEVELOPMENT SCENARIOS



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An additional runway at Gatwick can provide more capacity than expanding Heathrow

2.33 A detailed review of the make-up of traffic in each of the scenarios is included in the SH&E analysis. We have overlaid the unconstrained forecast demand for airport capacity in the South East onto forecasts of capacity in several scenarios and this is shown in Figure 7 below.

2.34 This shows that a new runway at Gatwick can – in two scenarios – provide enough capacity in the South East to meet the forecast demand for access to London and the South East in 2040. In these scenarios, we also show that expansion at Gatwick can provide more capacity than the environmentally constrained ATWP third runway at Heathrow. We accept that full consideration of the potential capacity of other airports will only be possible when the Outline Proposals of those airports have been published.

2.35 Looking further forward, our analysis shows the potential need for further runway capacity beyond one extra runway at Gatwick. Thus, when we look at the 2050 forecast (Figure 8), we can see that the second runway at Gatwick is then full, indicating a need for further runway capacity sometime in the 2040s.

An additional runway at Gatwick can provide as much connectivity as expanding Heathrow

2.36 The analysis above indicates that the vast majority, and in some cases all, of the demand that wants to access London by 2040 can be met with an extra runway at Gatwick, albeit there could be a need for a further runway in the South East by 2050.

2.37 However, the Airports Commission wishes also to explore whether the connectivity of London will be maintained given the patterns of future demand that they are considering. We therefore commissioned InterVISTAS¹⁷ to analyse the connectivity which would be provided by expanding Gatwick, and how they might compare to expanding Heathrow. Their report – “Assessing connectivity in UK’s air transport market” is attached as Appendix 3.

2.38 InterVISTAS explain that many large cities across the world rely on multiple airports to meet the demand requirements of passengers. An example is New York, where the city is served by three large airports.

FIGURE 7:
LONDON AIRPORTS PASSENGER CAPACITY (mppa) IN 2040 ASSUMING DIFFERENT RUNWAY DEVELOPMENT SCENARIOS COMPARED WITH UNCONSTRAINED DEMAND

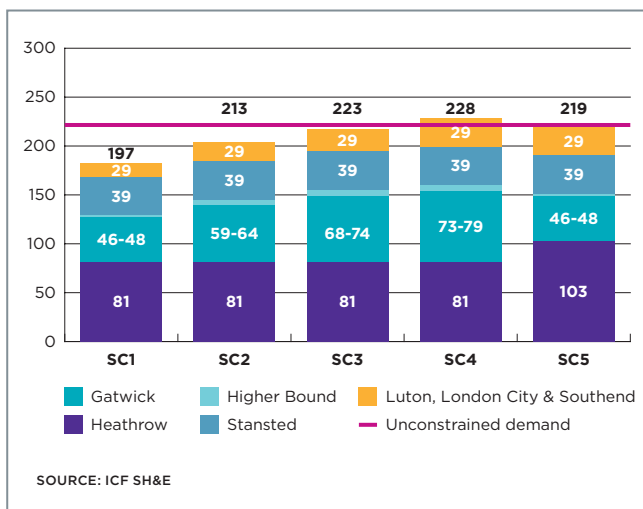
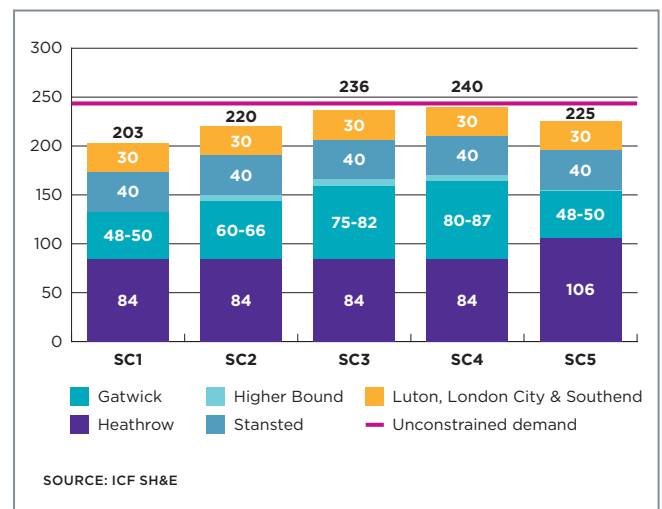


FIGURE 8:
LONDON AIRPORTS PASSENGER CAPACITY (mppa) IN 2050 ASSUMING DIFFERENT RUNWAY DEVELOPMENT SCENARIOS COMPARED WITH UNCONSTRAINED DEMAND



¹⁷ InterVISTAS Consulting Group is a leading management consultancy company with extensive expertise in aviation, transportation and tourism.

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2.39 InterVISTAS used the IATA “connectivity index” that takes into account the number of destinations at an airport, the frequency by which those routes are flown, the number of seats per flight and the size of the destination airport. This shows that today Heathrow provides a much higher level of connectivity than Gatwick, although Heathrow has flights to fewer destinations.

- 2.40 InterVISTAS conducted detailed network modelling to analyse the additional connectivity that would be provided by providing a second runway at Gatwick as opposed to expanding Heathrow, focusing on three options:
- Heathrow with a third runway¹⁸, with Gatwick remaining at one runway
 - Gatwick alliance - a further runway is provided at Gatwick and an alliance moves to Gatwick
 - Gatwick, no alliance - a further runway is provided at Gatwick, but although no alliance moves to Gatwick, LCCs and network carriers continue to connect at Gatwick

2.41 A summary of the InterVISTAS connectivity analysis is provided in Table 3.

TABLE 3:
IATA CONNECTIVITY INDEX COMPARING
ALTERNATIVE RUNWAY OPTIONS

	Current	Heathrow R3	Gatwick R2 Alliance	Gatwick R2 No alliance
Heathrow	297	356	282	302
Gatwick	59	64	151	112
Total	356	421	434	414
		(+18%)	(+22%)	(+16%)

SOURCE: interVISTAS

2.42 The table shows the connectivity provided at Heathrow and Gatwick combined using the IATA connectivity index. The absolute value of the connectivity index has no real meaning; it is the relative value of various connectivity options that are of interest. As can be seen, a third runway at Heathrow would increase the combined connectivity by 18%, whereas a second runway at Gatwick combined with an alliance move would increase connectivity by 22%. Even without such an alliance move, a second runway at Gatwick would provide a similar amount of connectivity as a third runway at Heathrow. We are continuing to undertake further research and analysis of the connectivity benefits but we consider that the connectivity benefits to the UK that could be attributed to a third runway at Heathrow could be equally, and potentially more, attributable to options for a second runway at Gatwick.

WHY IS A PROPOSAL TO EXPAND GATWICK BETTER THAN ANY COMPETING PROPOSAL TO EXPAND HEATHROW, OR DEVELOP A NEW MEGA HUB?

2.43 In the analysis above, we have shown that it is entirely possible that an expansion of runway capacity at Gatwick can not only maintain but improve the connectivity that London enjoys today. However, there are other aspects of connectivity that Gatwick believes the Commission should take into account. These are discussed below:

A second runway at Gatwick will put downward pressure on air fares

2.44 Additional capacity at Gatwick will foster airport and airline competition. This will result in lower air fares to passengers, will increase and promote innovation, and in turn enhance London and the UK’s connectivity and attractiveness for business and tourism. The fact that prices for airfares are lower at Gatwick than at Heathrow is clear from comparison of fares to the same destination from Heathrow and Gatwick¹⁹. This is the other side of the coin to the claimed benefit that airlines prefer Heathrow because of its higher yields, which from a passenger perspective mean higher fares. The InterVISTAS report refers to evidence that fares out of “hub” airports are normally higher than out of competing airports. We intend to commission further work in this area if, in its Interim Report, the Airports Commission takes forward options for Gatwick for further study.

¹⁸ As explained above, an environmental limit is assumed for Heathrow

¹⁹ An example was provided in London Gatwick’s submission response to Discussion Paper O2 on Aviation Connectivity and the Economy, April 2013

Section 2: Strategic Fit

There are diminishing returns to connectivity

- 2.45 InterVISTAS work also demonstrates that the connectivity gains at a single airport are not limitless. In particular, they explored the “S curve effect”, i.e. that additional services to the same market or region from a single airport produces lower incremental benefits than services to new routes.
- 2.46 In our view, this underlines the reality that adding further capacity at Heathrow will not automatically improve the UK’s connectivity to emerging BRIC destinations. The use of Heathrow slots that have become available in recent years suggests that the overriding parameter is the need for airlines to select those routes where demand and profitability are likely to be strongest. In other words, airlines will, understandably, make rational commercial decisions, rather than pursue new routes solely for strategic purposes of UK trade.

Heathrow is any event not a classic hub

- 2.47 In its Discussion Paper 04²⁰, the Airports Commission separates airports into “focal” airports and “non focal” airports. In our response to the discussion paper on Airport Operating Models²¹, we suggest that this is perhaps too stark a difference to make between the many different airport operational models. In many ways, Heathrow is not a classic hub. It was not, in contrast to airports like Atlanta, Dallas / Fort Worth, Denver and Dubai, designed as a hub. It is therefore not surprising that a relatively small percentage of its traffic is transferring passengers. Heathrow’s one-quarter²² of transfer passengers compares with over two-thirds at Atlanta for example. In reality, Heathrow is a hub with limitations, and with a very significant amount of point to point traffic for which other airlines and other airports already compete. In addition, Gatwick is already competing in some long-haul markets with Heathrow.

A mega hub?

- 2.48 At this stage, we have carried out little analysis on the various estuarial airports that we understand have been proposed to the Airports Commission. An important part of the next stage of the Airports Commission work will be to allow interested parties to comment on each other’s proposals. Without having yet seen other proposals, our current view – as included in our response to the Airports Commission Discussion Paper 04 – is that we would expect that a proposal to expand Gatwick will be superior to a mega hub (in the Thames Estuary or elsewhere) on the following grounds:
- Investing in a single mega hub will diminish competition, lead to higher airport charges and air fares, and entrench airport market power;
 - The project risks and costs of delivering a mega hub are likely to be massively greater than for a dispersed solution, and for some mega hub locations these costs could be extremely large, making airport charges uncompetitive;
 - Expanding to create a mega hub will create a less resilient system than a dispersed solution, and this too adds costs for many users;
 - Any site that has been identified so far for a mega hub is likely to have a major environmental impact, and a mega hub inevitably leads to concentration of such impacts; and
 - There are significant social dis-benefits, depending on the location.
- 2.49 We note that enforced closure of Heathrow, and potentially other London airports, as a necessary pre-cursor to the opening of any new mega hub is unlikely to prove a sound and reasonable policy proposition. In fact it is likely to prove wholly unrealistic. It is also not clear how, for example an Estuarial mega hub could be constructed without breaching European Union State Aid rules.

²⁰ *Airport Operational Models Discussion Paper 04*, Airports Commission, May 2013

²¹ *Response to Airports Commission Discussion Paper 04 on Airport Operational Models*, Gatwick Airport Ltd, July 2013

²² Using IATA PaxIS data, the equivalent CAA survey numbers would be 34%.

Section 2: Strategic Fit

- 2.50 To understand better the future of hubs in London, we commissioned the world-renowned Professor Richard de Neufville²³ to assess the challenges associated with developing airport capacity in the South East. His paper “A forward look into the uncertain future” is attached as Appendix 4. Professor de Neufville:
- assesses the rapidly changing airline market, showing the industry converging towards more economical, cost-effective ways of doing business;
 - notes that this rapidly changing market works against London as the location of an effective hub airport;
 - notes that that Gatwick and Stansted might easily develop greater international roles as the dominance of a single focal airport decreases;
 - explains that this shift might spread the benefits of connectivity over the region, much as has happened around New York; and;
 - concludes that the challenges of the future require a flexible strategy which provides for immediate needs, yet does not commit the UK to a single view of the future that might never develop.

2.51 The conclusion that Gatwick draws from this is that the focus of capacity at any one hub or mega hub is unlikely to be a sound policy for the UK to adopt.

Long term flexibility

- 2.52 Runway expansion at Gatwick has been studied by a number of Government-sponsored committees and commissions over the last 50 years, including the RUCATSE and SERAS studies. These have included options to the south of the existing runway as well as options to the north.
- 2.53 In the next section we explain that our preliminary studies, which have drawn on these previous studies, suggest that in regard to options for an additional single runway, options for a southern parallel runway tend to perform better on a range of criteria²⁴ than options to the north. That said, as part of Gatwick’s initial technical assessment work, we have found that there is nothing to suggest that runway options to the north would not be viable.

2.54 Whilst noting our very strong contention that the best strategic choice for the UK and London is a constellation of competing airports, with Gatwick having the next runway, it is of course also the case that construction of a second runway to the south of Gatwick would not prevent a further runway subsequently being developed to the north, if the latter was ever to be needed. A Gatwick southern runway therefore provides long term flexibility, and should the Airports Commission decide that it wishes to investigate in more detail the development of a ‘mega hub’ in the South-East, then it would be appropriate for the Commission to request information and / or submissions about the capability of Gatwick to deliver such a development.

Expanding Gatwick brings a range of other benefits

2.55 We have shown that the capacity and connectivity needs of London and the UK can be met by an expansion of Gatwick. In the remainder of this submission, we outline the added benefits that come with an expansion of Gatwick including the benefits to be derived from our vision for a constellation in terms of competition, resilience to disruption, sustainable surface access, spreading of economic benefits and environmental impacts, cost, and certainty of delivery.

CONCLUSION

2.56 In this response to the first part of the Airports Commission question on strategic fit, we have shown that:

- There is likely to be a need for additional runway capacity in London and the South East, probably in the mid 2020s;
- That a second runway at Gatwick could provide the capacity needed to meet air traffic demand for London and the South East until the 2040s;
- That a second runway at Gatwick on its own, and as part of a competing constellation of airports, can provide a similar amount of additional connectivity to that which could be provided by a third runway at Heathrow;
- Any development at Gatwick preserves flexibility for future airport developments; and
- A second runway at Gatwick, as part of a constellation of airports, is superior to a further runway at Heathrow, or a mega hub, in terms of a range of other benefits.

²³ Professor of Engineering Systems and Professor of Civil and Environmental Engineering at MIT

²⁴ Both the Airports Commission Sift Criteria and Gatwick Airport Ltd’s own criteria

Section 2: Strategic Fit

THE GOVERNMENT'S WIDER OBJECTIVES

2.57 The Airports Commission asks how expansion proposals will be consistent with the Government's wider objectives and legal requirements. We have addressed this question by starting with the Government's Aviation Policy Framework²⁵. This identifies the following issues of relevance which the Airports Commission will no doubt take into account when working up its recommendations.

“The UK's air links continue to make it one of the best connected countries in the world. This includes increasing our links to emerging markets so that the UK can compete successfully for economic growth opportunities”

2.58 We have demonstrated earlier that expansion of Gatwick will meet the demand for access to London and the UK cost-effectively and efficiently. Our connectivity analysis shows that this should also increase the UK's links to emerging markets. Indeed, under separate ownership, Gatwick has already started to provide London with new connectivity to emerging markets via routes to China and Vietnam, and with services to Indonesia expected to commence soon.

“Our objective is to ensure that the aviation sector makes a significant and cost-effective contribution towards reducing global emissions”

2.59 Our response to the Airport Commission's climate change paper²⁶ noted that the UK Government has established a path by which the expansion of airport capacity can be consistent with a significant contribution towards reducing global emissions. Aviation can grow between now and 2050 and still make achieving the Government's carbon reduction targets a realistic option. This is supported by the conclusions of the Intergovernmental Panel on Climate Change and by Sustainable Aviation. In addition, we believe that expansion at Gatwick – as opposed to Heathrow or Estuary options – would be a more cost-effective contribution towards reducing global emissions.

“Our overall objective on noise is to limit and where possible reduce the number of people in the UK significantly affected by aircraft noise”

2.60 We are very conscious of the importance of, and sensitivity of populations and communities to, the impacts of aircraft noise. We believe that practical solutions must be found to minimise the noise impacts of any proposal, offer respite and relief where possible and seek to minimise the number of people over flown and affected by aircraft noise. Our evidence in this submission demonstrates that, whilst expansion at Gatwick would increase the total number of people affected by noise, there are clearly advantages in selecting locations where the number of people affected would be fewer than for other options. Gatwick benefits from being located in an area where there are no major towns or cities directly overflown by aircraft on initial departure or final approach. This is a much better way to reduce noise impacts than expansion at airports that are within or border major towns and cities.

2.61 Under this heading, the Government also references other local environmental impacts, such as air pollution. We include in this submission our analysis showing that expansion at Gatwick would be consistent with the Government meeting its legal obligations with respect to air quality. As we proceed with our studies we will also be considering the benefits from quieter aircraft, as well as innovations in the way in which airspace can be used.

“Our objective is to encourage the aviation industry and local stakeholders to strengthen and streamline the way in which they work together”

2.62 Later in this submission we set out our intention to engage with local stakeholders on our proposals. This will build on successful consultation processes that we have been using on other aspects of our work, such as Gatwick's recent investment and development programme and, for example, the consultation on the revised Airport Master Plan in 2011. We will continue to use our consultative committee, GATCOM, as a key forum through which to communicate our work on runway development, and we note that GATCOM has been recognised widely as an excellent example of how an airport consultative committee should work.

²⁵ Aviation Policy Framework, Department for Transport, March 2013

²⁶ Response to Discussion Paper O3 on Aviation and Climate Change, Gatwick, May 2013

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Other aviation objectives

- **Protecting passengers rights**
- **Competition and regulatory policy**
- **Airspace**
- **Safety**
- **Security**

2.63 Further benefits of expanding Gatwick compared to other locations can be seen in these other areas:

- **Protecting passengers rights:** Passenger rights are best protected through competition, rather than strengthening or creating a dominant monopoly. Although passenger rights are protected in times of airport disruption, we believe that our proposal for a constellation of airports should reduce the incidence of disruption. In addition, the innovative and collaborative way in which Gatwick has addressed the interests of passengers indicates that any expansion proposals will be carried out with the interests of passengers at the heart of any development.
- **Competition and regulatory policy:** A key feature of our proposals is that expanding London Gatwick will increase competition between the London airports. The Competition Commission's investigation into the common ownership of the three largest London airports has resulted in the separate ownership of those three airports. We believe that the benefits of competition are already evident, and we do not believe that allowing Heathrow to expand further would be consistent with the overall competition dynamic created by the break-up. The loss of competition between large airports around London is also a reason not to support a single mega hub at any location.
- **Airspace:** Initial advice from NATS is that they are unaware of any insurmountable obstacles to expanding Gatwick, in terms of either airspace or air traffic control.
- **Safety:** Expanding Gatwick would be preferable to expanding locations closer to densely populated areas.
- **Security:** A constellation of airports makes London more resilient to disruption from security incidents than concentrating expansion at any one airport location.

2.64 Other issues that we have been considering in developing our Outline Proposal to expand Gatwick are as follows:

A rebalancing of economic growth around London

2.65 The area around Heathrow is economically vibrant, especially along the M4 corridor. This is clearly due in part to Heathrow driving economic growth. However, expanding Heathrow further is likely to lead to less balanced economic growth. Spreading the benefits of aviation-driven economic growth more widely around London to tie in with regeneration priorities would represent a more effective approach to economic growth and regeneration in London and the wider South East. Gatwick's vision of a constellation of airports would help to achieve this. In addition, as we have been engaging with our local councils on our outline expansion proposals contained in this submission, there has been concern about the implications for employment and business should another airport be given permission to expand instead of Gatwick.

The ability to regenerate areas of economic deprivation in London as well as down to the South Coast

2.66 A key aim of the Mayor of London's plans for airport development is to encourage economic regeneration to the East of London and in the Thames Estuary. As we demonstrate later, Gatwick's accessibility to London would provide regeneration opportunities in areas of economic deprivation in London, as well as parts of the Thames Gateway. It would also support regeneration objectives in other areas such as the South Coast and north Kent coast.

Resilience

2.67 We believe that resilience is a key issue for the Commission to consider, particularly in light of the impact on passengers which airport disruption can cause. It seems clear that, at least in recent years, the extent of repeated disruptions at Heathrow has been associated with its very high level of capacity utilisation of around 98%. We believe that the Commission should consider what is the maximum level of capacity which should be planned for at each of the main London airports and, if a new runway is recommended, how much of the new capacity should be allocated to improving resilience.

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2.68 Turning now to specifics, we believe that the ability of London's airports to withstand disruption, be it from industrial action, weather, surface access problems or terrorism, will be enhanced by having multiple airports serving the London area. For example, on 24th May 2013 Gatwick was able to accept aircraft diverted from Heathrow (due to an emergency landing) and from Stansted (due to a suspected terrorist incident). Even with a second runway, Gatwick would still be a more resilient airport than Heathrow due to the environmental and noise constraints placed on Heathrow. This is demonstrated by the somewhat lesser impact on flight schedules during snow at Gatwick when compared to similar snowfall at Heathrow.

The ability to maintain connectivity of the regions to London

2.69 Gatwick is currently the best connected London airport to the UK regions. We believe that any expansion of Gatwick – given our vibrant short-haul market – would help to maintain the connectivity of the regions to London. In order to ensure that this would remain the case, we are actively considering whether local slot rules could be introduced to give some preference to air services from regional airports. This needs to be studied further to ensure consistency with European slot regulations.

Promoting regional growth

2.70 A proposal to expand Gatwick – to the south of London – would allow airports to the north of London – such as Birmingham and Stansted – to grow to serve the overlapping catchment areas north of London. Thus, expansion of Gatwick, as part of a constellation, would be consistent with promoting regional growth, particularly in the Midlands. Expansion of Heathrow is less consistent with the growth, for example, of Birmingham Airport.

2.71 In conclusion, we believe that the Government's policy approach should be to maintain the UK's status as Europe's best connected country by air through:

- continuing the policy of liberalisation and de-regulation of air transport;
- promoting a competitive environment for airports and airlines in which service quality continuously improves, whilst putting downward pressure on air fares;
- in particular, directly promoting competition between London's airports;
- promoting direct services wherever possible from the regions of the UK; and
- ensuring resilience and continuity of service.

2.72 We believe that the Government's objectives can best be served by continuing to develop the constellation of airports around London – initially through an expansion of Gatwick to two runways.

Section 3: Options for providing additional runway capacity at Gatwick

3.1 In previous sections, we have considered the extent to which London Gatwick will be attractive to meeting growth in demand for air travel. We now turn to the runway options we have been considering and the amount of air traffic which they might deliver. Not all options provide the same amount of capacity and so we now explain the options we are considering for runway development at Gatwick.

3.2 There have been numerous previous studies into adding additional runways at Gatwick, all influenced by the geography around the airport. These previous runway studies have tended to focus on the following three types of options which are illustrated and annotated 'A' to 'F' in Figure 9.

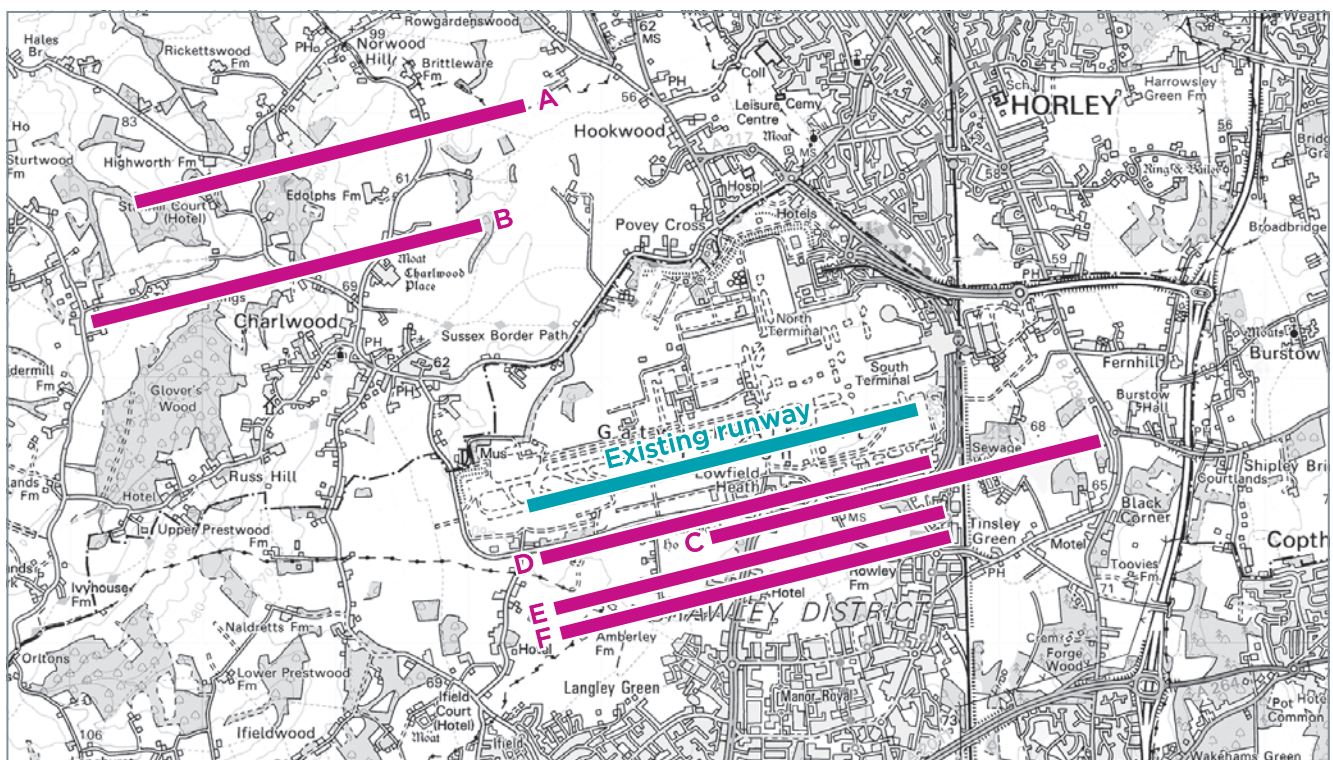
- i) Parallel runways located to the north of the airport and staggered to the west:
 - Option A (wide spaced) considered in RUCATSE and SERAS
 - Option B (wide spaced) considered in RUCATSE

- ii) Parallel runways located south of the airport, staggered to the east over the railway:
 - Option C (close spaced) considered in RUCATSE and SERAS
- iii) Parallel runways located at various positions to the south of the airport and west of the railway line:
 - Option D (close spaced) considered in RUCATSE and SERAS
 - Option E (medium spaced) considered in CAP570, RUCATSE and SERAS
 - Option F (wide spaced) considered in RUCATSE and SERAS

3.3 There is no formal definition of close, medium and wide spaced runways but for the purposes of this report we have treated these as having respectively a separation from the existing runway of less than 760m, 760m to 1,034m and 1,035m or greater. The significance of these separations is explained below.

3.4 The land that has been safeguarded for the development of a second runway in accordance with the ATWP reflects the most southerly of the options shown Figure 9 (Option F), having a separation distance of 1,035m from the existing runway.

FIGURE 9:
ADDITIONAL RUNWAY OPTIONS CONSIDERED PREVIOUSLY AT GATWICK



Section 3: Options for providing additional runway capacity at Gatwick

- 3.5 The studies we have been carrying out over the past 6 months commenced with a review of the previous CAP 570, RUCATSE and SERAS studies. Our conclusions concur with those of previous studies in finding that there are no other viable options for adding a second runway.
- 3.6 In relation to the northern runway options (A and B), we have noted the environmental and cost challenges associated with any such construction. These options would require a major cutting to be created in the area of high ground to the north-west of the airport. Whilst these options are technically feasible, we agree with the findings of previous studies that the benefits of a single new runway in this location appear insufficient to compensate for the scale of landscape impact and the amount of material that would need to be excavated and re-used or removed from the site. Accordingly we have decided to discontinue, for now, further studies on options for parallel runways to the north of the airport as a way of adding a second runway, although we will include these options in later consultation and engagement processes.
- 3.7 We have also re-examined the southerly eastern staggered runway option (C). While not ruling this out, we believe that the challenges of constructing a second runway over the main London to Brighton railway would be very significant. It would also likely require the decommissioning and re-provision of the Crawley Sewage Treatment Works. These would add considerably to the cost and complexity of that option and would have to be balanced by substantial operational and/or environmental benefits. Therefore, reflecting the conclusions of previous studies, our preliminary view is that the challenges of this scheme are not compensated for by such benefits but we intend to examine this option in more detail before finalising a decision on its viability.
- 3.8 Appendix 5 provides a summary of our comparison of runway options. Although at this stage in our work we do not have a preferred second runway option, given the above considerations, our recent focus has been on exploring the several options for a parallel runway to the south of the airport and west of the railway line.

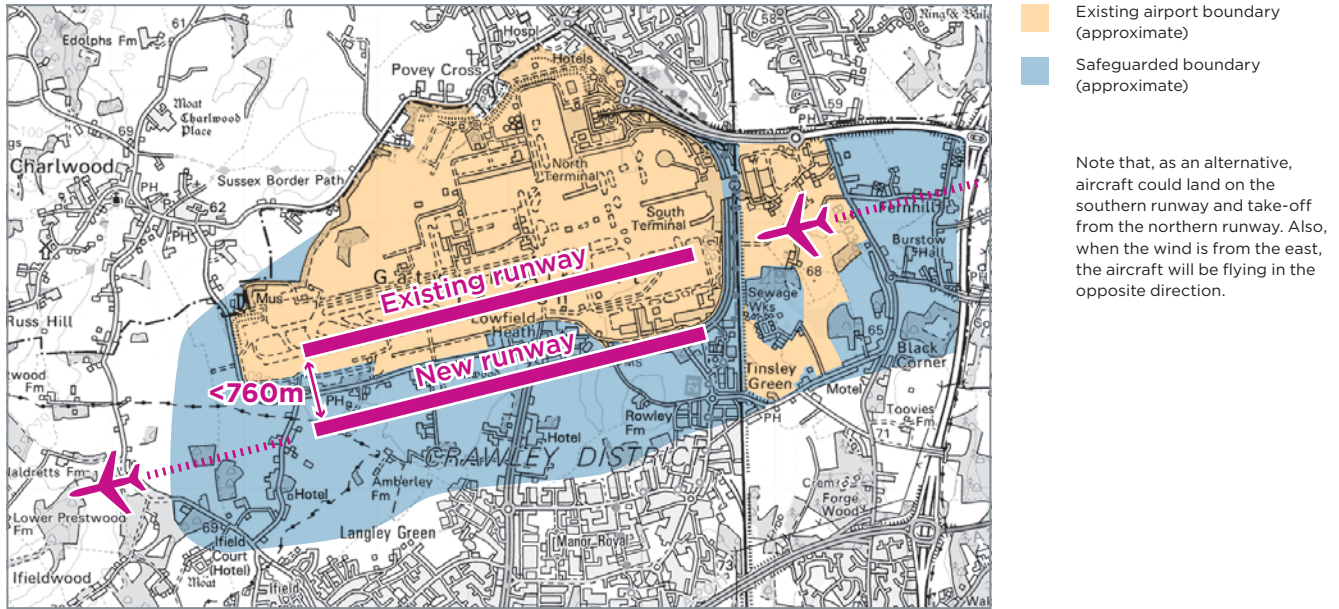
HOW A TWO-RUNWAY GATWICK AIRPORT MIGHT OPERATE

- 3.9 We have identified three main options for how southern parallel runways²⁷ could be configured and operated. These are shown indicatively in Figures 10-12 and explained in the following paragraphs. It must be stressed that these diagrams are only indicative, pending detailed design work.

²⁷ Note that runway option 1 was used to develop traffic scenario SC2, runway option 2 was used to develop traffic scenario SC3 and runway option 3 was used to develop traffic scenario SC4.

Section 3: Options for providing additional runway capacity at Gatwick

FIGURE 10:
ILLUSTRATION OF CLOSE SPACE DEPENDENT SEGREGATED MODE



Option 1: Dependent Segregated Mode

- 3.10 Close-spaced runways (with a separation less than 760m) are too close to operate independently to each other. The runways would have to be used dependently i.e. with operations on one runway temporarily interrupting the operations on the other. One runway would be used for aircraft arrivals and one for departures (a method of operation called 'segregated mode').
- 3.11 In order to provide the necessary space for taxiways and operational equipment, we believe the most likely runway separation with this option would be around 600m. The capacity benefit of this option is relatively small. We have taken advice from specialists, including NATS, and believe that this method of operation could support around 67-70 movements per hour, which could equate to an overall two runway capacity of some 60-66 mppa by 2050.

Section 3: Options for providing additional runway capacity at Gatwick

FIGURE 11:
ILLUSTRATION OF MEDIUM TO WIDE SPACED INDEPENDENT SEGREGATED MODE

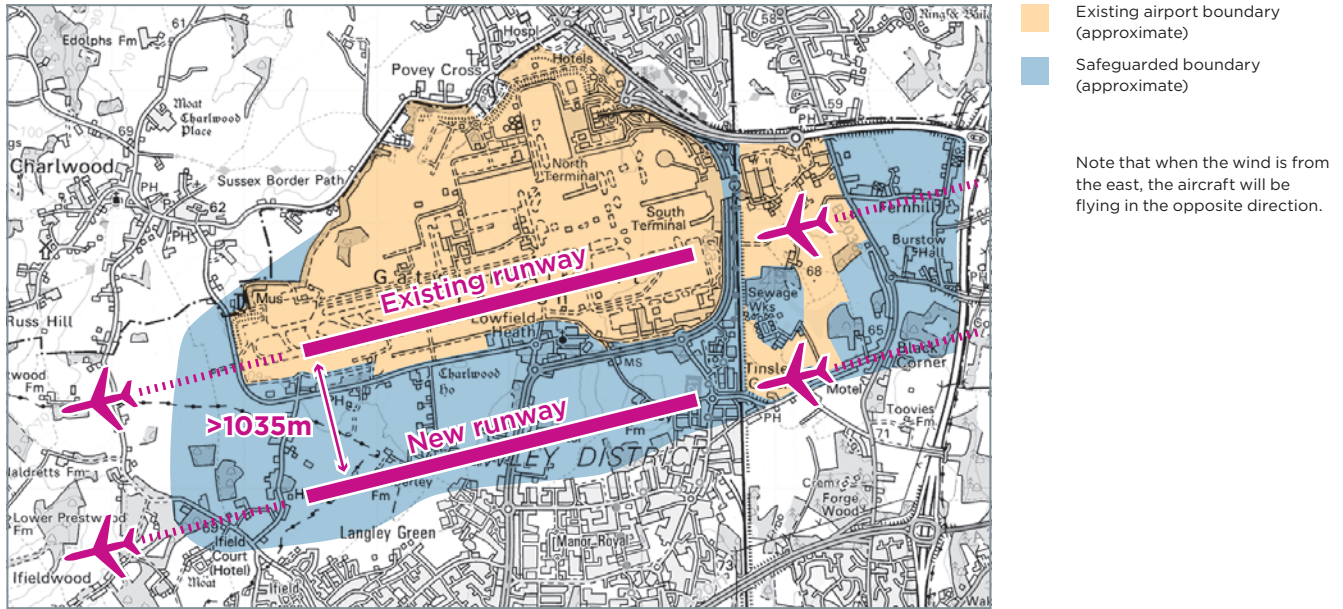


Option 2: Independent Segregated Mode

- 3.12 If the runways are positioned 760m or more apart the runways can be operated independently of each other. This means that arrivals on one runway do not affect departures on the other.
- 3.13 In this method of operation, we believe capacity could increase to around 75 movements per hour equating to some 75-82mppa. Greater land-take would be required than for a close spaced runway operating in dependent segregated mode reflecting both the wider runway separation and the need for related facilities to support the greater operational capacity and passenger and aircraft throughput.
- 3.14 Although this method of operation is possible with a runway separation of 760m, we believe that a separation similar to that of the ATWP safeguarded scheme (1,035m) would be necessary in order to provide sufficient space for terminal and apron facilities between the runways.

Section 3: Options for providing additional runway capacity at Gatwick

FIGURE 12:
ILLUSTRATION OF WIDE SPACED INDEPENDENT MIXED MODE



Option 3: Independent Mixed Mode

- 3.15 If the runways are at least 1,035m apart, then it can be possible to operate them in 'independent mixed mode'. Each runway could accommodate both arriving and departing aircraft. In this way flexibility and capacity would be maximised.
- 3.16 We believe that capacity could amount to between 95 and 100 movements per hour or more. We believe that, for Gatwick, an hourly movement rate of 95 might be more realistic. This would equate to some 80-87mppa. The runway separation and additional facilities to support the greater capacity would require land-take to be increased further.

3.17 All of the above options may require a western extension of the airport boundary beyond that currently safeguarded. This may be necessary to provide space for taxiways around the ends of the existing runway, to allow aircraft to taxi between the existing aprons, to the north of the existing runway, and the new runway. The safeguarded boundary is largely determined by work carried out prior to the ATWP as part of the SERAS studies. At this time it was assumed that aircraft would taxi across the existing runway. While this is not uncommon, best practice in airport design is now to taxi around the end of runways to provide safer and more 'free-flowing' ground operations. This is regarded as a safer method of operation and also avoids loss of runway capacity as a result of interruptions to the flow of arriving and departing aircraft. We will be exploring in detail the need for these taxiways in our future work.

Section 3: Options for providing additional runway capacity at Gatwick

Other ‘Hybrid’ Variations

- 3.18 As well as our three main operational options, there are other ‘hybrid’ ways of operating two runways. For example, to meet short term peaks in demand, and subject to adequate runway separation distances, one runway could temporarily operate in mixed mode while the other is allocated to either arrivals or departures depending on the pattern of demand. This type of ‘hybrid’ mode offers two main benefits over standard segregated mode:
- i) Short term peaks in either arrivals or departures demand (as occur at Gatwick today) can be accommodated.
 - ii) Recovery from disruption events (e.g. bad weather) can be improved.
- 3.19 Whilst we consider it right and proper to consider these different runway options fully, we consider that all of the above three main options offer credible and plausible ways to add significant runway capacity. Each of these three options gives rise to different operational, economic, social and environmental implications. They also affect the way other airport facilities such taxiways, aprons, stands and passenger terminal facilities are laid out and how surface access connections are provided.
- 3.20 Until we have undertaken further, more detailed, studies we believe it would be premature to offer a stated a preference between these options. A summary of the capacity that could be provided by the various options is given in Table 4.

TABLE 4:
SUMMARY OF GATWICK PASSENGER CAPACITY IN FUTURE FORECAST YEARS WITH DIFFERENT RUNWAY DEVELOPMENT OPTIONS

Option	Segregation / Mode	Total Gatwick Passengers (millions)		
		2030	2040	2050
Base Case (existing runway)	Single runway	45-46m	47-48m	48-50m
Second Runway Option 1	Close spaced dependent segregated mode	56-58m	58-64m	60-66m
Second Runway Option 2	Wide spaced independent segregated mode	59-61m	72-74m	75-82m
Second Runway Option 3	Wide spaced mixed mode	60-63m	76-79m	80-87m

SOURCE: ICF SH&E

Section 4: Surface Access

GATWICK AND SURFACE ACCESS CONNECTIVITY

- 4.1 Gatwick is London’s best connected major airport by surface access. 2.5 million people live within 30 minutes. All of London’s population and over ¼ of the UK population live within 60 minutes of Gatwick.
- 4.2 Uniquely, the airport offers passengers 24 hour direct public transport access (by both road and rail) and the highest level of connectivity to London, the wider South-East and many parts of the UK.
- 4.3 The airport is particularly well served by rail. Gatwick has fast and frequent rail services and is directly connected to 129 rail stations including the key London transportation hubs of London Victoria, London Bridge, Kings Cross / St Pancras, Farringdon, City Thameslink, East Croydon and Clapham Junction as well as major stations to the north of London. Major connections also exist south to Brighton, west to Reading and east to Kent. A further 700 railway stations across the UK and a large proportion of the London Underground network can be accessed with just one change.

FIGURE 14:
JOURNEY TIMES FROM GATWICK AIRPORT TO LONDON RAIL STATIONS AND KEY INTERCHANGES

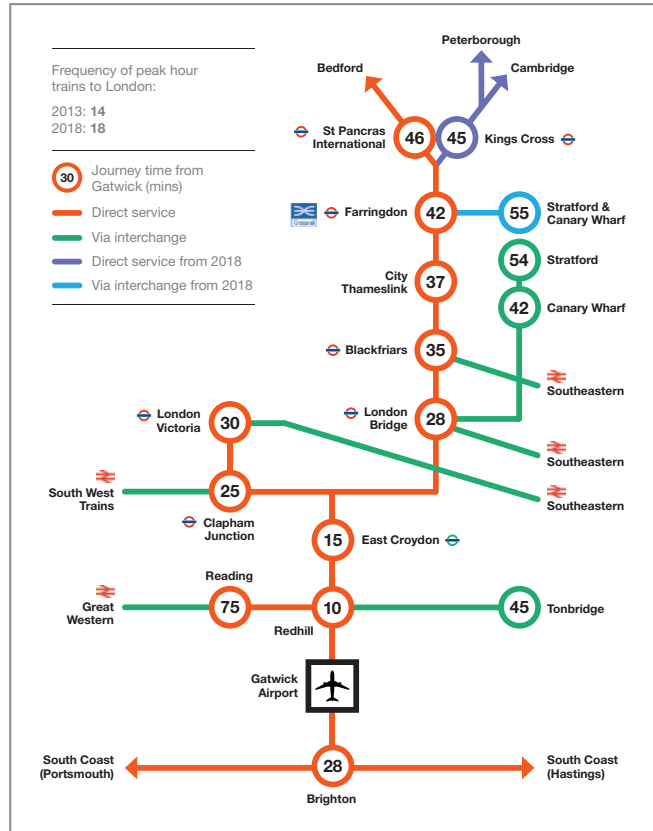
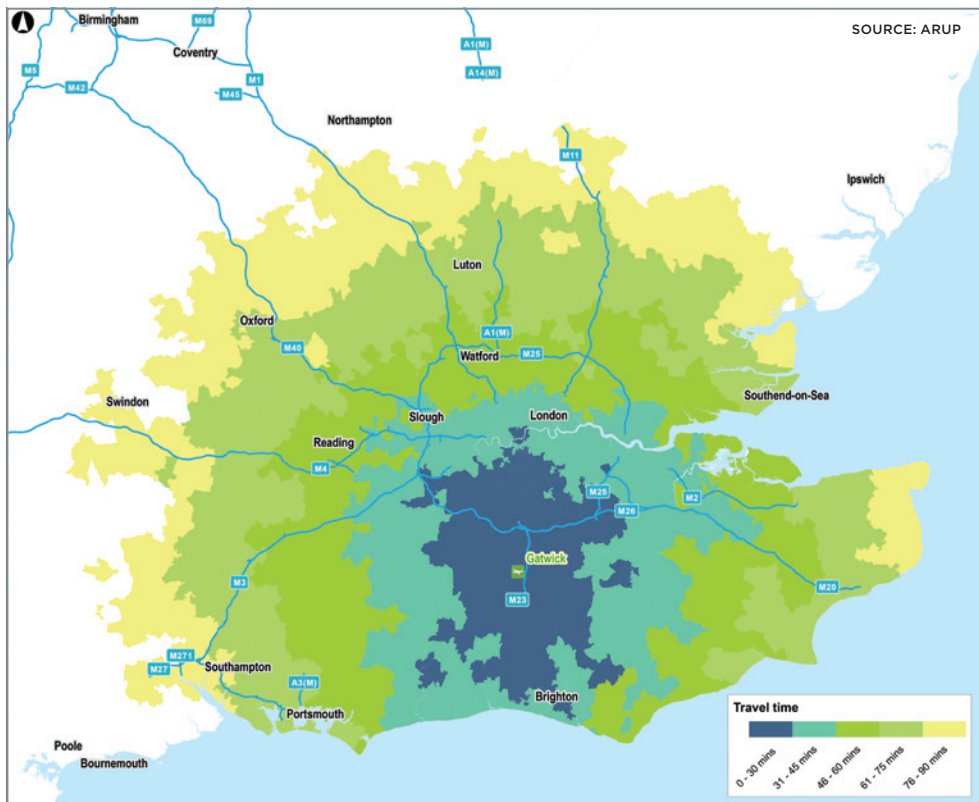


FIGURE 13:
TRAVEL TIMES TO GATWICK



Section 4: Surface Access

- 4.4 A number of important economic, social and urban regeneration areas in London and the south east are also connected to Gatwick; Brighton and Worthing by the Southern rail services, express coach services and road access; South London including Vauxhall, Croydon, Lambeth and Southwark by direct rail services on the Southern and First Capital Connect rail services via London Bridge, Clapham and East Croydon.
- 4.5 With committed investment by TfL, DfT and Network Rail, including the Thameslink Franchise and Crossrail, Gatwick is set to be even better connected by 2020, without the need for new rail connections just to serve the airport.
- 4.6 Gatwick is located on the strategic road network with a direct connection to the M23 and with the M23 and M25 allowing easy connectivity North, South, East and West. The A23 provides direct access into Central London and to the South Coast. This strategic route gives access for local bus and regional express coach services direct to Gatwick.

Access Gatwick

- 4.7 'Access Gatwick', our Airport Surface Access Strategy (ASAS) published in 2012, sets out a challenging and innovative future vision for Gatwick, where the airport continues to act as a transportation hub connecting air to all other transport modes. Our ambition is to exceed a public transport mode share target of 45% with the existing runway. Our surface access strategies for a second runway are underpinned by an objective to grow passenger public transport mode share to 50%.

Meeting future surface transport needs for a second runway

- 4.8 We have reviewed the relevant national and local policies to ensure our proposals meet with their requirements. We have used nationally established assessment tools and data to ensure a sound evidence base for our studies. We engaged ARUP to undertake detailed work, and a summary of this work is attached as Appendix 6.

Rail

- 4.9 As explained above, Gatwick starts from a strong position as regards rail connectivity.
- 4.10 The committed future rail investment of the Thameslink programme (providing 50% additional capacity by 2018 and new connections to Cambridge and Peterborough) and an additional platform at Redhill (permitting 2 trains per hour from Gatwick to Reading), have both been included in our assessment. Crossrail and the proposal for Crossrail 2 will enhance Gatwick's connectivity further. Investment in rail connectivity to Gatwick provides not only good value for money, but brings benefits to both commuters and air passengers who are all essential to economic growth.
- 4.11 For Gatwick, the letting of the new integrated Thameslink, Southern and Great Northern Franchise in 2014, and the agreement on infrastructure spending plans for Control Period 5 and 6, are crucial milestones. The Brighton Main Line is one of the UK's top rail priorities, and supporting growth at Gatwick strengthens the business case for rail investment.
- 4.12 Our analysis shows that investment in the rail network is required in the mid-term, irrespective of a second runway, due to regional passenger growth.
- 4.13 The key measures required in the mid-term are:
- **Gatwick Express** - Specification of a dedicated Gatwick Express service in the Thameslink Franchise as a 30 minute, non-stop service every 15 minutes. This is critical both for Gatwick, and for meeting future demand on the Brighton Main Line.
 - **Gatwick Express** - Specification of a premium Gatwick Express service is essential to attract air passengers to rail and contributes important franchise revenue. Gatwick is making the case for investment in new rolling stock for the Gatwick Express, on-board ticket sales and more luggage space - fully accessible for all passengers including those with reduced mobility, families and passengers with luggage. This will attract more air passengers on the premium Gatwick Express and make best use of available capacity.

Section 4: Surface Access

- **Brighton Main Line** – Network Rail has put forward a number of schemes in their January 2013 Business Plan to provide additional peak hour capacity for both air passengers and commuters which should be brought forward in Control Period 6. The schemes are: Three Bridges signalling; grade separation of Windmill Bridge Junction; remodelling of East Croydon station to provide additional platforms and track for fast lines (bi-directional); improvements to Stoats Nest Junction; grade separation of Keymer Junction; alterations to platform 8 at Victoria; and possible signal alterations at Clapham Junction.
 - 4.14 In support of our surface access proposals we are reviewing options with Network Rail to support further investment at Gatwick airport railway station, to provide additional concourse capacity and access to platforms, improve quality of passenger facilities and meet air passenger aspirations for seamless end to end journeys.
 - 4.15 We have assessed the rail requirements for our second runway options. This shows that the envisaged mid-term improvements deliver all the capacity that would be required for both regional (non-airport) related growth in demand and the increased demand associated with a second runway at Gatwick. We would not therefore need any further additional rail capacity to support Gatwick's growth with a second runway. Furthermore, airport passenger demand makes a positive contribution to the overall business cases for rail investment by providing off peak and contra-peak flows.
- Road**
- 4.16 A number of enhancements are under construction and due for completion in the next two years, including M25 hard shoulder running Junctions 5-7, M25 controlled motorway Junctions 7-8, free flow tolling on the Dartford Bridge/Tunnel and A23 Handcross to Warninglid improvement. Improvements to the M23 junctions 8-10 (managed motorway) were announced as a committed scheme subject to value for money and deliverability in the Government's June 2013 Infrastructure Statement.
 - 4.17 Within 'Access Gatwick', a Route Management Strategy for the M23 and M25 Junction 1-10 was a high priority. These routes are key to supporting the economic activity in the region around Gatwick and beyond (in particular the Gatwick Diamond and Coast to Capital LEP area).
 - 4.18 Irrespective of a second runway our analysis shows that a number of incremental capacity improvements are required before 2025 to support regional demand and existing airport related demand on:
 - the M25 slips to the M23 at Junction 7;
 - M23 Junctions 8-9;
 - M23 Junctions 9 and 9a; and
 - Local highway improvements in the vicinity of Gatwick
 - 4.19 These strategic improvements will secure wider corridor and network benefits, supporting growth and creating a more resilient network, which benefits all users.
 - 4.20 We have assessed the need for additional road improvements beyond 2025 to support our second runway options. The following enhancements are recommended:
 - Improvements to the A23 in the vicinity of the airport to improve local north-south access and to cater for airport growth. Options include improvements along the existing alignment or diversion to the east of the airport; and
 - Higher capacity Junction at the M23 Junction 9a and a grade separated connection to the South and North Terminals with associated realignment of local roads where required (the extent of work varying between options)
 - 4.21 We are studying a range of options for these improvements, and our modelling indicates that these improvements will satisfactorily mitigate the traffic impact of a second runway and provide capacity for future regional demand. Our favoured options use the existing access from the M23 at Junction 9, but provide for separate routing of airport and regional/local traffic in the vicinity of Gatwick offering enhanced local access for the community. These proposals will continue to be developed and integrated with pedestrian, cycle and motorcycle access.
 - 4.22 We welcome the Mayor of London's Roads Task Force initiative which is focussing on how London's roads can be improved and, as part of the next stage of our studies, we intend to investigate how road access to London north of the M25/M23 junction can be improved.

Section 4: Surface Access

Coach and bus access

4.23 Gatwick has good connectivity by coach and bus, especially by local bus, which also serves the local community, supporting more services at a higher frequency than otherwise would have been the case. Improvements to the strategic and local road network will enhance connectivity by coach and local bus. The additional passengers arising from development of a second runway will enable more services to be brought forward as they will become more commercially viable.

Overall Surface Access Outlook

4.24 Our analysis shows that surface access requirements can be accommodated for all three of our main runway options. Furthermore, the investment needed to meet many of these requirements is largely already progressing or planned in the medium term, irrespective of the demand arising from a second runway. Gatwick is prepared to make reasonable financial contributions to bring about these improvements.

Section 5: National and Regional Economic Implications

- 5.1 In this section, we explain the how a second runway at Gatwick will:**
- **Over the period to 2050 generate trade, connectivity and investment benefits. The investment benefits alone are calculated to be some £56 billion.**
 - **Support an additional 4.5m annual tourist visits equivalent to £3 billion of tourist spending in 2050;**
 - **Act as a catalyst for the development of further aviation related and international businesses in the sub-region;**
 - **Support the creation of up to some 19,000 new jobs and up to £1.66 billion a year in economic contribution to the region; and**
 - **Support wider social regeneration objectives and priorities in East and West Sussex and parts of London, Kent, Hampshire and the Thames Gateway.**

NATIONAL ECONOMIC IMPACTS

The value of maintaining connectivity

5.2 Our traffic forecasts show that by 2050, if no additional capacity is provided at any of the London airports, over 50 million passengers who would have preferred to use London airports will not be able to. While residents of London and the South East may switch to travel through airports outside the region, it is less evident that this would be the case for inbound tourists, or for business travellers whose firms might respond by moving business activity to better connected locations. Failure to provide airport capacity and to develop connectivity would therefore have severe adverse effects on the UK economy in terms of lost trade, tourism and investment.

- 5.3 Development and expansion of air services and connectivity is of special importance to the London area, both because London is a global economic centre and because transport capacity constraints constitute a real threat to its competitiveness.
- 5.4 As set out in Section 2, development of a second runway at Gatwick would meet the shortfall in airport capacity until at least the 2040s, whilst delivering similar or greater connectivity as a third runway at Heathrow.
- 5.5 A number of different methods have been used to derive an estimate of the wider economic benefits delivered by increasing airport capacity. Using parameters derived from research by Oxera²⁸ on the relationship between airport capacity/connectivity and economic performance, Optimal Economics has made an estimate of the economic gain (increase in Gross Value Added - GVA) that would arise from a second runway at Gatwick. This has been done by predicting the impacts on trade, connectivity and investment both for individual spot years (2030, 2040 and 2050) and for a total present value in 2025 for the total flow of benefits over the period 2025 to 2050. The results of this analysis, which are, for illustration, based on our runway Option 3, are set out in Table 5.
- 5.6 It should be noted that the figures for trade, connectivity and investment are not additive as they overlap to a degree.

TABLE 5:
WIDER IMPACTS OF GATWICK R2
ON GROSS VALUE ADDED (GVA)
(NUMBERS BASED ON RUNWAY OPTION 3)

	Impact on GVA through Trade	Impact on GVA through Connectivity	Impact on GVA through Investment
	£m	£m	£m
2030	104	512	1,676
2040	284	1,389	4,550
2050	516	2,522	8,261
Present value in 2025	3,500	17,119	56,071

SOURCE: OPTIMAL ECONOMICS

²⁸ What is the Contribution of Aviation to the UK Economy?, Oxera, 2009

Section 5: National and Regional Economic Implications

5.7 The investment benefits alone are estimated at some £56 billion, although the benefits would be less for our lower capacity runway scenarios. Notwithstanding the uncertainties involved in any such estimates of impact, it is clear that a second runway at Gatwick would be able to generate very large wider economic benefits. These benefits are over and above the benefits to users.

International Tourism

5.8 In respect of tourism, and with air travel being the predominant mode of transport for international tourists to the UK, Optimal Economics estimate that failure to provide additional airport capacity, which a second runway at Gatwick could provide, would lead to the loss of 4.5 million tourist visits by 2050. That is equivalent to 20% of 2011 in-bound tourism numbers. Using 2011 data this would imply a total loss of £3 billion of tourist spending in 2050. The annual loss would be around 840,000 tourist visits in 2030 (equivalent to £561 million of spend which would have created £336 million of GVA). These losses would be avoided by provision of a second runway at Gatwick.

5.9 The particular importance of aviation to the London economy, which derives from the city's global role and its concentration of economic activities which are "aviation intensive", means that displacement of traffic from London airports to regional airports envisaged in the DfT forecasts will have adverse effects. Diminishing the competitiveness of London's key sectors by restricting air travel and connectivity will be damaging to the London economy and ultimately to the national interest. A second runway at Gatwick would largely eliminate this competitive threat.

5.10 Further information can be found on wider economic benefits in Appendix 7.

LOCAL AND REGIONAL ECONOMIC DEVELOPMENT

Local and Regional Context

5.11 Gatwick airport has consistently been identified in planning policy terms as a major economic driver of the London and South East economies. The airport sits within the heart of the Gatwick Diamond – one of the most dynamic economic sub regions in the UK. The Diamond covers an area extending between the southern edges of London and the northern boundaries of Brighton.

5.12 The proximity of the Gatwick Diamond to the airport and its connectivity via the high quality road, rail and air connections have enabled the sub region to grow as a national and international business location.

5.13 Gatwick is already a catalyst for economic development involving aviation intensive and international business in its local sub-region. Expansion of the airport to the level made possible by a second runway would intensify that catalytic process enabling the sub-region to develop a similar dynamic clustering which has been evident in the M4/Thames Valley area, thus providing the UK with a further attractive destination for mobile international investment.

FIGURE 15:
GATWICK DIAMOND ECONOMIC SUB REGION



Section 5: National and Regional Economic Implications

Quantification of Local and Regional Benefits

- 5.14 In order to understand the impact of a second runway on the regional economy, estimates have been prepared for how a new runway would affect employment and economic contributions associated with the airport for each of the three main runway options. The studies consider direct, indirect and induced employment. GVA has then been estimated by applying estimates of GVA per employee drawn from UK government data to the employment forecasts. The value of GVA per employee depends on the category of employment being forecast (e.g. direct or indirect) and assumptions about future labour productivity (using low and high productivity scenarios).
- 5.15 By way of illustration, our Option 3 runway, under the low productivity scenario, would increase employment in 2050 by some 18,800 to 61,800 over and above the predicted employment level of 43,000 associated with full use of the existing runway. Of the total 18,800 increase in jobs some 10,100 would be within the expanded airport itself. The off-airport, indirect and induced employment created in the wider area would amount to around 8,700 new jobs over a 25 year period. This additional employment would increase GVA in the region in 2050 by £1.5bn.
- 5.16 Assuming a high productivity assumption for our Runway Option 3, total employment is forecast to increase by 17,300 and GVA in the region in 2050 by £1.66bn.
- 5.17 Further details are provided for all options in Appendix 8 with lower impacts resulting from the lower capacity runway options.

Wider Social and Economic Regeneration

- 5.18 Gatwick draws its workforce from a wide area. Whilst it could be expected that employment would continue to come mainly from the airport's core catchment area of Crawley (35%), Reigate and Banstead (11%), Mid Sussex (8%), Horsham (6%) and Brighton (6%), the economic opportunities associated with a second runway would be spread over a far wider area.
- 5.19 Within the wider area around Gatwick airport but outside of the Gatwick Diamond, there are a number of priority areas targeted for economic regeneration. Expansion at Gatwick airport has the potential to support social and

economic regeneration objectives in some of these relatively more deprived parts of the South East and London. These areas include parts of south and east London including Croydon, Lewisham, Lambeth, Bexley, parts of the London, Essex and Kent Thames Gateway sub regions and Sussex coastal towns (especially the Brighton area). There is a strong regeneration dynamic associated with the London-Gatwick-South Coast corridor and expansion at Gatwick could have a very important role to play in making extra jobs available to those in the less advantaged areas to the north and south of the airport.

Housing Pressures and Community Infrastructure

- 5.20 The estimated maximum increase in employment levels of 18,800 related to Gatwick over the period to 2050 for our Runway Option 3 would represent growth on average of about 750 jobs a year between 2025 and 2050 both within and outside the expanded airport. To put this increase in perspective, the Crawley Travel to Work Area, which includes all but the very southern extremity of the Gatwick sub-region, had about 262,300 jobs in 2001 based on census figures. Employment within the airport at that time was around 25,000 or around 9.5% of this total.
- 5.21 The recently revoked South East Plan included some interim employment projections for the Gatwick sub-region. If that general rate of growth is applied to the Crawley Travel to Work Area to 2050, projected maximum employment at a two runway Gatwick airport would account for roughly the same proportion of jobs in Crawley and the surrounding area as it does at the moment with one runway.
- 5.22 Accepting the significant problems in projecting overall employment forward over such long periods, this would nevertheless suggest that further job growth at Gatwick would not be out of step with a potential long term growth scenario for the sub-region. We will continue to test this as we develop our proposals and supporting studies.
- 5.23 As regards housing, the planning functions of the local authorities that might be expected to provide homes for additional Gatwick airport related work force are already addressing the housing requirements for the single runway airport.

Section 5: National and Regional Economic Implications

- 5.24 A second runway at Gatwick will involve additional housing provision in the period beyond local authorities' current planning horizons. There is no reason in principle why the processes referred to above cannot continue to deliver successfully the necessary homes and related facilities, as they have in the past. As suggested above in relation to employment, on the basis that the sub-region continues to grow generally, an expanded Gatwick would not be likely to have a disproportionate effect in relation to associated housing requirements. However, a key consideration is the potential capacity for new housing that might be available in the future. This is ultimately of course a matter for Local Planning Authorities to resolve in the context of the Duty to Cooperate introduced in the 2011 Localism Act that now provides the basis for planning at the sub-regional level.
- 5.25 Gatwick recognises fully that future housing provision beyond 2025 within the area will be influenced by the airport and that the related provision of community facilities will be an important issue whether or not a second runway is built. In the next phase of our work we intend to engage with local authorities and other key stakeholders to help us identify possible housing and employment land requirements. This will ensure that those most closely involved in future planning have an opportunity to provide a meaningful input in relation to this important aspect of our plans.

Section 6: Environment

6.1 In this section, we report on the work we have been progressing to assess the noise, air quality, designated sites and other local environmental impacts associated with our long term development options.

Air Quality

- 6.2 With the combination of a cleaner more modern fleet mix and development of innovative surface access solutions, we are confident that none of our main runway options would breach current statutory NO₂ limits, including in the Horley Air Quality Management Area (AQMA) where levels have in the past come close to statutory limits.
- 6.3 Total Nitrogen Oxide (NO_x) and Particulate Matter (PM₁₀ and PM_{2.5}) have been modelled for all our main runway options. The results, which are provided in Appendix 9, show that none of our options would breach any existing legislative limits in place around the airport.
- 6.4 NO₂ levels are continuously monitored at two fixed sites – ‘RG1’ and ‘RG2’ - within the Horley AQMA. The results of our NO₂ modelling at these two sites for our three main runway options, at the time when they are predicted to be fully utilised, are presented in Table 6.

TABLE 6:
FORECAST NO₂ CONCENTRATIONS AT THE TWO MONITORING SITES WITHIN THE HORLEY AQMA

	Base Case (Single Runway)	Runway Option 1	Runway Option 2	Runway Option 3
Year	2030	2030	2038	2042
RG1 (µg/m ³)	24.92	26.10	26.49	26.86
RG2 (µg/m ³)	28.58	29.75	30.40	30.54

Note: The current NO₂ limit for RG1 and RG2 in the AQMA is 40 µg/m³

Climate Change

- 6.5 Government has a key role to play in supporting research and development in aerospace technology, encouraging the introduction of sustainable biofuels, delivering on infrastructure projects such as the Single European Sky initiative, and in working with other countries to establish a global approach for regulating international aviation emissions.
- 6.6 We have taken a fresh approach to managing the environment through our Decade of Change strategy. Within this strategy, Gatwick has set itself an industry-leading target to reduce the airport’s carbon emissions by 50% (off a 1990 baseline) by 2020. We have already achieved a 40% reduction, and are well on the way to our end target. In delivering this strategy we are contributing towards meeting the UK Government’s reduction targets.
- 6.7 We have modelled carbon emissions for our runway options. Whilst total greenhouse gas emissions are predicted to increase for each of the main options, this increase is accompanied by progressively greater passenger capacity. A summary of our predictions is provided at Appendix 10.
- 6.8 Gatwick’s drive to reduce carbon emissions is being delivered through several industry-leading initiatives. Prominent among these is Gatwick’s Airport Collaborative Decision Making initiative, which is delivering significant gains in airfield operational efficiency and reductions in carbon emissions.
- 6.9 Gatwick is combining this approach with National Air Traffic Service’s (NATS) strategy to reduce carbon emissions by 10%. Much of this 10% reduction will be achieved through greater efficiencies in air space design and operation and the operation of Continuous Climb Departures, Continuous Descent Approach and the migration to state of the art navigational processes such as Precise Route Navigation (P-RNAV). All these are being trialled at Gatwick as part of its recently launched ‘Fly Quiet and Clean’ programme aimed at reducing carbon emissions.

Section 6: Environment

Climate Change Adaptation

- 6.10 In our view, there would be significantly less impact on climate change, and fewer associated risks to consider, from placing additional capacity at existing airports. Expanding an existing airport would also reduce the impact on utility supply infrastructure and reduce pressure and competition for utilities between airports and domestic consumers.
- 6.11 In summary Gatwick can demonstrate:
- Significant progress towards our industry leading CO₂ emissions target, 50% reduction against 1990 baseline.
 - Gatwick is on course to be the first UK airport to fully implement P-RNAV, enabling innovative solutions to reducing carbon emissions.

Noise

- 6.12 We are very conscious of the concerns about noise that any proposals for runway development will give rise to. However, a constellation of airports offers the potential advantage of dispersing aircraft operations over a much wider area than would occur from the intensive concentration and noise impacts from flights over a single locality to a mega hub airport, particularly if this was close to a heavily populated area - as Heathrow is today. At Gatwick, the main nearby centres of population - Crawley to the south and Horley to the north - are generally free from aircraft over-flight. Gatwick is also at an advantage relative to most existing airports by reason of the relatively low population densities living in locations underneath or close to the approach and take-off flight paths to the east and west of the airport.

TABLE 7:
POPULATION AND AREAS IN 54dBA_{Leq} AND 57dBA_{Leq} CONTOURS FOR MAIN RUNWAY OPTIONS

Indicator	Base Case (Single Runway)	Runway Option 1	Runway Option 2	Runway Option 3	Master Plan 2012 Single Runway 40mppa
Year	2030	2030	2038	2042	
Population in 54dBA _{Leq}	8,600	10,200	20,100	27,000	12,363
Area of 54dBA _{Leq} (km ²)	72.8	91.4	104.6	120.1	89.6
Population in 57dBA _{Leq}	3,400	3,300	7,400	11,800	4,952
Area of 57dBA _{Leq} (km ²)	39.2	47.8	58.7	65.6	49.3

TABLE 8:
POPULATION AND AREAS IN 54dBAL_{den} AND 57dBAL_{den} CONTOURS FOR MAIN RUNWAY OPTIONS

Indicator	Base Case (Single Runway)	Runway Option 1	Runway Option 2	Runway Option 3	DEFRA (END baseline contour 2006)
Year	2030	2030	2038	2042	Single Runway 263,000 ATM
Population in 54dBAL _{den} (DBA)	15,300	21,300	37,300	42,800	16,700
Area of 54dBAL _{den} (km ²)	106.5	139.6	160.2	184.8	112.7
Population in 57dBAL _{den}	6,900	7,200	15,300	22,300	7,400
Area of 57dBAL _{den} (km ²)	59.6	72.5	85.7	99.8	66.4

Note: These figures do not take into account recently permitted but not completed developments, such as the Crawley North East Sector housing development, the northern part of which would be within predicted contours.

The 2012 Master Plan Leq results show a slightly higher number of people affected across all contours and across a larger geographical area than the presented base case. This is due to the differences in aircraft fleet mixes used for both studies. The base case model has been calculated using an updated fleet mix that includes more modern, efficient aircraft than were included in the Master Plan forecasts prepared in 2011.

Section 6: Environment

- 6.13 Air noise contours have been modelled using the UK civil aircraft noise model (ANCON version 2.3)²⁹. Tables 7 and 8 show the areas and population predicted to be exposed to different levels of aircraft noise based on the Leq and Lden noise metrics for our three main southern runway options³⁰.
- 6.14 Currently around 3,050 people fall within the 57dBA_{Leq} noise contour. With growth of the airport on its single runway to 40mppa in 2020/21, the population living within the 57dBA_{Leq} contour is predicted to rise to 4,950. To put this into context, due to the relatively low levels of population around the airport this is around 2% of the total people impacted at Heathrow today. The area of the 57 dBA_{Leq} contour for runway Option 3 in 2042 would affect 5% of the population impacted by Heathrow.
- 6.15 New flight paths to and from the new runway, and alterations to the existing flight paths to the existing runway, would mean that some people who are not currently overflown, or little overflown, would be newly exposed to air noise from arriving or departing aircraft. Even so we fully expect that, with a new Southern runway, flight paths would continue to be able to avoid overflying the more densely populated towns and settlements closest to the airport including Crawley, Horley, East Grinstead and Horsham.
- 6.16 All three options would impact ground noise levels around the airport to varying degrees with parts of Charlwood, Povey Cross, Horley, North Crawley and Ifield being affected. However a preliminary assessment, reported in Appendix 12, indicates that while the geographical areas affected by ground noise under all options considered will extend further from the airport than they do at

present, with appropriate mitigation in place and considered within the context of the other changes in road traffic and other noise sources that would result from the development of a second runway, there is no reason to believe that any of the considered options would be unacceptable in terms of ground noise impacts.

Noise sensitive buildings

- 6.17 Across all modelled scenarios there are no hospitals within any noise contour but as could be expected, as the contours expand, more schools and places of worship are exposed to higher levels as indicated in the Table 9.

Noise Mitigation

- 6.18 In developing plans for a second runway development at Gatwick, and in time for our public consultation in 2014, we intend to begin to develop mitigating measures to address particular local aircraft noise issues. We plan to develop these measures in discussion with local stakeholders, and in conjunction with airlines and NATS. These would include defining noise preferential routes, low noise operational practices, aircraft type restrictions, and extensions to our existing noise insulation program including for noise sensitive buildings and developments around air noise envelopes. Key to delivering all of these will be the implementation of P-RNAV on which we are currently awaiting a decision from the CAA after a full public consultation last year. This would enable us to offer rotating noise respite to noise affected communities around the airport. We are the only airport in Europe to have trialled and consulted on the full implementation of P-RNAV across all our departure routes, enabling Gatwick to be at the forefront of innovation for noise management.

TABLE 9:
NOISE SENSITIVE BUILDINGS WITHIN 57dBA_{Leq} AND 57dBAL_{den} CONTOUR

Option	Schools		Hospitals		Places of worship	
	57dBA _{Leq}	57dBAL _{den}	57dBA _{Leq}	57dBAL _{den}	57dBA _{Leq}	57dBAL _{den}
Base Case	4	10	0	0	2	6
Runway Option 1	6	13	0	0	2	8
Runway Option 2	9	17	0	0	4	13
Runway Option 3	13	27	0	0	7	18

²⁹ Although other air noise models are available, such as the US Federal Aviation Authority's Integrated Noise Model, The ANCON version 2.3 noise model has been used for consistency with past noise assessment studies undertaken at Gatwick and to accord with the *Government Guidance to the Civil Aviation Authority on Environmental Objectives Relating to the Exercise of its Air Navigation Functions* (DETR 2002).

³⁰ Whilst the 57dBA_{Leq} contour is regarded by the Government as the average level of daytime aircraft noise marking the approximate onset of significant community annoyance, the Government's Aviation Policy Framework also recognises that there are people living outside the 57dBA_{Leq} contour that are affected by aircraft noise. The Government therefore recommends that assessment should not be confined to the 57dBA_{Leq} contour. For this reason we also present results for the 54dBA_{Leq} contour and, for comparative purposes, the 57dBA_{Lden} and 54dBA_{Lden} contours.

Section 6: Environment

Designated Sites

- 6.19 The internationally and nationally designated nature conservation sites identified in the Airports Commission's sift criteria and other nationally designated heritage assets found in the vicinity of Gatwick airport are shown in Appendix 13.
- 6.20 With the exception of the listed buildings identified below, none of our main runway options will require land take from any sites designated at the national level or above, nor would they impinge upon significant areas of land in the Green Belt.
- 6.21 We will continue to assess potential effects on designated sites during the development of the draft proposals. However, having regard to the location of the sites and the orientation of the runways, effects on these designated sites do not appear to be a constraint on the feasibility of our main runway options.

Nature Conservation Designations

- 6.22 No internationally or nationally designated habitats would be directly impacted by any of the runway options being considered. The closest sites of international importance are the Mole Gap to Reigate Escarpment Special Area of Conservation (SAC), 9.5km to the north of the airport and Ashdown Forest, 12km to the south east. The latter is designated as a Special Protection Area (SPA) and SAC. Considering the distance of these protected sites from the airport, and the east-west alignment of a second runway, these sites are unlikely to be adversely affected by any consequential increases in air noise, emissions or other impacts. This assertion will be tested in due course through further study and the screening of the preferred option against the Habitats Regulations.
- 6.23 The nearest nationally designated site is Glovers Wood SSSI, which is just beyond the village of Charlwood 1.7km to the west of the airport. There are a number of other SSSIs about 5km from the airport the closest being House Copse and Buchan Hill Ponds situated some 4.3km and 4.9km from the airport respectively, both to the south / south west and Hedgecourt, approximately 4.9km to the east. None of these SSSIs would be physically affected by the second runway and they are visually screened from the airport by intervening vegetation, roads and other structures. They may experience a slight increase in aircraft noise but are already exposed to such noise. Furthermore, these

sites are not designated for supporting birds or other species which would be particularly susceptible to noise disturbance.

Landscape Designations

- 6.24 No internationally or nationally designated landscapes would be directly affected by any of the runway options.
- 6.25 There are two Areas of Outstanding Natural Beauty (AONB) in the vicinity of the airport. The northern boundary of the High Weald AONB is about 3km to the south east, beyond the town of Crawley, and the closest part of the Surrey Hills AONB boundary is 8km to the north west. Further to the north east is the Kent Downs AONB which is a little over 15km from the airport. The South Downs National Park lies beyond the High Weald AONB some 24km to the south of the airport.
- 6.26 The north-western fringe of the High Weald is heavily forested and this largely screens the landscape from the effects of development in the low lying Mole Catchment in which the airport is situated. Similarly, the Surrey Hills AONB is well wooded and most views towards the airport are screened by the low ridge of hills to the north-west of Charlwood Village.
- 6.27 In light of the low visibility of the airport from most surrounding areas, it is considered unlikely that our main runway options would have an adverse impact on the wider landscape character of the AONBs or important views towards and within them.

Heritage Designations

- 6.28 There are no Registered Parks and Gardens within the immediate vicinity of the airport, the nearest being the Grade II Reigate Priory 7.2km to the north.
- 6.29 There are two scheduled ancient monuments beyond the southern boundary of the safeguarded area at Tinsley Green (an area of former medieval settlement located to the south east of the airport) and Ifield Court (a moated manor to the south-west). Neither would be directly affected by the runway options.

Section 6: Environment

6.30 There are five Grade II* and thirteen Grade II listed buildings within the safeguarded area. This gives an indication of the possible loss of listed buildings but it might be possible to retain some (for example there are three listed buildings which are already incorporated within the existing airport) or to dismantle and rebuild some elsewhere. The effects on listed buildings and potential mitigation measures will be assessed during the development of the draft proposals, together with the effects on the settings of other listed buildings that are nearby.

Other Local Sites and Features

Conservation Areas

6.31 There are four Conservation Areas in proximity to the airport – one immediately to the north at Massetts Road in Horley, one to the east at Burstow, one to the southwest at Ifield and the one encompassing much of the village of Charlwood to the west. None of these Conservation Areas lie within the current Safeguarded Area. Were the main southern runway options to necessitate a slight increase beyond the safeguarded boundary, this would still not encroach upon or directly impact any of these areas. However, the setting of the Charlwood Conservation Area could be altered by any further expansion of the airport to the west. Therefore, suitable mitigation in the form of landscape bunds, screens, ground noise barriers and other mitigation will need to be evaluated at the next stage. However, our provisional view is that the impact would be acceptable with such mitigation in place.

Archaeology

6.32 The SERAS report suggested a high potential for hitherto undetected sites spanning the prehistoric, Roman, medieval and post-medieval periods. Since that time, Crawley Borough Council has designated three Areas of Archaeological Importance to the south of the existing airport boundary and within the Safeguarded Area. We will be commissioning a desk study of the archaeological potential of the land which could be disturbed by the construction of a second runway and associated infrastructure.

Local Landscape

- 6.33 The potential for increased visual intrusion to local communities, particularly the village of Charlwood to the west, will be given careful consideration in the development of our preferred option and appropriate mitigation will be developed.
- 6.34 The flat topography of the landscape to the west of our southern runway options gives way to rising land. Some of this land is wooded and some trees might encroach into aeronautical ‘surfaces’ of a second runway. If this were the case there may be a need for a tree management programme in this area.

Water

- 6.35 The upper reaches of the River Mole and three of its tributaries – Gatwick Stream, Crawters Brook and Manns Brook – run through or near the airport. The River Mole currently runs through a culvert underneath the existing runway. All of the southern runway options would impact on the stretch of the River Mole to the south of the culverted section and may also affect sections of the other watercourses.
- 6.36 Diversion of the River Mole would present opportunities to address current flood risk issues downstream of the airport in Horley and Reigate. We will explore options for river diversions as part of the draft proposals.
- 6.37 We would expect to be able to mitigate surface water run-off and water quality impacts using water treatment techniques such as reed beds and balancing ponds.

Contamination

- 6.38 A number of sites in and around the airport have been identified as having a minor or moderate potential for contamination due to former land uses. Where such sites are likely to be affected by the second runway, these will be investigated further and suitable remediation plans drawn up where necessary.
- 6.39 We will update our assessments of other local environmental impacts and appropriate mitigation measures in accordance with the Commission’s sift criteria and any further guidance as we develop our draft proposals. This will include any effects on local ecological sites, protected and ancient woodland, areas of archaeological importance, rivers and flood risk.

Section 7: People and Community

The Passenger Experience

- 7.1 Gatwick has already undergone a significant transformation in the three and a half years since the change in ownership. There has been a radical update and overhaul of our terminals and numerous ground-breaking initiatives have been introduced to provide our passengers with excellent service. Further substantial investment and improvements are planned over the next 10 years. Gatwick expects market share gains over the period leading up to a new runway through a continuation of its expanding capacity, improving utilisation and offering a progressively attractive value proposition across all segments of passenger traffic.
- 7.2 We see the future expansion of the airport as an opportunity to take the delivery of choice, service and innovation to a new level. This is because a second runway would be supported by a package of other infrastructure developments. This is likely to include a new terminal building, new piers, a major overhaul of the rail station, new road improvements, car parks, hotels, people mover systems and a range of other ancillary facilities. The precise scope of these will be determined through more detailed work.
- 7.3 We explained in Section 2 how our vision for Gatwick will benefit passengers by providing more connectivity with a better choice of destinations and lower fares than other airport expansion options. However the passenger benefits will go beyond this. The expanded airport will be designed to improve the end-to-end passenger journey, with more choice of improved road and rail services, and with modern and efficient infrastructure on-airport, designed to ease passengers' journeys to the departure gates.

Land take Impact on Housing, Commercial Premises and Community Buildings

- 7.4 The land required for the construction of a second runway has been formally safeguarded since 2003. The table below provides an indication of the land take and number of properties that were estimated to be lost for the southern close parallel and wide space options included in the SERAS consultation options at Gatwick. The SERAS figures are compared with possible land takes associated with our current Runway Options 1 and 3.

TABLE 10:
INDICATIVE LAND TAKE COMPARISON FOR SERAS AND MAIN RUNWAY OPTIONS 1 AND 3

	SERAS Southern Close Spaced	SERAS Southern Wide Spaced Mixed Mode	Option 1 Close Spaced dependent segregated mode (estimate)	Option 3 Wide Spaced independent mixed mode (estimate)
Residential properties	50	300	50	100
Commercial properties	Not recorded	Not recorded	60	120

- 7.5 To the south of Gatwick, along the airport perimeter road, in Lowfield Heath and Langley Green, there are a number of commercial properties that would be affected by any option. Wide spaced runway options also start to encroach on the northern fringes of Manor Royal. The number of commercial properties affected ranges from some 60 commercial properties for Option 1 to some 120 for Option 3. Consideration will need to be given to the potential replacement of lost floor space in the context of the forward planning activities of the Councils for Manor Royal and of the wider Gatwick Diamond.
- 7.6 Within the safeguarded area, there are five community buildings, some of which could be affected by the construction of the second runway. These include two places of worship – Saint Michael and All Angels Church in Lowfield Heath and the Shree Swaminarayan Mandir (ISSO Hindu Temple), and three nursery schools – Charlwood House Nursery School; Cranbrook Independent Nursery and Pre-School and Brookfields Day Nursery.

Section 7: People and Community

7.7 There would also be some loss of high grade agricultural land. Our further studies will clarify exactly how much of the existing safeguarded area we expect to need, and whether we consider that the need for any further land take in relation to any of our options would be justified by the operational benefits.

Social and Economic Regeneration Opportunities

7.8 We have identified in Section 5 the potential scale of employment that would be generated from our runway options. We commented on the vital role which Gatwick plays in underpinning the well-established Gatwick Diamond economic sub region and, in addition, identified how the development of a second runway would provide significant scope to support the regeneration of areas under greater economic and social stress, including parts of south and east London and the south coast and eastwards in to Kent.

7.9 In summary, the development of a second runway, with associated employment and economic strategies, would be a catalyst to stimulate and support wider regeneration in accordance with economic priorities for London and at the sub-regional level.

Health and Quality of Life

7.10 The Commission has indicated that it wishes to understand impacts of expansion on health and quality of life. We intend to provide further assessments of these matters in our Draft Proposals. These will draw on the outputs from other studies such as air quality, noise, transport, and socio-economics as well as looking at the less tangible factors that are just as important to good health, quality of life and well-being.

7.11 Gatwick is fully committed to continuing its work with the local community to ensure that the community fully benefits from opportunities offered by an expanded Gatwick airport, and to ensure that adverse effects are avoided wherever possible and otherwise mitigated.

7.12 Any options for expansion will be thoroughly assessed in terms of the likely environmental, social and economic effects, and development will be measured against relevant planning and other policy thresholds to determine the acceptability of any proposed development.

7.13 Expansion at Gatwick is expected to bring a number of significant benefits to the local area – not least in maintaining the airport’s role as an important contributor to the economic wellbeing of the local area. It will also assist in supporting social and economic regeneration objectives over a wide area.

7.14 Expansion of the airport will give rise to a need for improvements to the local and regional road network and public transport system which would benefit local communities. The community is also likely to benefit from a range of new facilities and improvements that are expected to result from an expanded airport.

Blight

7.15 Gatwick Airport Ltd already has in place a series of schemes which compensate home owners for the effect on property values should the airport announce that it has an intention to apply for planning permission. These schemes remain in place. We recognise that blight is an extremely important issue for property owners living in areas closest to the airport and affected by plans for a second runway. Although we do not anticipate making any changes to our current blight schemes until the Airports Commission has issued its final report and the Government has confirmed that it is Government policy to support the development of a second runway at Gatwick, we will be considering this issue actively as we progress our studies.

Community Engagement

7.16 We are strongly committed to working with the local community, local authorities, airlines, key stakeholders and other interested groups in developing our proposals for a second runway. The consideration of stakeholder views will form an essential part of our process on many different aspect of the project.

7.17 Pending the outcome of the Commission’s deliberations on plausible and credible options in its Interim Report at the end of this year, we will be continuing with our studies, refining our options and updating our preliminary assessments. If shortlisted, and subject to any further guidance on consultation issued by the Airports Commission, we intend to carry out public consultation in the early part of 2014. By Summer 2014, we would then be in position to submit to the Commission a Draft Proposal which will have fully taken into account the views of our diverse range of stakeholders.

Section 8: Cost and Financial Viability

- 8.1 We have undertaken a high level assessment of the costs associated with the main runway options that we are currently considering. The costs covered by our analysis include:
- Terminal and pier infrastructure
 - Baggage systems
 - Runway and airfield infrastructure
 - Car parks and on-airport surface access
 - Site acquisition, blight and site clearance
 - Design and management costs
 - Off airport surface access contributions
- 8.2 At this stage of our work, only broad estimates of cost can be given since the level of costs is materially impacted by the choice of runway option as well as by design and layout choices, for example areas of building areas, airport ancillary services and the quality of the delivered infrastructure in terms of the passenger experience. There is also significant variability arising from phasing decisions in terms of capital expenditure.
- 8.3 Overall, however, and based on the actual delivered costs of benchmarked projects, we have estimated that the costs for a second runway and associated facilities at Gatwick are likely to range between £5 billion and £9 billion (in 2013 prices), depending on the option selected. As part of our cost analysis, we have benchmarked our costs against the development of Terminal 5 at Heathrow and the detailed cost breakdown made by BAA in its work on a second runway at Stansted. However, working closely with experts in major projects and with our airlines, our aim will be to deliver a development at lower costs than that indicated by this benchmarking.
- 8.4 The cost range includes the infrastructure needed to support the additional traffic generated by the second runway, for example taxiways, aprons, terminal capacity and piers. It allows for earthworks, the relocation of existing airport infrastructure where this is in the way of planned development, the diversion of existing water courses, and the provision of balancing ponds. It also includes the costs of changes to surface access infrastructure and a reasonable share of costs towards off-site surface access improvements. An appropriate allowance is also made for on-costs, e.g. design fees and staff overheads.
- 8.5 The figures also include an allowance for the acquisition of land associated with any necessary expansion of the airport boundary. This is based on an analysis of current land ownership and an assessment of land values (both residential and commercial) including any disturbance costs and professional fees.
- 8.6 Any analysis of financial viability will be an iterative process between traffic forecasts, airport design and price elasticity. Assumptions must be refined as to future prices, financing structure and relevant regulatory design parameters. A key assumption we have made is that only one runway (in the south east) is constructed at a time. The risks associated with simultaneous runway construction projects would, we believe, prohibit projects being taken forward on such a basis as the investment required by any of the proposals will be so large relative to their current enterprise value.
- 8.7 With these caveats in mind, our current views are as follows:
- We anticipate that investment in a second runway at Gatwick would be financeable by the owners of the airport without recourse to public funds.
 - We anticipate that there would be a negotiation between the airport and the transport authorities in order to determine a reasonable contribution by the airport to any incremental impact on the local transport infrastructure, and we have included in our estimates our view as to what such a contribution might be.
 - We anticipate that the aeronautical prices associated with a runway development will be higher than today's prices, but we consider that this price level would be consistent with ensuring value for passengers, and almost certainly substantially lower than prices resulting from a hub expansion or a new mega hub.
- 8.8 The way in which any new infrastructure can expect to recoup its costs of investment will be a matter of key regulatory input, and we will be discussing with the CAA what further guidance they may be able to provide in this area. Clearly, any proposal to raise prices to airlines will need the full support of the CAA if they continue to regulate London Gatwick in order to ensure any runway project is viable.

Section 9: Operational Viability

Safety

- 9.1 We are confident that the design and operation of a second runway at Gatwick can comply fully with all UK and international safety and security guidance and legislation. To our knowledge, there are no aspects of our proposal that are particularly unusual, or that carry any particular risks, for its safe construction and operation.
- 9.2 The proposal is an expansion of the existing airport, which has operated with an excellent safety record for over fifty years. Expansion at Gatwick therefore carries significantly less risk than development at a new site which might have untested conditions, for example the risk of bird strikes associated with the Thames Estuary proposals.
- 9.3 The new runway would be parallel to the existing runway and therefore the flight paths in the vicinity of the expanded airport would be similar to those occurring today. They pass over relatively open and unpopulated areas, compared for example with Heathrow to the west of London, with a correspondingly lower level of third party risk.

Resilience

- 9.4 The weather conditions at Gatwick are well understood and Gatwick has a very good availability record. Delays caused by bad weather at Gatwick are relatively low. For example there were less than 50,000 minutes of total weather related delays at Gatwick in 2012 compared for example with over 500,000 minutes of such delays incurred at Heathrow over the same period.
- 9.5 For the reasons explained below, we believe Gatwick has an inherently more resilient operation than Heathrow, an advantage that can be maintained in the future with an additional runway. Gatwick is appreciably less busy in the winter than it is in the summer. This means that at the times when bad weather is most likely to occur, Gatwick has a lower level of runway utilisation. While we expect a slight flattening of the annual pattern of movements with a second runway, owing to a change in the mix of traffic towards more long-haul and year-round services, we would still see fewer movements in the winter than the summer. This will provide Gatwick with more resilience than Heathrow to weather-related disruption.

- 9.6 Another important reason for the difference in resilience arises from the different ways in which the runways are used at the two airports. Gatwick's single runway is used for arrivals and departures (mixed mode). Typically arriving flights are interspersed with departing flights which means that the in-flight separations between arriving aircraft exceed the minimum requirement. At Heathrow, with one runway dedicated to departures and one to arrivals (segregated mode), the arrivals separations are usually close to the minimum allowable. This means that, when disruption occurs, the impact on Heathrow is much greater.
- 9.7 This greater degree of resilience would continue if Gatwick were to operate two mixed-mode runways – as the advantages of Gatwick over Heathrow as outlined above would still apply.
- 9.8 We also believe that two segregated-mode runways at Gatwick would still provide a more resilient operation than that at Heathrow for the following reasons:
- During the winter season Gatwick would still have a lower level of runway utilisation
 - At Gatwick we see the opportunity for the planned, or tactical use of mixed mode operations to deal with specific peaks in demand or at times of disruption
 - We are exploring the degree of 'headroom' needed between declared and actual capacity to provide resilience in segregated mode. This can be built into our future schedules.
- 9.9 A key advantage of any development at Gatwick is that we envisage the environmental constraints that apply at Heathrow would not apply at Gatwick.
- 9.10 The issue of resilience applies equally to the wider London airport system – it is not just an issue at the airport level. We believe that our proposal for a 'constellation' of airports serving London offers a much more resilient approach than one which sees the creation of a mega hub airport. A system of geographically dispersed airports will be much less affected by bad weather, for example, than one where a single location dominates the area. Similarly disruption on the surface transport network, or disruption caused for other reasons, is unlikely to affect all London airports simultaneously.

Section 9: Operational Viability

Flood risk

- 9.11 Parts of Gatwick today are in flood risk zones. To mitigate this risk, and following the review by Sir Michael Pitt, we have been working in collaboration with the Environment Agency. We have financially supported the flood attenuation works comprised in the Upper Mole Flood Attenuation Scheme. We are also now constructing our own flood attenuation scheme. On completion of both these schemes the airport will be fully protected against a 1 in 100 year flood. Parts of the expanded airport would still be in flood plain but our detailed proposals will include the appropriate mitigation to ensure that an appropriate degree of flood protection is provided both to the airport and also to the surrounding properties.

Airspace and Air Traffic Control

- 9.12 We have taken advice from NATS on the feasibility of accommodating a second runway at Gatwick. It is clear that the current work on the London Airspace Management Programme (LAMP) does not take account of any additional runway capacity in the London area. NATS advises that any additional runway capacity in the London system will require airspace changes but, in the absence of detailed work on the proposals, NATS is not able to comment on the practicality of delivering the Gatwick options. However, NATS has indicated that there is currently no reason to believe that, following appropriate design studies, there would be any significant impediment to a solution to accommodating the Gatwick runway proposals.

Section 10: Delivery

- 10.1 We have taken advice from several sources on our high-level plans for the construction of a second runway. No specific challenges have been identified. Like all airport expansion projects, whether at a new site or at an existing airport, this project would require the co-ordination of a wide range of delivery disciplines from archaeology and ecology, bulk earth moving and surface water drainage, civil and structural engineering and specialist mechanical systems and IT infrastructure. However there is nothing in the scope of work that represents any particular risk or challenge – the project is clearly deliverable.
- 10.2 Indeed, from our experience, which includes the experience of advisors who have previously worked on the development of Heathrow Runway 3 and Stansted Generation 2, we believe Gatwick is relatively free of complexity. For example, there are no significant landfill or land contamination issues (which we know are present around Heathrow from past and unrecorded mineral workings). Similarly there is not the level and complexity of site clearance and construction that exists at Heathrow. Nor are there the air quality concerns that have prevailed at Heathrow, or Habitats Directive or construction infrastructure issues that exist with estuarial proposals, let alone the construction challenges such proposals present.
- 10.3 We believe that the construction of a second runway and associated development would likely take 5 to 6 years to complete and commission. This allows for site clearance as well as the construction and commissioning of new infrastructure. On this basis and assuming a National Policy Statement in 2015/16 and a Development Consent Order in 2018/19 a new runway and associated infrastructure at Gatwick could realistically be opened in 2025.

Section 11: Next steps

- 11.1 We believe that an expansion of Gatwick – by way of one new runway to the south of the existing airport – and as part of a constellation of competing airports is the best way to maintain the UK’s status as a global aviation hub and London’s status as the World’s best connected city. We therefore request the Airports Commission to include the expansion of Gatwick in the next stage of the Commission’s process.
- 11.2 Following the submission of these Outline Proposals, we intend to continue with the necessary work to enable a detailed submission to be made to the Commission in the Summer of 2014, with public consultation on options taking place (subject to Commission guidance) in early 2014.



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