

**LOCAL PLANNING AND ENVIRONMENT ADVISORY COMMITTEE**

**24 September 2013 at 7.00 pm**  
**Conference Room, Argyle Road, Sevenoaks**

**AGENDA**

**Membership:**

Chairman: Cllr. Mrs. Hunter Vice-Chairman: Cllr. Searles  
Cllrs. Bosley, Clark, Mrs. Dawson, Gaywood, Mrs. Morris, Mrs. Purves, Mrs. Sargeant and  
Williamson  
Other Members:

	<b><u>Pages</u></b>	<b><u>Contact</u></b>
<b>Apologies for Absence</b>		
1. <b>Minutes</b> To agree the Minutes of the meeting of the Committee held on 2 July 2013, as a correct record.	(Pages 1 - 4)	
2. <b>Declarations of interest</b> Any interests not already registered		
3. <b>Actions from Previous Meeting</b>	(Pages 5 - 6)	
4. <b>Update from Portfolio Holder</b>		Councillor Ian Bosley
5. <b>Referrals from Cabinet or the Audit Committee (if any)</b>		
6. <b>Housing and Energy Conservation Officer</b> Presentation		Pat Smith Tel: 01732 227355
7. <b>Conservation Areas and Permitted Development Rights</b> Presentation		Alan Dyer Tel: 01732 227961
8. <b>Approval of Neighbourhood Plan Areas for Chevening and Hextable</b>	(Pages 7 - 20)	Richard Morris Tel: 01732 227430
9. <b>Airports Commission - Long Term Capacity Options</b>	(Pages 21 - 160)	Steve Craddock Tel: 01732 227315
10. <b>Work Plan</b>	(Pages 161 - 162)	

### **EXEMPT ITEMS**

(At the time of preparing this agenda there were no exempt items. During any such items which may arise the meeting is likely NOT to be open to the public.)

To assist in the speedy and efficient despatch of business, Members wishing to obtain factual information on items included on the Agenda are asked to enquire of the appropriate Contact Officer named on a report prior to the day of the meeting.

Should you require a copy of this agenda or any of the reports listed on it in another format please do not hesitate to contact the Democratic Services Team as set out below.

For any other queries concerning this agenda or the meeting please contact:

**The Democratic Services Team (01732 227241)**

**LOCAL PLANNING AND ENVIRONMENT ADVISORY COMMITTEE**

Minutes of the meeting held on 2 July 2013 commencing at 7.00 pm

Present: Cllr. Mrs. Hunter (Chairman)

Cllr. Searles (Vice-Chairman)

Cllrs. Bosley, Clark, Gaywood, Mrs. Morris, Mrs. Purves and Mrs. Sargeant

Apologies for absence were received from Cllrs. Williamson

1. Appointment of Chairman

Resolved: That Cllr. Mrs. Hunter be appointed as Chairman of the Committee for the ensuing municipal year.

(Cllr. Mrs. Hunter in the Chair)

2. Appointment of Vice Chairman

Resolved: That Cllr. Searles be appointed as Vice Chairman of the Committee for the ensuing municipal year.

3. Declarations of interest

No additional declarations of interest were made.

4. Minutes

In response to a query concerning whether Action 1 – ‘Officers to provide Members a briefing note explaining the status of the Allocations and Development Management Plan before and after inspection’ within the minutes, the Group Manager, Planning advised that he would arrange for this to be done for all members of the committee as soon as possible. A Member commented that it would also be useful to have a list of planning supplementary documents and which ones had or had not been adopted.

*Action 1: The Group Manager, Planning to circulate the briefing note on Allocations and Development Management Plan as previously agreed, and a list of supplementary planning documents.*

Resolved: That the minutes of the meeting of the Local Development Framework Advisory Group held on 31 January 2013 be approved and signed by the Chairman as a correct record.

## Agenda Item 1 Local Planning and Environment Advisory Committee - 2 July 2013

### 5. Update from Portfolio Holder

The Portfolio Holder for Local Planning and Environment advised that he had monthly meetings with Officers. It was early days in his new position. He had recently opened two lots of tenders and had a briefing on Gypsy sites. He also advised that the former Kent Waste Partnership had re-launched itself with the new names 'Kent Resource Partnership.' The Partnership had been flagged by Parliament as an example of best practice.

The Chairman advised that on behalf of the Portfolio Holder, she would be attending a launch at the Weald of a new campaign entitled "Caps On", encouraging caps to be left on glass bottles at time of recycling.

A Member queried whether the commitment to a briefing on traveller sites given under the old governance structure would be upheld. The Group Manager, Planning confirmed that it had been given and it was hoped that a briefing would be arranged before the consideration of the report September. The Portfolio Holder for Local Planning and Environment invited members to attend his portfolio holder briefing on Thursday 4 July 2013 at 3 p.m. where this would be discussed.

### 6. Referrals from Cabinet or the Audit Committee (if any)

There were none.

### 7. Scope of Officer Responsibilities

The [Group Manager – Planning](#); [Head of Environmental and Operational Services](#); and [Head of Housing and Communications](#) gave brief presentations to the meeting regarding their areas of responsibility and which of these areas came within the remit of the Advisory Committee. They also explained which matters they considered would be key upcoming issues and future challenges faced.

Within planning policy a Member queried why the national planning policy framework had not been mentioned and commented on the helpful document the Group Manager Planning had produced setting out how Sevenoaks complied with the framework, summarising the main issues and concerns arising from the provision of new development whilst protecting the environment. With reference to the new permitted development rights, the Group Manager Planning advised that all Members should have received a copy of the presentation he had given to the Town and Parish Councils and he was happy to receive any questions Members may have. Members were concerned as to whether there was anyway to protect areas that were in the early stages of becoming a conservation area. The Group Manager Planning advised that these areas were only protected if they had already been designated before the end of May 2014. It was a lengthy process and if there were an attempt to speed up the process it could be at the expense of reviewing existing Conservation Area Management Plans (CAMPs). With reference to listed buildings there was a commitment in the Core Strategy to prepare a local list and if a parish council wished to take a lead in this there was guidance available. However sites identified within neighbourhood plans did not circumvent the formal process but did provide evidence to justify designation.

*Action 2: Conservation Officer to be asked to supply information on identifying possible properties for listing to the Hextable Parish Clerk.*

In response to questions the Head of Environmental and Operational Services advised that it was not possible to use red diesel, but the Council did have it's own fuel pumps and the tendered cost of diesel was lower bought direct compared to filling station prices. Non statutory services such as Cesspool emptying and trade waste collections were regularly reviewed as they needed to remain profitable and helped subsidise statutory duties. If they were not financially viable consideration would be given to withdrawing the service. The Council did not always supply the cheapest price but the customer base remained high due to the high level of service provided.

Members agreed that they would like the Housing Standards and Energy Conservation Officer to attend a future meeting.

#### 8. Work Plan

Members discussed the draft work plan and the following was agreed:

- Westerham Conservation Area Management Plan to be moved to the meeting in March 2013;
- the Housing and Energy Conservation Officer to attend the meeting in September 2013;
- a report to come to the meeting in September on the possibility of mitigating the impact of the new permitted development rights on potential CAMPs, with a short presentation;
- a standing item on monitoring key performance indicators for the Committee's areas of responsibility;
- the Group Manager, Planning to discuss with the Senior Planning Policy Officer a suitable timescale to report to the meeting on the Community Infrastructure Levy (CIL); and
- a future report if felt necessary after the seminar on affordable housing contributions to take place in September 2013.

Members felt that an extra meeting may be required around January 2013 if it was felt necessary.

THE MEETING WAS CONCLUDED AT 8.23 PM

CHAIRMAN

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ACTIONS FROM THE MEETING HELD ON 2 JULY 2013			
Action	Description	Status and last updated	Contact Officer
ACTION 1	The Group Manager, Planning to circulate the briefing note on Allocations and Development Management Plan as previously agreed, and a list of supplementary planning documents.	Email sent 16.07.13	A Dyer Ext: 7196
ACTION	Conservation Officer to be asked to supply information on identifying possible properties for listing to the Hextable Parish Clerk.	Email sent 16.07.13	A Dyer Ext: 7196

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**APPROVAL OF NEIGHBOURHOOD PLAN AREAS FOR CHEVENING AND HEXTABLE**

**Local Planning and Environment Advisory Committee – 24 September 2013**

Report of Chief Planning Officer

Status: For consideration

Key Decision: No

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**Executive Summary:**

Chevening and Hextable Parish Councils have applied to designate the parishes as Neighbourhood Plan areas, in order to potentially bring forward a Neighbourhood Plan. This report outlines the details of these requests.

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**This report supports the Key Aims of the Community Plan**

**Portfolio Holder** Cllr. Ian Bosley

**Contact Officer(s)** Tony Fullwood ext.7178 / Mikyla Smith ext.7357

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**Recommendation to Local Planning and Environment Advisory Committee:**

The Local Planning and Environment Advisory Committee advise that the Portfolio Holder approve the designation of Neighbourhood Plan Areas for Chevening and Hextable for the areas set out in Appendices B and C.

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**Reason for recommendation:**

To allow for the preparation of Neighbourhood Plans in accordance with government guidance.

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**Introduction and Background – Neighbourhood Planning**

- 1 Members will be aware that under the provisions of The Localism Act a town or parish council can prepare a Neighbourhood Plan, which once adopted, will form part of the Development Plan for the Local Planning Authority (LPA). One of the first steps is to apply to the District Council to designate the Neighbourhood Plan Area. The District Council must then go out to public consultation for a six week period and invite representations. In order for an area to be appropriate it should be coherent, consistent, and appropriate in planning terms. The Act states that unless there are valid planning reasons for refusal, the LPA should designate proposed neighbourhood plan areas.

## Agenda Item 8

### **Neighbourhood Area Designation Requests**

- 2 Chevening and Hextable Parish Councils have submitted proposed Neighbourhood Areas for consideration. The Hextable area reflects the future boundary of Hextable Parish, following boundary changes recommended by the 2012 Community Governance Review, which will take place in 2015. The designation requests from each parish, which include a map of the proposed areas, can be seen in Appendices B and C. The Chevening area covers the current parish as no changes are proposed to the parish boundary.
- 3 Hextable's designation request, due to the boundary change in 2015, includes land which is currently part of Swanley parish. Swanley Town Council has confirmed that they have no objection to Hextable using the agreed post-2015 boundary for the Neighbourhood Area designation request.
- 4 A Consultation Statement has been prepared for each area (Appendix A) which illustrates that the proper procedures have been followed. No comments were received during the six week consultation period in response to the area designation requests. The proposed areas are appropriate in planning terms for the long term planning of the area and it is recommended that the proposed Neighbourhood Plan Areas should be designated.
- 5 It is recommended that Portfolio Holder approval is sought for the designation of Neighbourhood Plan Areas for Chevening and Hextable, and that in accordance with the Neighbourhood Planning (General) Regulations 2012 (7) the following are published as soon as possible after designation:
  - the name of the neighbourhood area,
  - a map which identifies the area, and
  - the name of the relevant body who applied for the designation.

### **Other Options Considered and/or Rejected**

None

### **Key Implications**

#### Financial

Funding for local planning authorities to support neighbourhood planning can be applied for from the Department of Communities and Local Government (DCLG). Any cost will be met by the existing budget and DCLG funding, which will be applied for in due course.

#### Legal Implications and Risk Assessment Statement.

Neighbourhood Plans are prepared under planning legislation. The regulations regarding notification of adoption/approval of these documents will be followed.

The designation of Neighbourhood Plan Areas following existing or future parish boundaries is an administrative procedure that in itself holds minimal risk to Sevenoaks District Council.

Equality Impacts

Consideration of impacts under the Public Sector Equality Duty:		
Question	Answer	Explanation / Evidence
a. Does the decision being made or recommended through this paper have potential to disadvantage or discriminate against different groups in the community?	No	The designation of Neighbourhood Plan Areas following existing or future parish boundaries is an administrative procedure that in itself has no equalities implications.
b. Does the decision being made or recommended through this paper have the potential to promote equality of opportunity?	No	
c. What steps can be taken to mitigate, reduce, avoid or minimise the impacts identified above?	N/A	

**Appendices**

Appendix A – Consultation Statements

Appendix B – Chevening Neighbourhood Area Designation request

Appendix C – Hextable Neighbourhood Area Designation request

**Mr Richard Morris**

**Chief Planning Officer**

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## Sevenoaks District Council

### Proposed Neighbourhood Plan Areas Consultation Statement

#### Introduction

This document provides a record of the publication which took place regarding the Chevening and Hextable proposed Neighbourhood Plan areas and related Neighbourhood Planning bodies. The formal publication period provides members of the public and other key stakeholders an opportunity to submit comments on the proposed neighbourhood plan area and proposed neighbourhood planning body.

It sets out the methods used to publicise the publication process along with the main findings from the publication. As this was only a publication process, the response rate was not expected to be high.

The Council publicised the Chevening and Hextable proposed Neighbourhood Plan Areas for 6 weeks, from 25 July 2013 to 5 September 2013.

This consultation included the following information submitted by the Parish Councils:

1. A map identifying the area to be covered
2. A statement explaining why the area is appropriate to be designated as a neighbourhood area
3. A statement that the organisation making the application is the relevant body to bring forward a Neighbourhood Plan.

The Council also published:

- The name of the proposed neighbourhood area
- Details of how to respond to the publicity and make representations
- The deadline for the receipt of those responses and representations

This information was published on the Sevenoaks District Council website. Neighbouring Parish Councils, District Cllrs of Hextable and Chevening, and District Cllrs of the neighbouring parishes were notified of the consultation via email.

#### Comments

Chevening No comments were received.

Hextable No comments were received.

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# Neighbourhood Plan Area Designation

Regulation 5  
Neighbourhood Planning (General) Regulations  
2012

CHEVENING  
July 2013



**Chevening Parish Council**

**Derek Johnson BSc CEng MICE - Clerk**

**Cherry Croft, Packhorse Road, Sevenoaks, Kent. TN13 2QP**

**Telephone: 07540 269181**

**E-mail: [clerk@cheveningparishcouncil.gov.uk](mailto:clerk@cheveningparishcouncil.gov.uk)**

Sevenoaks District Council  
Council Offices  
Argyle Road  
Sevenoaks  
TN13 1HG

**For the attention of Mikyla Smith**

26<sup>th</sup> June 2013

Dear Mikyla

**Localism Act 2011 – Neighbourhood Plan  
Designation of Chevening Parish as a Neighbourhood Area**

Please accept this letter as a request from Chevening Parish Council, being the qualifying body to bring forward such a request, for the land defined by the boundaries of Chevening Parish Council, as shown on the enclosed plan by SDC, to be designated as a Neighbourhood Area.

As requested, I can also confirm that no boundary changes are currently proposed to the line indicated in red on the enclosed plan.

Yours sincerely

A handwritten signature in blue ink, appearing to read "Derek Johnson", is written over a faint, illegible printed name.

**Derek Johnson**  
Clerk to the Parish Council





Chevening Parish Boundary

Scale: 1:45,000  
Date: June 2013

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# Neighbourhood Plan Area Designation

Regulation 5  
Neighbourhood Planning (General) Regulations  
2012

HEXTABLE  
July 2013

Hextable Parish Council  
College Road  
Hextable  
Kent  
BR8 7LT  
Tel: 01322 668530



Ms. M. Smith,  
Planning Policy Department,  
Sevenoaks District Council,  
Argyle Terrace,  
Sevenoaks,  
Kent

17<sup>th</sup> May 2013

Dear Ms. Smith

### **Hextable Neighbourhood Plan**

Hextable Parish Council hereby requests Sevenoaks District Council to designate the whole area within the Hextable Parish boundary, as it will exist after the agreed boundary change in 2015, as a Neighbourhood for the purposes of producing a Neighbourhood Plan. Please find enclosed a map showing the Hextable Parish boundary, as it will exist after 2015.

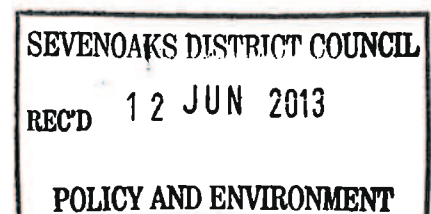
Furthermore, Hextable Parish Council requests to be authorised as the sole Qualifying Body to produce a Neighbourhood Plan for the said Neighbourhood of Hextable. Hextable Parish Council is the appropriate qualifying body to bring the plan forward.

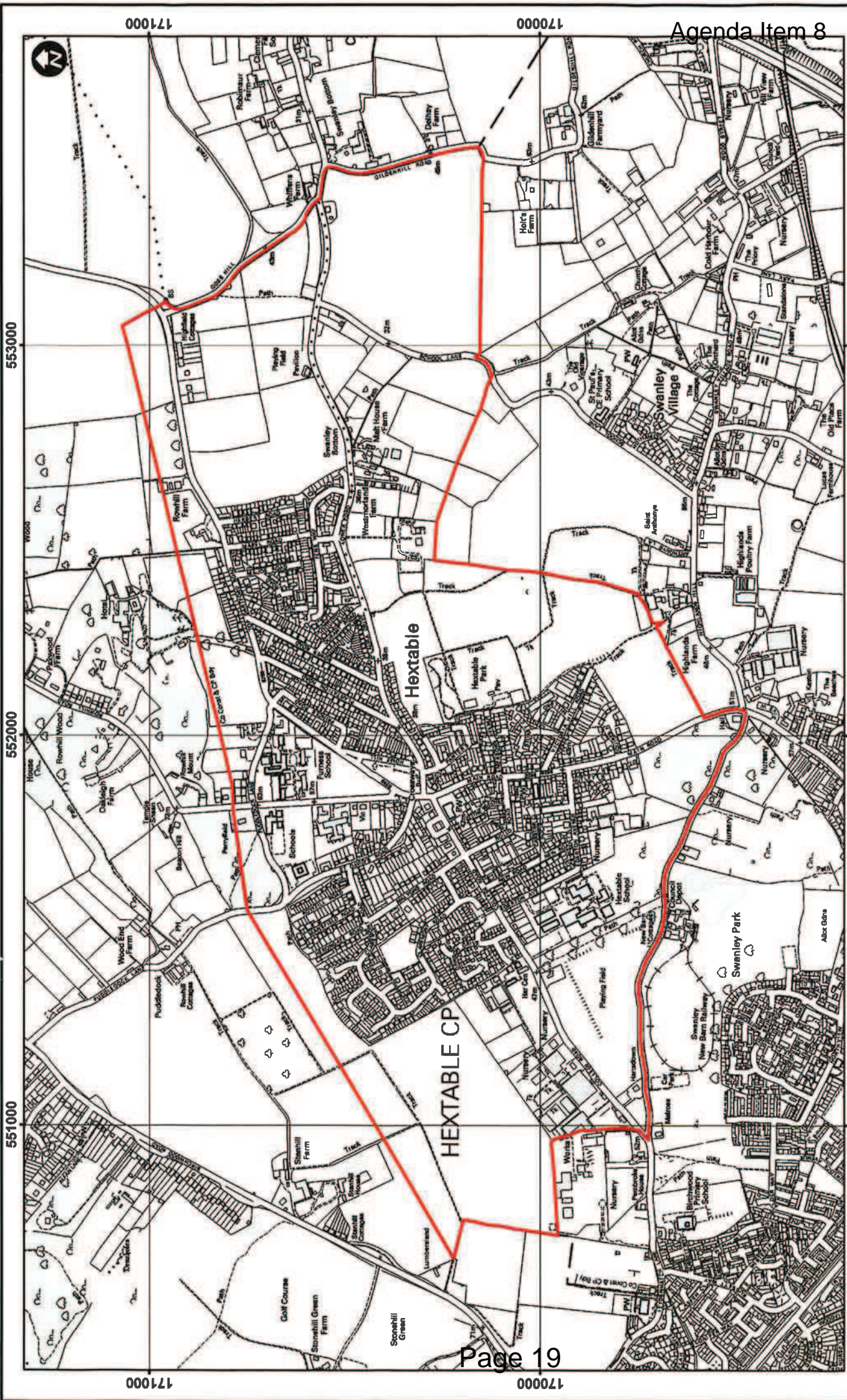
On behalf of Hextable Parish Council, thank you for your ongoing assistance and for progressing this matter.

Yours sincerely

A handwritten signature in black ink, appearing to be 'J. J. K.', is written over a faint, illegible printed name.

Parish Clerk on behalf of the Parish Council Chairman





Scale: 1:12,500  
Date: May 2013

Produced by the GIS Team, Sevenoaks District Council

Hextable Parish Ward Boundary (2015)



This map is based upon the Ordnance Survey data with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office. © Crown Copyright. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings. Sevenoaks District Council, 10015401, 2012

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**AIRPORT COMMISSION CONSULTATION – LONG TERM OPTIONS**

**Local Planning and Environment Advisory Committee – 24 September 2013**

Report of Chief Planning Officer – Richard Morris

Status: For Consideration

Key Decision: No

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**Executive Summary:**

The Airports Commission (or Davies Commission) has been established to consider the need for additional UK airport capacity and recommend to government how this can be met in the short, medium and long term. The Commission is due to report to the Government on its recommendations after the next General Election. It has published the list of options for long term airport capacity proposed to it for public consultation. All members were consulted on the proposals in August 2013. In order to aid the Local Planning and Environment Committee’s discussion, this report provides a summary of the comments from Members and the main issues for Sevenoaks District raised in the submissions, in particular those by the operators of Gatwick Airport, Kent County Council and the Mayor of London.

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**Portfolio Holder** Cllr. Bosley

**Contact Officer(s)** Steve Craddock (x7315)

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**Recommendation to Local Planning and Environment Advisory Committee:**

That, following discussion and consideration of other Member’s views submitted in advance, the Committee recommend to the Portfolio Holder the approach that the Council should take in responding to the Airports Commission’s consultation.

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**Reason for recommendation:**

In order to ensure that the Council’s response to this consultation has been prepared following consultation with all Members and discussion at the Local Planning and Environment Advisory Committee.

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**Introduction and Background**

- 1 The Airports Commission (or Davies Commission) has been established to consider the need for additional UK airport capacity and recommend to government how this can be met in the short, medium and long term. The Commission is due to report to the Government on its recommendations after the next General Election.

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- 2 Interested parties were given until 19<sup>th</sup> July 2013 to submit proposals for schemes to increase long-term airport capacity. The list of proposals, as well as submitted supporting information, was published in August 2013. Those wishing to comment on the proposals have been given until 27<sup>th</sup> September to do so.

### Submissions to the Airports Commission

- 3 A total of 51 separate proposals to provide increases in long-term capacity have been submitted to the Airports Commission, with a number presenting similar developments. Amongst these are:
- Gatwick Airport's proposal for improvements to the 'constellation' of airports around London, including a 2<sup>nd</sup> runway at Gatwick after 2019 (Appendix A);
  - Kent County Council's proposal for a 'dispersed hub', which would include a 2<sup>nd</sup> runway at Gatwick after 2019 (Appendix B);
  - Various proposals for a Thames Estuary airport, including onshore sites at Grain (appendix C), Cliffe, Thurrock and Foulness and man-made island locations;
  - Proposals for a 3<sup>rd</sup> runway at Heathrow; and
  - Proposals for a 2<sup>nd</sup> runway at Stansted.
- 4 Only the proposals by Gatwick Airport, Kent County Council and the Mayor of London for the new airport on the Isle of Grain have been provided in the appendices. However, all Members were sent the link to the consultation, which includes links to all proposals.

### Gatwick Airport

- 5 In responding to the Draft Gatwick Airport Masterplan in 2012, SDC noted that Gatwick plays an important role in the south-east economy and that it is a significant local employer. The response stated that the Council is keen that Gatwick's economic benefits are maximised, whilst sustainable access to the airport is improved and aircraft noise levels and disturbance are reduced. A number of suggestions of how the impact of noise on residents in Sevenoaks District could be reduced were put forward, such as minimum height restrictions for aircraft approaching Gatwick and tighter restrictions on noise from night flights. The Council stated that any proposals for a second runway at Gatwick would be unwelcome prior to an assessment of the economic, social and environmental impacts of all options by Government. It is understood that the Airports Commission will be fulfilling this role.
- 6 The Draft Gatwick Airport Masterplan presented forecasts of the noise impact of a 2<sup>nd</sup> runway. These showed that a wider area of Sevenoaks District would be subjected to noise levels between 54 and 57 dBA<sub>Leq</sub> (see appendix F). This is the lowest contour at which the airport operator forecasts noise implications. However, the noise levels presented in the contour maps are assessed using a metric which averages the noise energy over a period of many hours. SDC's response noted that whilst this can be used as an indicator of annoyance, many



individuals will react not to an average level but to the number of flights and those individual flights that stand out as being more noisy, perhaps due to being lower than normal, an older aircraft type being used, or weather effects on sound propagation. These are factors that the operators of Gatwick Airport are unwilling or unable to control. Therefore, any increase in flight numbers arriving and departing Gatwick may lead to greater increases in disturbance of residents in Sevenoaks District, in particular the south-western parts, than suggested by the contour maps.

- 7 SDC's Environmental Health team have commented that LEQ (the Equivalent Continuous Sound Level) is a relevant noise descriptor and it is difficult to see how an alternative can be found without noise monitoring in the vicinity.
- 8 The Gatwick submission notes that the operator's 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 on by Heathrow. It also notes that it benefits from being located in an area where there are no major towns or cities directly overflowed by aircraft on initial departure or final approach. The submission claims that because of this the number of people subject to noise levels at or above 57dBA<sub>Leq</sub> would increase from 3,050 to 4,950, which equates to approx. 2% of the people impacted at Heathrow today. This would, however, include rural communities in the south-west of Sevenoaks District (as is clear from appendix F).
- 9 The proposal of the Gatwick Airport operators states the benefits of competition between airports and considers that this will be enhanced by an additional runway and additional flights at Gatwick. Depending on which of the 3 options proposed is found to be the most viable and acceptable, the Gatwick Airport operators claim that capacity could be increased to between 60 and 90 million passengers per annum in 2050, from approx. 32 million passengers in 2010/11 (as reported in the Draft Gatwick Airport Masterplan) . The submission claims that the development would have significant national and regional economic 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.*

- 10 SDC has lobbied for improved rail access to Gatwick from Kent through the reinstatement of a service from Tonbridge to Gatwick, via Edenbridge and Redhill. Whilst the operators of Gatwick Airport are understood to be supportive of this proposal, it does not form part of the 'surface access' section of their submission to the Airports Commission. In addition, the 'surface access' section does not identify the need for any further improvements to the M25, with the exception of improved slips between the M25 and M23.

## Agenda Item 9

- 11 Kent County Council is supportive of a 2<sup>nd</sup> runway at Gatwick, a 2<sup>nd</sup> runway at Stansted when need arises, expansion of Birmingham Airport following the completion of High Speed 2 and expansion of regional airports at Lydd, Manston and Southend. It is opposed to an airport in the Thames Estuary. KCC note that the additional employment generation of an expanded Gatwick Airport, with a 2<sup>nd</sup> runway, might equate to approx. 20,000 to 60,000 (low productivity case) and provide an economic boost of up to £1.66 billion (high productivity case) in GVA (Gross Value Added) in the region. However, consultants (Alan Stratford and Associates Ltd) appointed by KCC consider that there would be reluctance from the main global alliances of airlines to move from Heathrow to Gatwick, which potentially undermines KCC's argument that a 'dispersed hub' can accommodate the growth in airport capacity that is believed to be required.

### Thames Estuary Airport

- 12 The Major of London and a number of other respondents to the Airports Commission's consultation have proposed new airports in or alongside the Thames Estuary. Both of the Major of London's proposals for Thames Estuary airports would, he considers, require the widening of the northern, southern and eastern sections of the M25, including through Sevenoaks District. The Major of London also proposes that the proposed 3<sup>rd</sup> Thames crossing is built to the east of Gravesend. The submission in support of the Isle of Grain proposal is provided at appendix C.
- 13 Page 24 of appendix C provides an indication of the flight paths that may result from development of the Grain airport. These show flights approaching the airport over north-eastern parts of Sevenoaks District, although associated noise levels are not shown. The equivalent diagram for the man-made island airport does not show flight paths over Sevenoaks District.
- 14 The Major of London estimates the economic impacts of the Isle of Grain proposal as:
- *Supporting 388,000 jobs nationally by 2050, resulting in a cumulative UK GVA increase of £726 billion between 2015 and 2050.*
  - *Further adding 0.5 per cent to UK GDP by 2050 due to international connectivity improvements, which would have a value today of £6.9 billion per year.*
  - *Creating 134,000 new additional jobs locally, generating £16.6 billion in GVA per year.*
  - *Catalysing further jobs and development in a number of 'zones' in Kent, Essex and London establishing a 'corridor' of development alongside the major transport links connecting the airport.*

The Major of London believes that the man-made island proposal would create slightly more jobs and a slightly larger increase in GVA nationally (392,000 jobs and £742 billion by 2050, as opposed to those above). However, other economic impacts are the same for both proposals.

- 15 The key issues with both of the Major of London's proposals are likely to be the costs and the environmental impact. The Grain proposal is forecast to cost approx. £70 billion, whilst the man-made island proposal is forecast to cost approx. £85 billion. These compare with an estimated cost of £5-£10 billion for the development of an additional runway and associated infrastructure at Gatwick. The Major of London's submissions also recognise that the two proposals would result in the loss of large areas of internationally and nationally important habitats. These schemes would require major mitigation and habitat creation schemes, which the submissions claim have been reflected in the costs.

### Consultation with Members

- 16 All Members were sent electronic links to the consultation homepage and the submission by the operators of Gatwick Airport on 13<sup>th</sup> August and invited to submit comments to the Planning Policy team by 9<sup>th</sup> September for inclusion in this report. All comments received are set out in appendix G and a summary is provided below:
- Utilise Northolt Airport when the RAF vacate in two years time as a Terminal 6 for Heathrow.
  - Any changes in flight paths could affect Edenbridge increasing noise pollution.
  - SDC should recommend that any flight path avoid centres of population.
  - The Thames Estuary option would need a new transport infrastructure in place and any new road network might affect SDC
- 17 The Council has also been sent comments related to the submissions in respect of Gatwick Airport by Edenbridge Town Council and the Chief Executive of Hever Castle. The comments from the Chief Executive of Hever Castle are attached at appendix H. Councillors from Edenbridge Town Council will be attending the Local Planning and Environment Advisory Committee.

### Response Options

- 18 In responding to the consultation, SDC could set out a clear position in support or opposition to any of the proposals included in the consultation. It could also support one or more of the options subject to further investigation or mitigation of negative impacts. Alternatively, SDC could welcome aspects of proposals and note its concern about other aspects, whilst stating that it will wait for a further stage in the process (such as after the Airports Commission has considered them) before setting out its position.

### Next Steps

- 19 Following this consultation, the Airports Commission will be publishing a shortlist of the most credible long term options in December 2013. There will be further opportunities to comment and submit views on these shortlisted options in 2014.

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### Other Options Considered and/or Rejected

The Council could decide not to respond to this consultation. This was rejected because of the impacts that decisions about future airport capacity will have on Sevenoaks District.

### Key Implications

#### Financial

This report has no financial implications for the Council.

#### Legal Implications and Risk Assessment Statement.

This report has no legal implications for the Council.

#### Equality Impacts

Consideration of impacts under the Public Sector Equality Duty:		
Question	Answer	Explanation / Evidence
a. Does the decision being made or recommended through this paper have potential to disadvantage or discriminate against different groups in the community?	No	
b. Does the decision being made or recommended through this paper have the potential to promote equality of opportunity?	No	
c. What steps can be taken to mitigate, reduce, avoid or minimise the impacts identified above?		n/a

### Conclusions

It is suggested that Members of the Local Planning and Environment Committee consider the issues raised in the submissions to the Airport Commission with the most significant impacts on Sevenoaks District and the comments of non-committee Members. It is suggested that the Local Planning and Environment Committee recommends to the Portfolio Holder for Local Planning and Environment the approach that the Council should take in responding to the consultation on these proposals.

### Appendices

Appendix A – Gatwick Airport Proposals for Long Term Runway Capacity

Appendix B – Kent County Council Dispersed Hub Proposal

Appendix C – Major of London Isle of Grain Proposal

Appendix D - Existing Gatwick Airport Air Noise Contours (reproduced from A.5 of the draft master plan)

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Appendix E - Gatwick in 2020 Air Noise Contours  
(reproduced from A.10 of the draft master plan)

Appendix F - Gatwick in 2030 (Two Runway) Air Noise  
Contours (reproduced from A.14 of the draft master  
plan)

Appendix G – Members’ comments on the proposals

Appendix H - Hever Castle Email re Gatwick

**Mr Richard Morris**  
**Chief Planning Officer**

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# Airports Commission:

## Proposals for providing Additional Runway Capacity in the Longer Term

Gatwick Airport Limited response

19th July 2013

Airports Commission: London Gatwick 008

# 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.

# Executive Summary

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 criteria<sup>1</sup> 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.

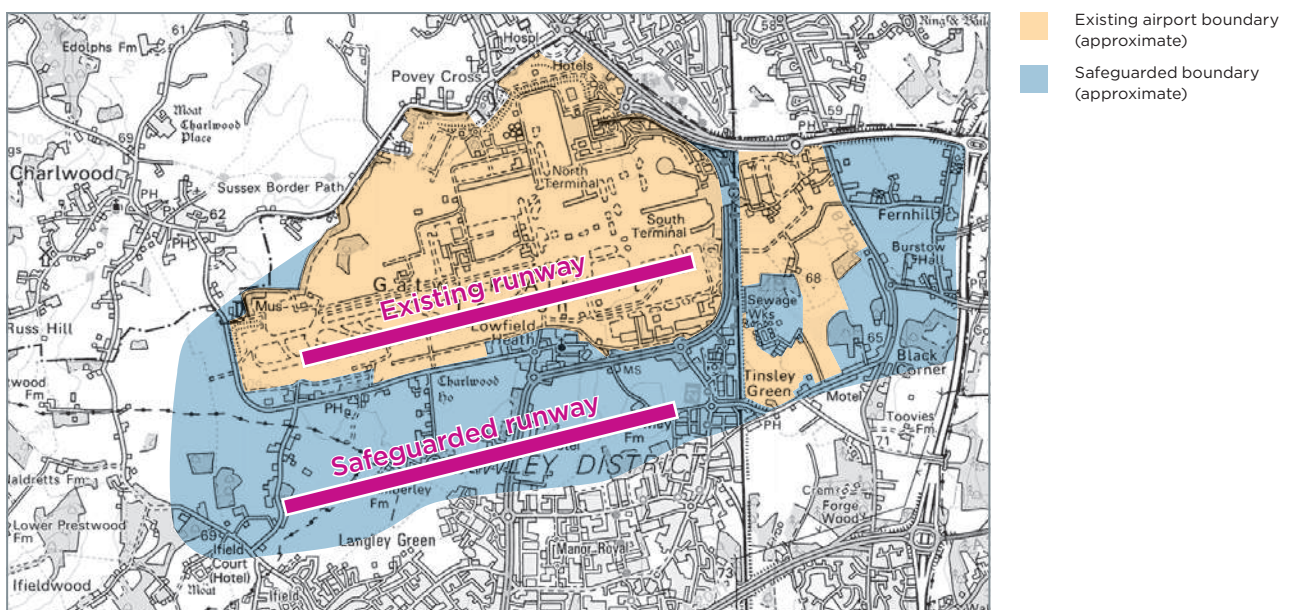
**Sections 8, 9 and 10:** Consider the cost of our main runway options and their operational and financial viability and deliverability.

<sup>1</sup> 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 years<sup>2</sup>. 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 CAP570<sup>3</sup> and RUCATSE<sup>4</sup> studies in the 1990s considered the provision of additional runways, and it was the SERAS<sup>5</sup> studies in the late 1990s and early 2000s that ultimately led to the 2003 Air Transport White Paper<sup>6</sup> (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 agreement<sup>7</sup>. 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



<sup>2</sup> A summary of previous Gatwick expansion studies can be found in "Tangled Wings" by Brendon Sewill  
<sup>3</sup> Traffic distribution policy and airport and airspace capacity: the next 15 years - Civil Aviation Authority July 1990  
<sup>4</sup> Runway Capacity to Serve the South East - Department of Transport July 1993  
<sup>5</sup> South East and East of England Regional Air Study - Department of Transport Local Government and the Regions 2000 to 2003  
<sup>6</sup> The Future of Aviation White Paper, Department for Transport, December 2003  
<sup>7</sup> 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)<sup>8</sup> 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%<sup>9</sup> 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.

<sup>8</sup> BAA airports market investigation, Competition Commission, 2009

<sup>9</sup> IATA PaxIS data, contained in SH&E forecasts

<sup>10</sup> 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 airports<sup>10</sup>.

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 London<sup>11</sup>. 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?

<sup>11</sup> 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 18m<sup>12</sup> were transfer passengers<sup>13</sup>. 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 World<sup>14</sup>. 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 support<sup>15</sup> 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)



<sup>12</sup> The 13% transfer percentage used earlier.

<sup>13</sup> 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

<sup>14</sup> *Aviation Connectivity and the Economy, Discussion Paper 02, Airports Commission, 2013, Table 2.1*

<sup>15</sup> 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)					
	2012	2032	2052	20yr CAGR	40yr CAGR
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%
<b>Total</b>	<b>135</b>	<b>199</b>	<b>248</b>	<b>2.0%</b>	<b>1.5%</b>

SOURCE: ICF SH&E

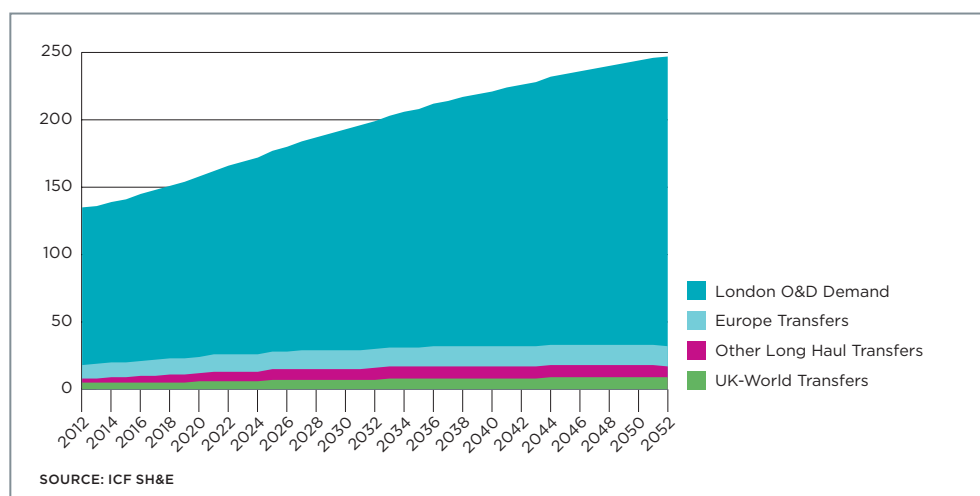
- 2.18 These unconstrained forecasts are comparable to the latest DfT forecasts<sup>16</sup>, although they are produced on a slightly different basis, and a comparison is included in Appendix 2.
- 2.19 ICF SH&E then produced a breakdown of the London O&D traffic forecasts for 2032 and 2052 into the markets that would be served. This is shown in Table 2 below.

**TABLE 2:**  
BREAKDOWN OF O&D TRAFFIC FORECASTS

Origin & Destination Traffic 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%
<b>Total London O&amp;D</b>	<b>117</b>	<b>169</b>	<b>215</b>	<b>1.9%</b>	<b>1.5%</b>

SOURCE: ICF SH&E

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



SOURCE: ICF SH&E

<sup>16</sup> 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

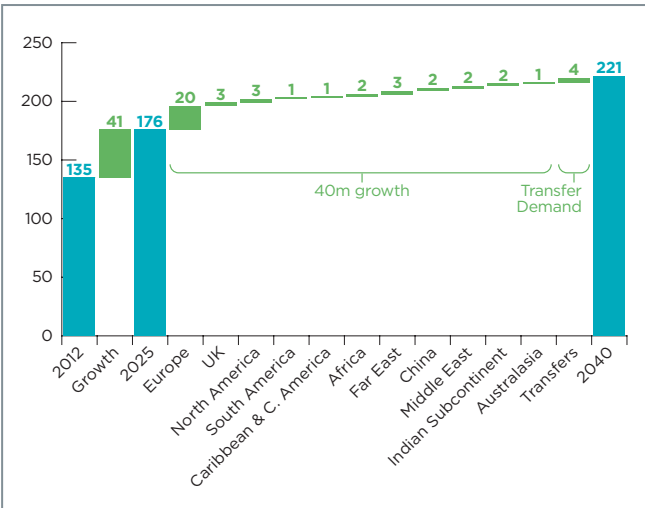
2.23 A very important conclusion to be drawn from this analysis is that focusing the solutions for future aviation capacity on a mega hub, on the premise that only it can deliver this relatively small proportion of transfer passengers, is not the obvious way to maintain the UK's and London's current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

**WHEN MIGHT A NEW RUNWAY BE NEEDED?**

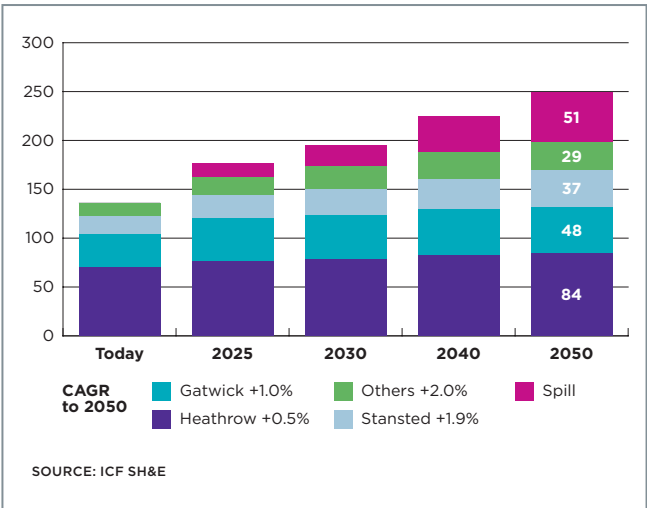
2.24 The unconstrained forecast base case - which forms the starting point for capacity requirements - starts by considering what might happen if **no new runway capacity** was added during the forecast period to 2052.

- 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)



## Section 2: Strategic Fit

- 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:

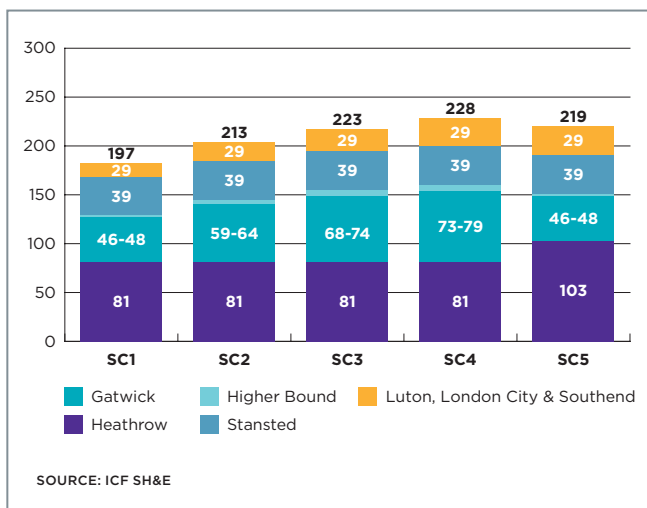
*The vast majority of traffic to be accommodated is O&D*

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



## Section 2: Strategic Fit

*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.

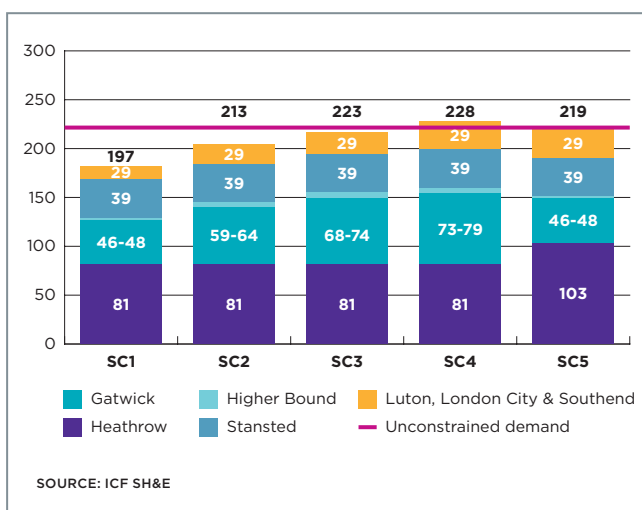
*An additional runway at Gatwick can provide as much connectivity as expanding Heathrow*

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.

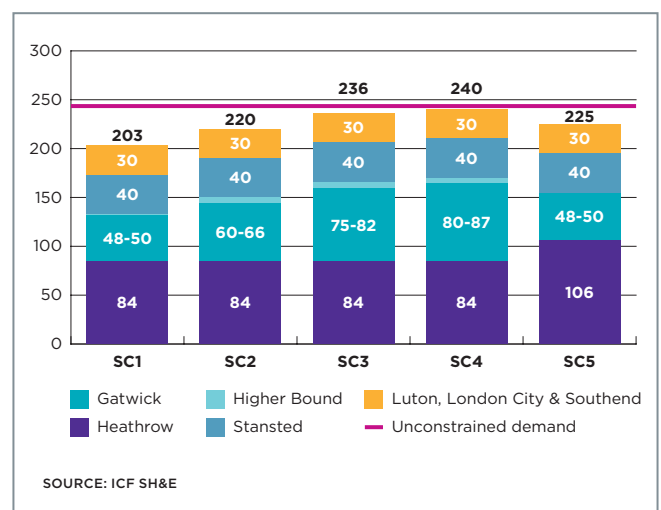
2.37 However, the Airports Commission wishes also to explore whether the connectivity of London will be maintained given the patterns of future demand that they are considering. We therefore commissioned InterVISTAS<sup>17</sup> to analyse the connectivity which would be provided by expanding Gatwick, 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



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

## Section 2: Strategic Fit

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 runway<sup>18</sup>, 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
<b>Heathrow</b>	297	356	282	302
<b>Gatwick</b>	59	64	151	112
<b>Total</b>	<b>356</b>	<b>421</b>	<b>434</b>	<b>414</b>
		<b>(+18%)</b>	<b>(+22%)</b>	<b>(+16%)</b>

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 Gatwick<sup>19</sup>. 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.

<sup>18</sup> As explained above, an environmental limit is assumed for Heathrow

<sup>19</sup> 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 an event not a classic hub

- 2.47 In its Discussion Paper 04<sup>20</sup>, the Airports Commission separates airports into “focal” airports and “non focal” airports. In our response to the discussion paper on Airport Operating Models<sup>21</sup>, 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-quarter<sup>22</sup> 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.

<sup>20</sup> Airport Operational Models Discussion Paper 04, Airports Commission, May 2013

<sup>21</sup> Response to Airports Commission Discussion Paper 04 on Airport Operational Models, Gatwick Airport Ltd, July 2013

<sup>22</sup> 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 Neufville<sup>23</sup> 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 criteria<sup>24</sup> 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.

<sup>23</sup> Professor of Engineering Systems and Professor of Civil and Environmental Engineering at MIT  
<sup>24</sup> 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 Framework<sup>25</sup>. 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 paper<sup>26</sup> 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.

<sup>25</sup> Aviation Policy Framework, Department for Transport, March 2013

<sup>26</sup> Response to Discussion Paper 03 on Aviation and Climate Change, Gatwick, May 2013

# Section 2: Strategic Fit

### 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.

## Section 2: Strategic Fit

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.

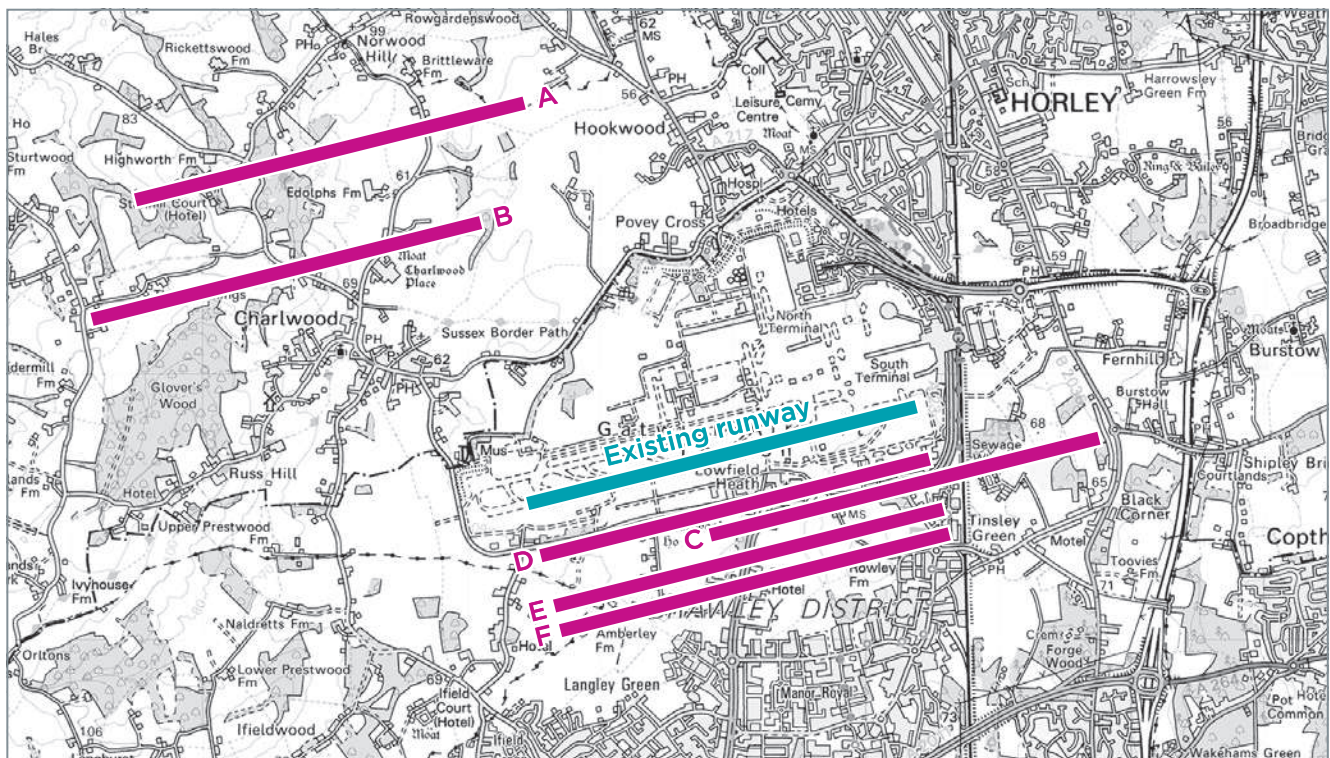
- i) Parallel runways located to the north of the airport and staggered to the west:
  - Option A (wide spaced) considered in RUCATSE and SERAS
  - Option B (wide spaced) considered in RUCATSE

- 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



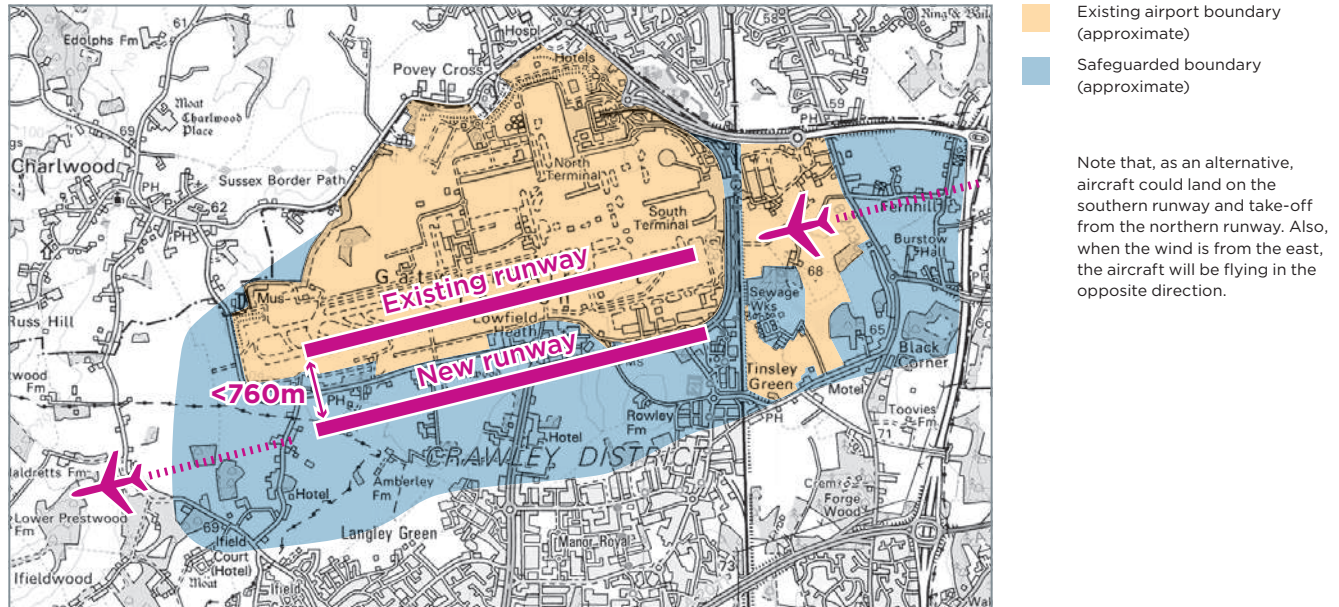
## Section 3: Options for providing additional runway capacity at Gatwick

- 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 runways<sup>27</sup> 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.

<sup>27</sup> 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

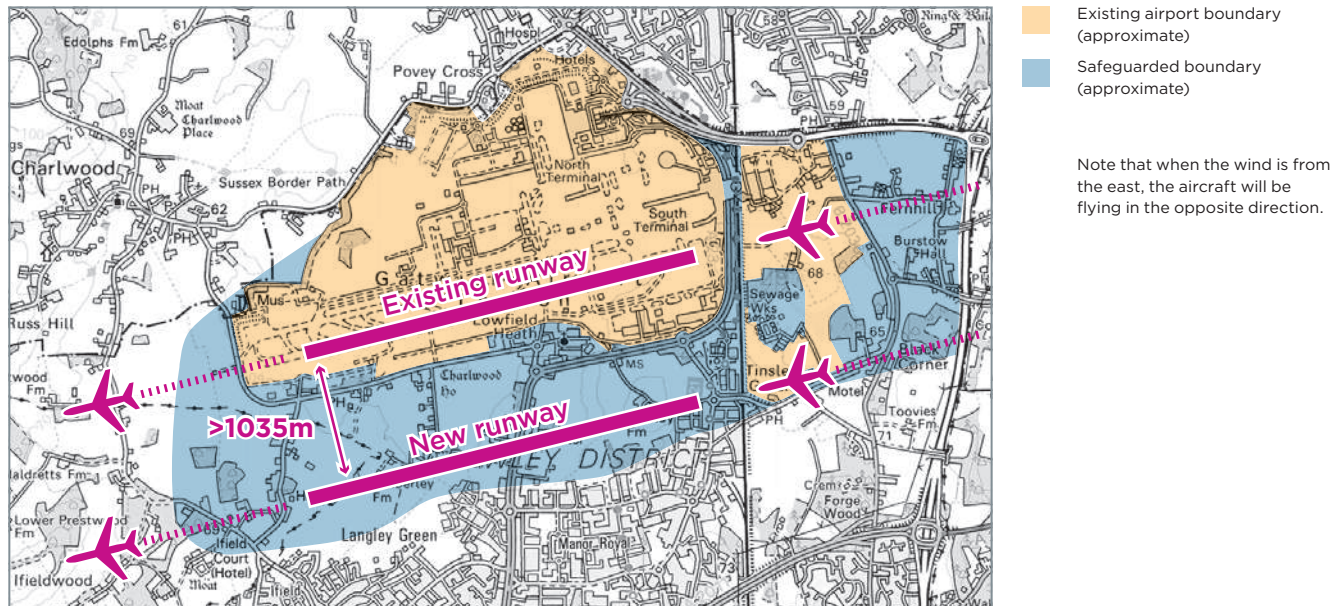


## Option 2: Independent Segregated Mode

- 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
<b>Base Case (existing runway)</b>	Single runway	45-46m	47-48m	48-50m
<b>Second Runway Option 1</b>	Close spaced dependent segregated mode	56-58m	58-64m	60-66m
<b>Second Runway Option 2</b>	Wide spaced independent segregated mode	59-61m	72-74m	75-82m
<b>Second Runway Option 3</b>	Wide spaced mixed mode	60-63m	76-79m	80-87m

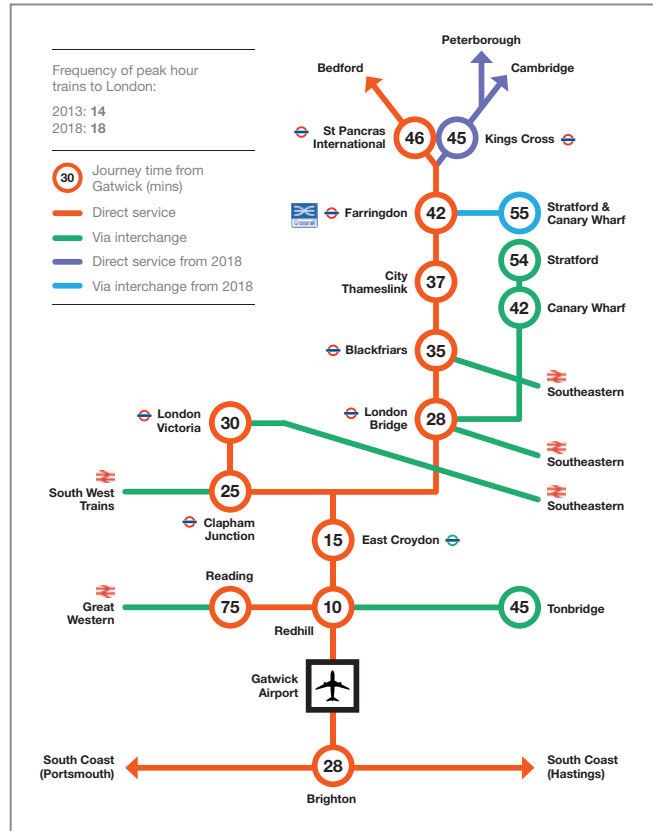
SOURCE: ICF SH&E

# Section 4: Surface Access

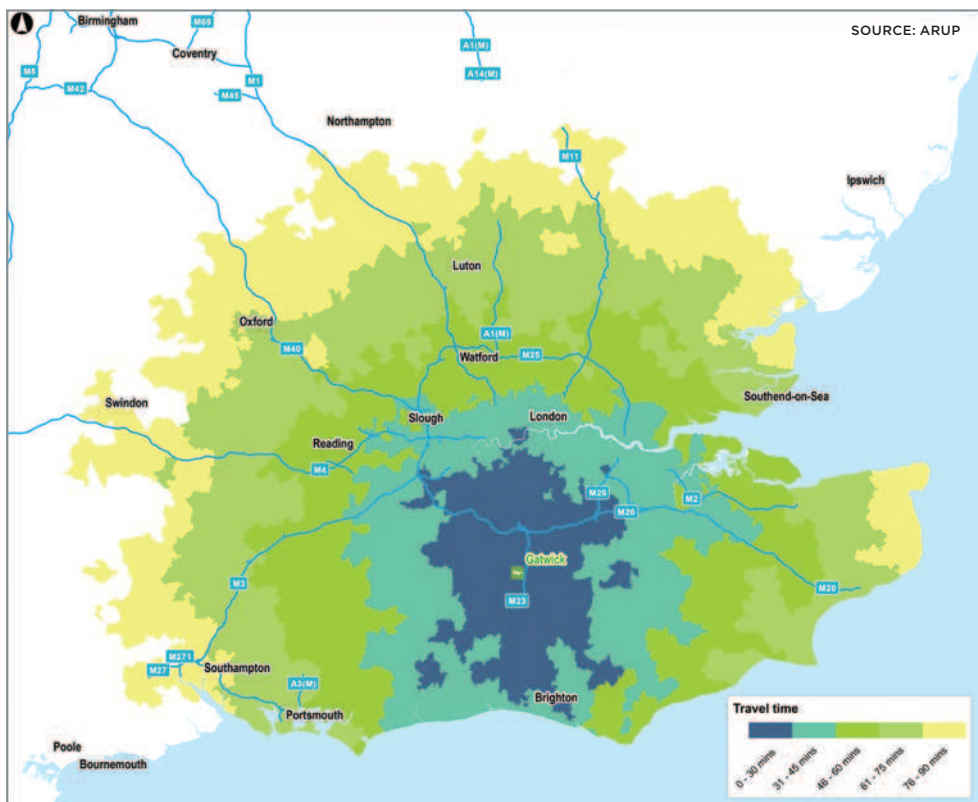
## GATWICK AND SURFACE ACCESS CONNECTIVITY

- 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 1/4 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 Oxera<sup>28</sup> 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

<sup>28</sup> 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

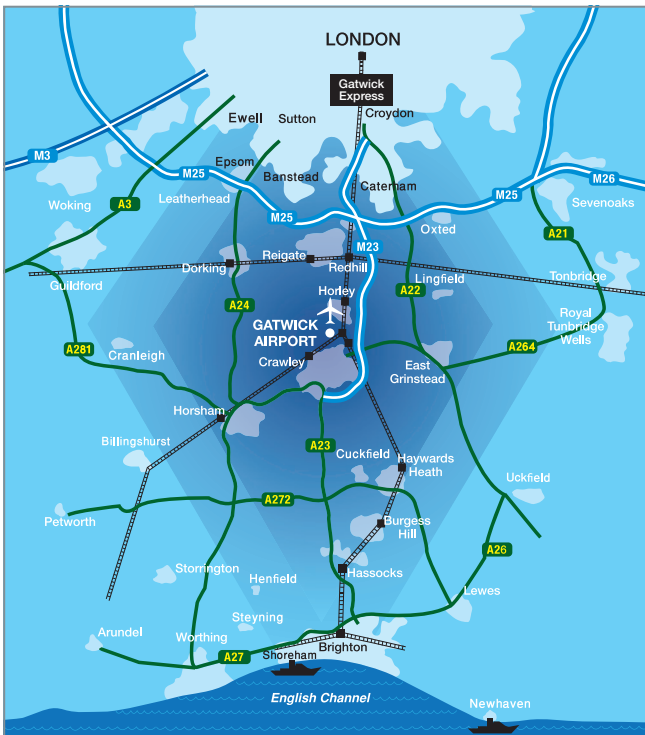
#### Local and Regional Context

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 NO<sub>2</sub> 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<sub>x</sub>) and Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>) 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 NO<sub>2</sub> levels are continuously monitored at two fixed sites – ‘RG1’ and ‘RG2’ - within the Horley AQMA. The results of our NO<sub>2</sub> 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 NO<sub>2</sub> 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 <sup>3</sup> )	24.92	26.10	26.49	26.86
RG2 (µg/m <sup>3</sup> )	28.58	29.75	30.40	30.54

Note: The current NO<sub>2</sub> limit for RG1 and RG2 in the AQMA is 40 µg/m<sup>3</sup>

### 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 CO<sub>2</sub> 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<sub>Leq</sub> AND 57dBA<sub>Leq</sub> CONTOURS FOR MAIN RUNWAY OPTIONS

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

**TABLE 8:**  
POPULATION AND AREAS IN 54dBAL<sub>den</sub> AND 57dBAL<sub>den</sub> 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 <sub>den</sub> (DBA)	15,300	21,300	37,300	42,800	16,700
Area of 54dBAL <sub>den</sub> (km <sup>2</sup> )	106.5	139.6	160.2	184.8	112.7
Population in 57dBAL <sub>den</sub>	6,900	7,200	15,300	22,300	7,400
Area of 57dBAL <sub>den</sub> (km <sup>2</sup> )	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)<sup>29</sup>. 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 options<sup>30</sup>.
- 6.14 Currently around 3,050 people fall within the 57dBA<sub>Leq</sub> noise contour. With growth of the airport on its single runway to 40mppa in 2020/21, the population living within the 57dBA<sub>Leq</sub> 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<sub>Leq</sub> 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 overflowed, or little overflowed, 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<sub>Leq</sub> AND 57dBAL<sub>den</sub> CONTOUR

Option	Schools		Hospitals		Places of worship	
	57dBA <sub>Leq</sub>	57dBAL <sub>den</sub>	57dBA <sub>Leq</sub>	57dBAL <sub>den</sub>	57dBA <sub>Leq</sub>	57dBAL <sub>den</sub>
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

<sup>29</sup> 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).

<sup>30</sup> Whilst the 57dBA<sub>Leq</sub> 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<sub>Leq</sub> contour that are affected by aircraft noise. The Government therefore recommends that assessment should not be confined to the 57dBA<sub>Leq</sub> contour. For this reason we also present results for the 54dBA<sub>Leq</sub> contour and, for comparative purposes, the 57dBA<sub>Lden</sub> and 54dBA<sub>Lden</sub> 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.





## **Airports Commission – Proposal for providing additional airport capacity in the longer term**

### ***Response by Kent County Council endorsed by Medway Council***

#### **Summary**

Kent County Council (KCC) and Medway fully support growth in UK aviation in order to improve the UK's connectivity and competitiveness thus supporting economic growth and job creation<sup>1</sup>. KCC and Medway advocate that the best solution to the UK's aviation hub needs in the longer term is to utilise, improve and expand existing airports. Provision of additional capacity at some existing airports, together with improved surface access by rail will facilitate better strategic use of the London/South East multi-airport system.

A 'dispersed hub' model or 'airport systems' approach will deliver the UK's connectivity requirements, provide much needed suitable capacity and could be delivered within the shortest possible timescale. Better utilisation of regional airports such as Kent's International Airport at Manston, Lydd Airport and Southend Airport, for point to point flights, will also release extra capacity and complement the main London airports that provide 'hub' operations.

KCC and Medway are of the belief that there is no sound evidence for a new hub airport in the Thames Estuary or off the Kent coast. There are many economic, social and environmental reasons against such a development; one of which would be the forced closure of Heathrow and the devastating impact this would have on the west of London economy. This would be harmful to the UK's global connectivity and be to the detriment of the national economy.

In KCC's previous submission to the Airports Commission on how to make the best use of existing airport capacity in the short and medium term, we outlined the significant spare capacity at the London airports of Stansted and Luton, and the significant potential for growth at the South East's regional airports of Southend, Manston and Lydd in Kent. There is also the potential for Birmingham airport to serve the London and South East market, especially with High Speed 2 (HS2) rail from 2026. We estimated that there is spare capacity for around 60 million passengers per annum (mppa) within the existing airport system in the short term; and the potential to increase this to its theoretical maximum of 112mppa in the medium term, using existing runways. Immediate action is also needed to correct the UK's competitive disadvantage in terms of Air Passenger Duty (APD).

In the longer term, with the additional runways outlined in this submission, we estimate that 210mppa could be accommodated by the existing London airports; and this could be increased to 280mppa if Birmingham Airport serves

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<sup>1</sup> 'Bold Steps for Aviation', Kent County Council, May 2012 with revisions July 2012, <https://shareweb.kent.gov.uk/Documents/News/Bold%20Steps%20for%20Aviation%20May%202012.pdf>

the London/South East market with HS2 connection. With better utilisation of regional airports in the South East and the applicable short and medium term measures to increase capacity at existing airports; system wide capacity is 318.5 million passengers per annum. This additional capacity and the connectivity that it provides, would meet the UK's aviation needs without a new hub airport and can be delivered in a much shorter timescale, as in the interests of the national economy the need to act is now.

KCC and Medway welcome the Airports Commission's call for proposals for providing additional airport capacity in the longer term and advocate the following strategic approach to providing the UK's aviation connectivity needs:

- Immediate action and a long term commitment to keep UK airports competitive with European airports in terms of Air Passenger Duty (APD). This currently has a negative impact on the UK's global connectivity and is therefore damaging UK business and tourism; especially to long haul and emerging economies as the UK loses out to its European competitors.
- A second runway at Gatwick to be delivered soon after the 2019 planning agreement ends. Gatwick is approaching its capacity limit for a single runway airport and additional runway and terminal facilities in the mid 2020s will allow the airport to grow and compete as a 'hub' airport with Heathrow; therefore providing increased long haul connectivity for the UK.
- A second runway at Stansted to be delivered when the need arises, most likely in the 2030s when all London airports (with their current capacity) are forecast to be full.
- Encouragement of competition between the London airports of Heathrow, Gatwick and Stansted, each with two runways, so that a 'dispersed hub' model with a total of six runways spread across the London multi-airport system provides resilience, improved choice, better value and convenience for passengers.
- Consideration of a second runway at Birmingham Airport if the need arises, as a way of relieving demand on the London airports. The delivery of HS2 by 2026 will bring Birmingham Airport within 38 minutes of London.
- Better utilisation of regional airport capacity in the South East at Southend, Manston and Lydd airports in Kent, for point to point flights, complementing the main London airports that provide hub operations.
- Improved rail connectivity to airports to create an integrated air-rail transport system for London and the South East that facilitates sustainable surface access to the growing airports; and provides the potential for better integration of the London/South East multi-airport system.
- UK airports able to compete with European airports for global aviation with internationally agreed carbon emission limits that apply equally to all countries, therefore not disadvantaging the UK.

This submission is at a high level looking at the merits of a strategic approach to airport capacity. It satisfies the Airports Commission's sift criteria for long term options; although it is anticipated that individual airport operators in their own submissions will comprehensively assess all the factors in the Airports Commission's Guidance Documents for any proposed capacity increases at their individual airports.

To assist with our analysis for this submission, KCC commissioned research from the specialist aviation consultancy, Alan Stratford and Associates Ltd (ASA). Our submission in part contains extracts from their reports<sup>2</sup>, although all recommendations given are those of KCC and not necessarily those of ASA.

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<sup>2</sup> 'Examination of possible short and medium term options to improve capacity at UK airports', Alan Stratford and Associates Ltd, May 2013; and 'Examination of possible long term options to improve capacity at UK airports', Alan Stratford and Associates Ltd, June 2013

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**Immediate action and a Long term commitment to keep UK airports competitive with European airports in terms of Air Passenger Duty (APD)**

Table 1 shows the difference between APD for flights from the UK from 1 April 2013 as compared to other airports in Germany and the Netherlands.

**Table 1 Comparison of APD – UK, Germany and the Netherlands**

From	To Band A destinations - up to 2,000 miles, e.g. Europe		To Band B destinations - 2,001 to 4,000 miles, e.g. northern Africa, Middle East, North America		To Band C destinations - 4,001 to 6,000 miles, e.g. southern Africa, Caribbean, South America, India, Far East – India, China		To Band D destinations - over 6,000 miles, e.g. Australia, New Zealand	
	Reduced rate (lowest class)	Standard rate (any other class)	Reduced rate (lowest class)	Standard rate (any other class)	Reduced rate (lowest class)	Standard rate (any other class)	Reduced rate (lowest class)	Standard rate (any other class)
UK*	£13	£26	£67	£134	£83	£166	£94	£188
Germany**	To Europe, Russia, parts of northern Africa		To northern and central Africa, Middle East		To the rest of the world			
	€7.50 (£6.41)		€23.43 (£20.03)		€43.18 (£36.91)			
Netherlands***	Abolished APD							

\*source: Notice 550 Air Passenger Duty, March 2013, HM Revenue and Customs

\*\*source: [http://en.wikipedia.org/wiki/German\\_air\\_passenger\\_taxes](http://en.wikipedia.org/wiki/German_air_passenger_taxes) (accessed 22/05/13) and converted to £sterling at XE Currency Converter ([www.xe.com](http://www.xe.com)) on 23/05/13

\*\*\*source: <http://www.atab.org.uk/our-campaigns/air-passenger-duty/> (accessed 22/05/13)

Table 1 shows that APD in Germany is considerably lower than in the UK. The Netherlands after a period of APD increases decided to abolish the tax. The result is that with significantly lower taxation; flights to and from Amsterdam and Frankfurt are more attractive to business and leisure passengers than Heathrow. It is especially the case to and from long haul destinations where the difference in APD is most pronounced. Many of the world’s emerging economies are long haul and UK needs to improve its connectivity to these destinations. The net result is that UK business and tourism are negatively impacted, with inbound passengers lost to other European countries and outbound passengers either paying higher air fares or being deterred from travel.

A report by Parsons Brinckerhoff (2012) into ‘Greater South East Airport Capacity’ for the South East Local Enterprise Partnership (SELEP) states that according to World Travel Tourism Council, 91,000 jobs are being lost in the UK each year due to high APD and argue that by removing the tax it would result in £4.2 billion added to the economy within twelve months. Parsons Brinckerhoff agree that by reducing or removing the tax it would put the UK

back on an even footing with our European competitors and lead to a rise in seat availability<sup>3</sup>.

Correcting the UK's competitive disadvantage compared to its European competitor airports in regards to APD needs to be done immediately as urged in Kent County Council's submission to the Airports Commission on short to medium term measures. There also needs to be a long term commitment to keep APD in the UK competitive with Europe so that we do not continue to lose business to our European rivals. This issue, which significantly impacts on the cost of air travel, needs to be addressed along with the UK's airport capacity disadvantage compared to European hub airports.

### **Recommendation**

**Kent County Council recommends that the Government acts immediately and makes a long term commitment to keep UK airports competitive with European airports in terms of Air Passenger Duty (APD). APD currently has a negative impact on the UK's global connectivity and is therefore damaging UK business and tourism; especially to long haul and emerging economies as the UK loses out to its European competitors.**

### **Second Runway at Gatwick**

In 2012, Gatwick Airport handled some 34.2 million passengers with a total of some 240,000 air transport movements (ATMs). It is the second largest airport in the UK with almost twice the traffic levels of the third and fourth airports, Manchester and Stansted.

Whilst there is some slot availability in off-peak times, the airport is at capacity for much of the day. During such periods, the only option for increased passenger throughput is through the use of larger aircraft, although this may not be economically viable for airlines. It is the busiest single runway airport in the world and the airport's estimate of its absolute capacity, which would be reached in the mid-2020s, is around 45 million passengers per annum. Until 2011, Gatwick was part of BAA plc, however, following an investigation by the Competition Commission, the airport was sold to Global Infrastructure Partners (GIP), a US-based private equity company specialising in the infrastructure sector.

In 1979, the then British Airports Authority (which subsequently became BAA plc) signed an agreement with West Sussex County Council (WSCC) under which the airport operator undertook not to construct a second runway at Gatwick before 2019. As such, it was analysed but not taken further in the South East Regional Air Services (SERAS) second edition study in 2003<sup>4</sup>,

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<sup>3</sup> 'Airport Study for the South East Local Enterprise Partnership: Research Study – Greater South East Airport Capacity', Parsons Brinckerhoff, May 2012

<sup>4</sup> 'The Future Development of Air Transport in the United Kingdom: South East. 2<sup>nd</sup> Edition', Department for Transport, February 2003

which led to the White Paper, 'The Future of Air Transport in the UK' (2003)<sup>5</sup> which recommended new runways at both Heathrow and Stansted.

Despite this, Gatwick Airport's Interim Master Plan (2006)<sup>6</sup> dealt in some detail with a scenario in 2030 in which Gatwick would be enlarged with a second runway and full range of supporting airport facilities, whilst recognising the 2019 legal constraint. Two possible options were considered; a narrow spaced and a wide spaced runway to the south of the existing runway; with the wide spaced runway the more preferable option. As such, BAA plc took measures to safeguard the relevant land against possible development.

Under its current ownership by GIP, in their 2012 Master Plan<sup>7</sup>, Gatwick Airport stated that they had no current plans for a second runway and reiterated that they were fully committed to the 1979 legal agreement with WSCC precluding the construction of a new runway before 2019. Nevertheless, while the focus of the 2012 Master Plan was firmly on improving the existing single runway airport, they believed that there was a possibility that a second runway may be needed sometime in the future. Gatwick Airport would therefore continue to safeguard land for future expansion because they believe it to be sensible business practice.

Since the publication of the 2012 Master Plan, Gatwick has formally declared its intent that it plans to provide detailed evidence to the Airports Commission on its case for a second runway. Gatwick's CEO, Stuart Wingate, has also presented its case to the House of Commons Transport Select Committee<sup>8</sup> as part of its inquiry in the options for new airport capacity in the UK. It should however be noted that there is currently little information on the airport's latest plans in the public domain so further assessment will be needed by the Airports Commission.

### Runway Layout Options

The current preferred option is a wide spaced runway to the south of the existing runway with a least 1,035 metres between the two runways. Whilst both a narrow spaced second runway would be preferable to a wide spaced runway on environmental grounds, it would not provide the full capacity benefits given by independent mixed mode operations, when both runways can handle a combination of arriving and departing aircraft. This separation is, however, relatively narrow when compared to other airports, for example, the current arrangement at Heathrow (1,460m separation) and that originally proposed by BAA for a second runway at Stansted Airport (2,200m separation). The two runway airport wide-spaced layout as shown in the consultation document<sup>9</sup> for the 2003 White Paper is shown in Figure 1.

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<sup>5</sup> 'The Future of Air Transport', Department for Transport, December 2003

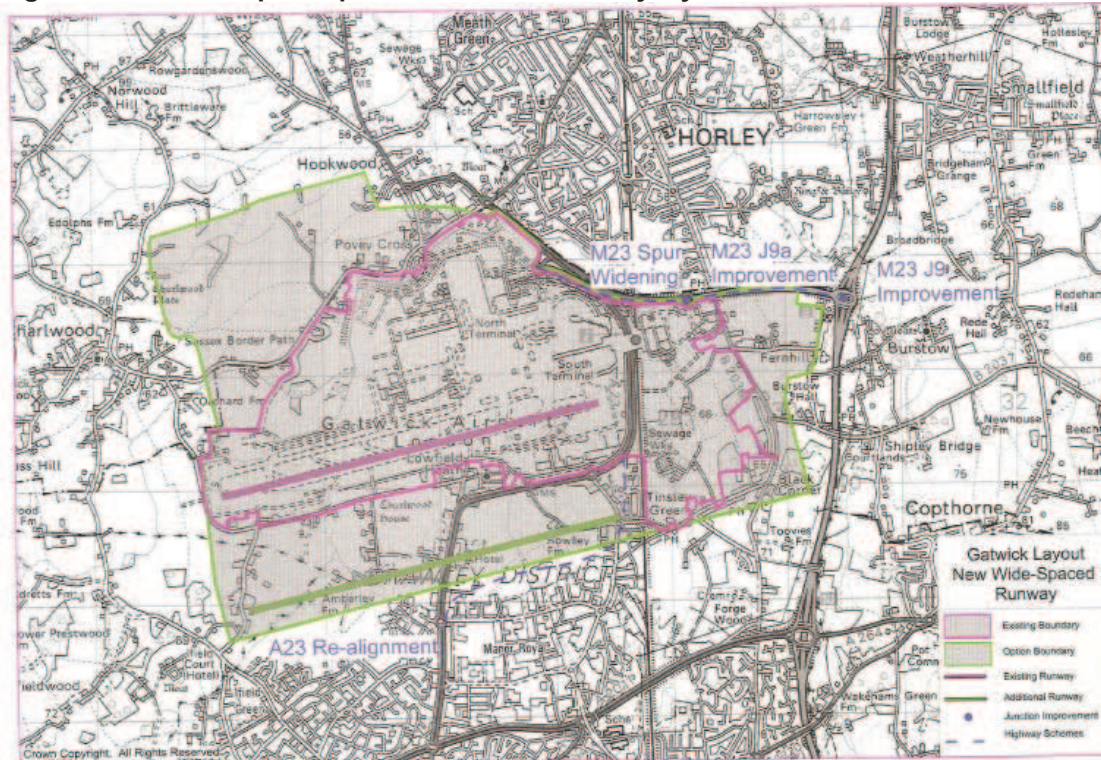
<sup>6</sup> 'Gatwick Airport Interim Master Plan', BAA, October 2006

<sup>7</sup> 'Gatwick Master Plan', Gatwick Airport Ltd, July 2012

<sup>8</sup> 'House of Commons Transport Select Committee – Oral Evidence', 3 December 2012

<sup>9</sup> 'The Future Development of Air Transport in the United Kingdom: South East. Second Edition', DfT, February 2003

Figure 1 Gatwick Airport – potential second runway layout



Source: *The Future Development of Air Transport in the United Kingdom: South East. Second Edition*, DfT, February 2003.

The airport currently proposes that a third passenger terminal is built between the two runways. The area for landside airport facilities to the east of the railway would need to be substantially extended to accommodate a transport interchange, including areas for coach parking, car rental, car parks and front-line ancillary facilities such as offices and hotels.

Local Environmental Impacts

It is believed that construction of the second runway would require the demolition of some 17 listed buildings, including the Church of St Michael’s and All Angels in Lowfield Heath and Gatwick’s original ‘Beehive’ terminal. Some of these buildings might be dismantled and rebuilt elsewhere in the vicinity. In any event, this impact is arguably less than that of a third runway at Heathrow, where a larger residential area (the village of Sipson) would need to be demolished. It would also require the re-alignment of the A23 and the southern runway would be some 400 metres from the residential boundary of the town of Crawley at Manor Royal, whilst the airport boundary would be just 100 metres from this residential boundary. Inevitably, this proximity has caused some concern to local residents.

Whilst Gatwick is still undertaking its own detailed assessments, studies by Boeing<sup>10</sup> and by FTI Consulting<sup>11</sup> suggest that the noise impact of a second

<sup>10</sup> ‘Point to Point: Financial Trends in Commercial Aviation’, Boeing, December 2005

<sup>11</sup> ‘The Importance of Aviation Infrastructure to Sustainable Economic Growth’, FTI Consulting, October 2011



runway would be less than that for a third runway at Heathrow. Boeing has forecasted that just 13,200 people would be within the 57 dBA noise contour in comparison to some 304,000 people at Heathrow. If stricter measures are used, eg 54 dBA, the numbers of people affected at Gatwick rises to 29,600 in comparison to 710,600 people at Heathrow. The size of the area concerned is 138.6 sq km at Gatwick rather than 254 sq km at Heathrow. These figures however reflect the fact that Heathrow would have three rather than two runways as at Gatwick.

The Aviation Policy Framework<sup>12</sup> states that the Government's overall policy on aviation noise is to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise. However, inevitably a new runway will mean that more people are affected by noise or the same people who are affected now will be subjected to more noise or more frequent noise. It is therefore imperative that measures are taken to minimise and mitigate this impact. Where this is not possible, compensation should be given to those affected. This must be applicable to noise impacts generated by both arriving and departing aircraft.

Studies have not yet been undertaken on other environmental impacts, although Gatwick maintains that, unlike the option of a third runway at Heathrow, a second runway would not breach NOx emissions limits.

### *Climate Change Impacts*

As far as CO<sub>2</sub> emissions are concerned, the impact is related to the additional traffic generated by any new runway and is not therefore specific to particular options. This is described further in a later section looking at climate change impacts for all airport runway options.

### *Economic Impacts*

A second runway at Gatwick would provide jobs and economic growth to west Kent, Sussex, Surrey and South London, particularly through improved surface access links to London and other parts of the UK. Gatwick Airport<sup>13</sup> estimate that with two wide spaced runways at full capacity in 2050, the potential employment generation might be expected to increase by some 18,800 to 61,000 (low productivity case) and add up to £1.66 billion (high productivity case) in GVA in the region.

### *Surface Access Improvements*

Road access into Gatwick is generally good via the M23/A23 and to the wider South East region via the M25. Hard shoulder running currently being implemented on the eastern section of the M25 towards the Dartford Crossing (junctions 5 to 7) should complement the existing dual four lane western

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<sup>12</sup> 'Aviation Policy Framework' Secretary of State for Transport, March 2013

<sup>13</sup> 'Airports Commission update', Gatwick Airport Ltd presentation, June 2013

section, although it is acknowledged that additional airport traffic would put increased pressure on the already congested M25.

The A23 to the south of the airport would need to be diverted and it is likely that Junction 9 of the M23 and the M23 Spur or the Airport Way link to the A23 would need to be improved. The capacity of the M23 between Junction 10 (Crawley) and Junction 9 (Gatwick Airport) is likely to need increasing due to weaving pressures from long distance traffic conflicting with airport traffic northbound in the morning peak; in addition to increased capacity needed on the long section between Junction 9 and 8 (M25), the cost of which would be significant, although hard shoulder running could be a solution<sup>14</sup>. Road connections into Central London via the A23 would also need to be upgraded.

Rail capacity between Gatwick and Central London, is also limited by the four track section between Purley and Windmill Bridge Junction just north of East Croydon. Over this four mile section, four other routes join the London to Brighton Line (LBL). To the north of Windmill Bridge Junction there are four tracks each on the routes to Victoria and London Bridge. If two extra fast tracks could be provided over this section it should provide significant extra capacity for fast services on LBL including those serving Gatwick. To achieve this it would be necessary to tunnel two additional tracks for part or all of this section. The above enhancement could also increase capacity on services from Gatwick to the South Coast as it would allow additional services to be provided. Also the current hourly South Croydon to Milton Keynes service could be extended to Gatwick if possible with an enhanced frequency to provide direct access to West Coast Main Line (WCML) corridor.

It would be beneficial to increase the frequency of the service between Gatwick and Reading from one train per hour (tph). This could be done initially by extending the existing 1 tph stopping service from Reading to Redhill to go onto Gatwick. As this service calls at all stations, it would be beneficial to increase the frequency of the current fast Reading to Gatwick service to 2 tph or more. These services need to reverse at Redhill to access Gatwick. To facilitate this service increase it may be beneficial to grade separate some of the movements at Redhill.

It would be possible to provide a service between Gatwick and mid Kent (Tonbridge and/or Maidstone or Ashford) with a reversal at Redhill. This should be considered if there is sufficient demand. This may require grade separation of the movements at Redhill and/or an additional platform. Network Rail has included the provision of an additional platform on the west side of Redhill Station in its initial plans for 2014-2019 (Control Period 5). If approved, this would facilitate both western and eastern access to Gatwick via Redhill. KCC's 'Rail Action Plan for Kent' (2011)<sup>15</sup> states that an hourly Ashford – Tonbridge – Redhill – Gatwick service would be beneficial. The business case for the service is being developed by KCC, with support from Gatwick Airport Ltd, to be a requirement of the new Thameslink or South Eastern Franchise.

<sup>14</sup> 'Airport Study for the South East Local Enterprise Partnership: Research Study – Greater South East Airport Capacity', Parsons Brinckerhoff, May 2012

<sup>15</sup> 'Rail Action Plan for Kent', Kent County Council, 2011

The further enhancement of services at Gatwick Airport may require additional platform capacity over and above the currently planned seven. This could be achieved either by providing more platforms at Gatwick, or by providing train turning facilities further south, e.g. at Three Bridges.

There is also a long-term issue of station capacity as the Brighton side of Victoria which serves Gatwick is likely to be at capacity around 2020. One method of partially alleviating this is through the CrossRail 2 Option B regional scheme.

As identified by Transport for London (TfL), CrossRail 2 Option B regional scheme would link the West Anglia Main Line (WAML) at Tottenham Hale, with the South Western Main Line (SWML) at Wimbledon. In the central area there would be stations at Angel, Euston/St Pancras, Tottenham Court Road, Victoria and Kings Road Chelsea. The north-eastern section of this route is ideal for providing enhanced capacity to Stansted. However, the south-western section would require some modification to provide additional capacity to serve Gatwick. This modification would be a short link to access the London to Brighton Line (LBL) fast tracks south of Clapham Junction. This would relieve the capacity problems at Victoria and on LBL through Clapham Junction and allow services to run between Gatwick and Stansted. This would make efficient use of rolling stock tailored for airport access operations and would improve the connectivity between the two airports. Also, through the interchange with CrossRail 1 at Tottenham Court Road, it would provide access to Heathrow from Gatwick and Stansted.

TfL estimate the cost of CrossRail 2 Option B to be between £13 million and £16 million. If TfL decides to proceed with this scheme and funding is available, it is projected that it could open around 2033.

### *Feasibility and Deliverability*

There is little doubt that a second runway is technically feasible although it would be subject to planning permission. Its cost is estimated at between £4 billion and £5 billion, which is likely to be considerably less than a third runway at Heathrow (estimated at some £10 billion in the 2002 SERAS study). A second runway is an affordable solution and would be provided entirely by private finance, should the airport's owners conclude that it is a worthwhile investment and national policy support is given for an expanded Gatwick. Inevitably there would be some opposition from local residents (e.g. the Gatwick Area Conservation Campaign) and other national groups.

In terms of passenger throughput, Gatwick Airport Ltd believes that the new runway would need to be built in the mid 2020s and the earliest it could be built is 2025. It would increase its overall capacity to some 70 million passengers or 500,000 ATMs per annum. It is geographically well placed in relation to London and the main South East regional conurbations and could develop as a second London hub airport to compete with Heathrow.

### **Recommendation**

**Kent County Council recommends that a second runway at Gatwick is delivered soon after the 2019 planning agreement ends. Gatwick is approaching its capacity limit for a single runway airport and additional runway and terminal facilities in the 2020s will allow the airport to grow and compete as a hub airport with Heathrow; therefore provides increased long haul connectivity for the UK. Investment in surface access infrastructure will also be required in order to facilitate passenger growth.**

### **Second Runway at Stansted**

In 2012, Stansted handled 17.5 million passengers with some 131,000 ATMs. Given the theoretical capacity of a single runway airport (approx. 40-45 million passengers per annum), this suggests that is operating at around 44% of its total capacity.

Despite rapid growth between the late 1990s and in the early part of the 2000s due to the low cost carriers, Ryanair and easyJet, traffic reached a peak of 23.8 million passengers per annum in 2007, but has declined annually since this date. This is due both to the current economic recession and the fact that these two low cost carriers now spread their operations more widely across all London airports.

A new runway at Stansted was proposed by the Government in its 2003 White Paper and remained BAA's policy as the Generation 2 (G2) proposals until these were formally abandoned on 24th May 2010.

The airport is now owned and operated by Manchester Airports Group (MAG), which also owns and operates three other UK airports. MAG agreed to buy the airport from Heathrow Airport Holdings, formerly BAA, on 18 January 2013, and the sale was completed for £1.5 billion on 28 February 2013. BAA had been required to sell the airport following a ruling originally made by the Competition Commission in March 2009.

MAG has publically stated that a second runway at Stansted is 'not a priority'. The Mayor of London however, is currently assessing an option of up to three additional runways at Stansted as an alternative to a Thames Estuary Airport in its own submission to the Airports Commission. The architectural firm, 'Make', has also funded its own study for a four runway airport and associated surface access infrastructure.

### **Runway Layout Options**

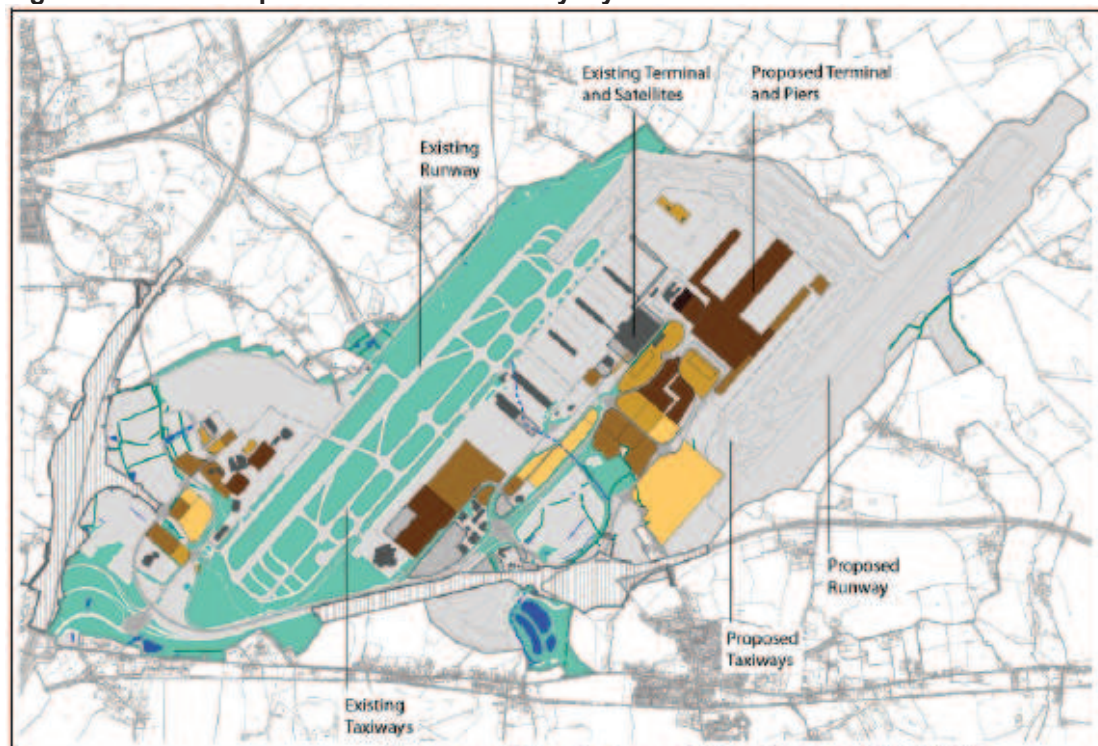
Stansted was designed by BAA plc to accommodate up to four runways. The layout shown in the 2003 White Paper<sup>16</sup> proposed a staggered wide spaced parallel runway to the East of the existing runway (see Figure 2). As both runways would operate independently on a mixed mode basis, they would

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<sup>16</sup> 'The Future of Air Transport', Department for Transport, December 2003

theoretically provide a total capacity of some 80-90 million passengers per annum.

**Figure 2 Stansted – potential second runway layout**



Source: 'The Future of Air Transport', 2002

### Local Environmental Impacts

From a noise perspective, Stansted has an advantage over the other London/South East airports (Heathrow, Gatwick, Luton and London City) in that aircraft would not fly over the congested London area. Apart from the town of Bishops Stortford to the southwest of the airport, the surrounding area has a lower population density than around the other London/South East airports. There are, however, concerns over blight, ancient woodlands and other areas of natural beauty.

### Climate Change Impacts

As far as CO<sub>2</sub> emissions are concerned, the impact is related to the additional traffic generated by any new runway and is not therefore specific to particular options. This is described further in a later section looking at climate change impacts for all airport runway options.

### Economic Impacts

A second runway at Stansted would potentially provide impetus to the economic development of the Lea Valley and the Cambridge corridors, particularly through improved surface access links to London and other parts of the UK.

### Surface Access Improvements

Stansted is connected to northeast London and Cambridge by the M11 motorway and to Braintree, Colchester and Harwich by the A120, which is dual carriageway until Braintree. The 2003 Air Transport White Paper<sup>17</sup> assumed that a two runway Stansted would require the capacity of the M11 south of the airport to be increased from three to four lanes with a new access to the airport from the motorway and new local access roads; therefore the G2 proposal promoted a new Junction 8b on the M11 and a new junction on the A120 to provide access to the proposed new terminal<sup>18</sup>.

In terms of rail access, Stansted Airport railway station is below the terminal building, with rail services to Cambridge, Leicester and the Midlands every 60 minutes operated by CrossCountry. The Stansted Express train runs to and from Liverpool Street station in London on the West Anglia Main Line (WAML) every 15 minutes and the journey time is 45 minutes to one hour. Stansted Airport<sup>19</sup> has estimated that if the rail journey time to London was reduced from 45 to 30 minutes (or there was an equivalent increase in service frequency) the airport could attract an additional 1.5 million passengers per annum.

The upgrade of the WAML between Broxbourne Junction and Coppermill Junction would provide for 8 tph to Stansted Airport from Liverpool Street and Stratford or from the proposed CrossRail 2, whose northern portal would probably be in the Coppermill Junction area.

To accommodate more than 8 tph on this route it may be necessary either to flight (group fast trains) services to avoid conflicts with services serving intermediate stations between Stansted and Broxbourne and/or increase capacity by widening to four tracks over all or part of this section (only the short section through Harlow Town Station is currently four track). Also to accommodate increases in service levels, it would probably be necessary to increase the number of platforms at Stansted Airport Station.

Further rail access improvement would be achieved through CrossRail 2 Option B regional scheme, which as previously described in the '*Second Runway at Gatwick – Surface Access Improvements*' section, would provide improved access to both Gatwick and Stansted. CrossRail 2 Option B regional scheme, would link the West Anglia Main Line (WAML) at Tottenham Hale, with the South Western Main Line (SWML) at Wimbledon. In the central area there would be stations at Angel, Euston/St Pancras, Tottenham Court Road, Victoria and Kings Road Chelsea. The north-eastern section of this route is ideal for providing enhanced capacity to Stansted. With some modifications, train services would also be able to run between Gatwick and Stansted. This would make efficient use of rolling stock tailored for airport access operations

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<sup>17</sup> 'The Future of Air Transport', Department for Transport, December 2003

<sup>18</sup> 'Airport Study for the South East Local Enterprise Partnership: Research Study – Greater South East Airport Capacity', Parsons Brinckerhoff, May 2012

<sup>19</sup> 'Airport Capacity in London', London Assembly, May 2013

and would improve the connectivity between the two airports. Also, through the interchange with CrossRail 1 at Tottenham Court Road, it would provide access to Heathrow from Gatwick and Stansted.

These enhancements would provide major benefits for domestic rail traffic in the relevant corridors as well as for airport access. In the meantime, the completion of CrossRail 1, projected for 2019, will greatly improve access to Liverpool Street particularly from the Thames Valley and Heathrow; and therefore will improve the rail accessibility of Stansted.

### **Feasibility and Deliverability**

A second runway at Stansted would be technically feasible although Alan Stratford and Associates Ltd believe that it would be more difficult to attract airlines to the expanded airport than to Heathrow or Gatwick. Historically Stansted has not been able to develop long haul services and it is not perceived as a major London airport by many non-UK originating passengers.

In terms of cost, G2 proposals for a new second runway and passenger terminal were estimated to cost in the order of £1.6 – 1.8 billion in 2007<sup>20</sup> (£2.0 - 2.2 billion at 2013 price levels), although this excluded major surface access improvements. It is currently unclear whether Stansted's new owners, MAG, would be willing to make the significant investment to double the airport's runway capacity, which already has significant room for growth on its existing single runway.

DfT forecasts indicate, a second runway would probably only be required between 2030 – 2040, dependent on provision of capacity at other airports and other possible measures.

### **Recommendation**

**Kent County Council recommends that a second runway at Stansted is delivered when the need arises, most likely in the 2030s when all London airports (with their current capacity) are forecast to be full.**

### **Competing London Dual Runway Hub Airports**

It has been suggested by Gatwick Airport Ltd that the main London airports of Heathrow, Gatwick and Stansted should be each be allowed to develop as two runway airports in order to maximise competition between them. In this way, the airports could develop on a 'level playing field'. Evidence was provided to the House of Commons Transport Select Committee<sup>21</sup> to suggest that Gatwick had attracted some long-haul services and that measures were being considered to integrate low-cost and other short-haul routes as feeders.

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<sup>20</sup> 'Review of the master plan options and costs of the Generation 2 proposals at London Stansted Airport', Alan Stratford and Associates Ltd, 2008

([www.alanstratford.co.uk/site/news.asp](http://www.alanstratford.co.uk/site/news.asp))

<sup>21</sup> 'House of Commons Transport Select Committee – Oral Evidence', 3 December 2012

It should however be noted that Gatwick's range of long-haul services is currently limited and primarily comprises services by Virgin Atlantic predominately to the Caribbean, by Garuda to Jakarta in Indonesia and Air China to Beijing. In Alan Stratford and Associates Ltd's view there is scope to expand this network, although they do not believe that a global alliance would be attracted to the airport, e.g. for transatlantic flights.

Alan Stratford and Associates Ltd state that it is debatable as to whether London could, or should, develop more than one hub airport. As previously indicated, there would be some reluctance for airlines and airline alliances to move from Heathrow, particularly as the main alliances are now, or will be, established on a terminal basis, e.g. BA/OneWorld in Terminal 5 (T5), Star Alliance in Terminal 2 (T2) and Skyteam in Terminal 4 (T4).

However, it is Kent County Council's view that by permitting a new runway at Gatwick and Stansted, coupled with improving the rail accessibility of those airports to open up the catchment areas to a wider market; it will present an opportunity for competition between airports that had not previously been possible.

British Airways (BA) holds the largest number of slots at Heathrow with 50.6% of the summer 2013 schedule<sup>22</sup>. This is the first summer season for which BA has held more than half of the slots and its increase from 44.1% in summer 2012 is due to the acquisition of bmi. This is matched by a significant growth in Virgin Atlantic's share, mainly due to the slot divestment for domestic services following BA's takeover of bmi. In summer 2001, BA held 36% of the slots and, by summer 2012, this had grown to 44.1%. BA's weekly slot holding in the summer season grew by 16% over the 11 year period; while capacity constrained Heathrow saw almost no growth in slots (less than 3%). Therefore BA and the Oneworld alliance dominate Heathrow.

Whilst the other alliances, Star and Skyteam, are investing significantly in Heathrow to operate out of their own terminals, the new T2 and refurbished T4 respectively, if their ability to grow is limited by a lack of runway capacity, with BA/Oneworld dominating the slots on the existing two runways; there is the possibility that in the future one or both of these other alliances may seek to relocate their hub operations to Gatwick (with a second runway) or even Stansted (with a second runway); where there would be available slot capacity. Given that most interlining passengers are intra-alliance transfers, airline alliances could base themselves at different airports in order to compete more effectively. This is very different to previously unsuccessful attempts to operate Gatwick as a hub airport with a single airline, British Airways, splitting its hub operations between Heathrow and Gatwick. A new competitive hub airline market would be created in the UK which could challenge the dominance of British Airways and Heathrow. Benefits to passengers arise through providing increased choice of airport which may

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<sup>22</sup> CAPA Aviation Analysis, Heathrow Airport's Slot Machine, May 2013



incentivise airlines and airports to drive down prices and improve customer experience.

Alan Stratford and Associates Ltd recognise that traffic demand at Gatwick within the next 10 years is likely to justify a second runway, for a combination of both point-to-point and hub traffic. This would provide some competition for Heathrow, particularly for non-aligned carriers. Indeed, Gatwick Airport Ltd's own vision for competition with Heathrow is not necessarily through attracting an airline alliance with a traditional hub and spoke model, but rather through attracting long haul carriers based on the strength of the London/South East origin-destination (O-D) market, without such a great need to supplement demand with transfer passengers from feeder traffic. Where this need exists and where there is demand, Gatwick are looking at ways of facilitating informal self made connections, i.e. low cost short haul to long haul connections. The airport is piloting 'Gatwick Connect', based on the 'ViaMilano' service at Milan Malpensa Airport, which allows passengers with self made transfers to check in and drop off their bags for their connecting flight in the arrivals baggage reclaim hall before proceeding landside and back through security; without the need to carry bags back through to departures and check in again. If there is demand, Gatwick have a long term vision to allow self-connecting passengers to remain airside<sup>23</sup>.

This type of competition between Heathrow and Gatwick does not necessarily need to detract Heathrow from being the UK's principal hub airport; rather it allows Gatwick to compete in the London airport market by catering for a different market segment. In terms of long haul, it may be possible that Heathrow focuses on the transatlantic North American routes and Gatwick on the Far East market. However, Gatwick does need to be able to expand, i.e. a second runway, for significant market growth to occur as the airport is close to its capacity limit for a single runway airport.

Only around a third of passengers at Heathrow are connecting passengers (33.6% in 2011<sup>24</sup>), compared to other hub airports with much higher levels of transfer traffic, e.g. Amsterdam Schiphol with 41% in 2012<sup>25</sup> and Frankfurt with approximately 54%<sup>26</sup> of passengers transferring in 2011. Therefore it could be argued that even Heathrow does not act as a 'true' hub, especially given that it only has two runways and therefore does not have the runway capacity to allow waves of arriving and departing flights with minimised connection times that 'true' hub airports can provide, e.g. Amsterdam has six runways and Frankfurt has four runways. Rather the origin-destination market, with London as a 'world city' and the high population of the South East region; supports the network of short and long haul services.

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<sup>23</sup> 'Making the best use of capacity in the short and medium term', Submission by Gatwick Airport Ltd, Ref Airports Commission: London Gatwick 006, 16 May 2013

<sup>24</sup> 'CAA Passenger Survey Report 2011', Civil Aviation Authority, 2011

<sup>25</sup> <http://www.schiphol.nl/SchipholGroup/Company1/Statistics/TrafficReview.htm> (accessed 18/06/13)

<sup>26</sup> [http://www.fraport.com/content/fraport/en/misc/binaer/press-center/facts-and-figures/jcr:content.file/zadafa-2012\\_e\\_lowres.pdf](http://www.fraport.com/content/fraport/en/misc/binaer/press-center/facts-and-figures/jcr:content.file/zadafa-2012_e_lowres.pdf) (accessed 18/06/13)

Cities such as Amsterdam and Frankfurt with hub airports have populations far less than London. Amsterdam has a population of only 821,000<sup>27</sup>, albeit serves a catchment area that encompasses one of the most densely populated countries in the world with the Netherlands population of over 16 million<sup>28</sup>. Frankfurt has a population within its metropolitan area of 2.6 million<sup>29</sup>, only Germany's fifth largest city<sup>30</sup>, although it is a hub airport for the most highly populated country in Western Europe. Compared to London however, with a population of 8.17 million, London is the most populous European city<sup>31</sup>, and there is double that population again, 8.6 million<sup>32</sup>, in the Greater South East region which the London airports serve. Therefore it could be argued that Amsterdam and Frankfurt are only able to support such dense route networks *because* they are hub airports with hub airlines. This is similar to Atlanta in the USA as Delta's hub; it is the busiest airport in the world with 89mppa in 2010<sup>33</sup> serving a metropolitan area with a population of 5.5 million<sup>34</sup>, but Atlanta is generally not regarded as a 'world city'. Dubai is rapidly becoming a major world hub for the state funded Emirates airline, but with an indigenous population of only around 2 million<sup>35</sup>, its growth is highly reliant on transfer passengers between Europe and Asia/Australasia connecting in Dubai.

It could be argued that London is a 'world city' that generates its own demand for flights and does not need a 'true' hub airport that is so dependent on transfer traffic to support its route network. This evidence would seem to support the vision of a dispersed model of multiple airports serving a major 'world city'. As well as providing competition and passenger choice, it also provides resilience with London less reliant on single airport, which is extremely disruptive when operations are restricted, for example in bad weather.

There are some examples of multiple airport systems in major 'world cities', although most of these involve non-competing airports. In the New York area, JFK is the largest airport with Delta and American Airlines, and whilst, there is some competition with Newark and its based airline United, for both international and domestic traffic, both airports primarily serve their own catchment area. New York's third airport, LaGuardia provides short haul services only. In the case of Tokyo, a second airport, Narita was built some 30 years ago to handle international traffic as the existing airport, Haneda had become full. Whilst Tokyo was once Asia's leading hub, it is now the seventh

<sup>27</sup> <http://www.amsterdam.info/> (accessed 18/06/13)

<sup>28</sup> <http://www.amsterdam.info/netherlands/population/> (accessed 18/06/13)

<sup>29</sup> <http://www.aviewoncities.com/frankfurt/frankfurtfacts.htm?tab=population> (accessed 18/06/13)

<sup>30</sup> [http://goeurope.about.com/od/frankfurt/p/frankfurt\\_info.htm](http://goeurope.about.com/od/frankfurt/p/frankfurt_info.htm) (accessed 18/06/13)

<sup>31</sup> <http://www.londoncouncils.gov.uk/londonfacts/default.htm?category=2> (accessed 18/06/13)

<sup>32</sup> <http://www.ons.gov.uk/ons/rel/mro/news-release/census-2011-result-shows-increase-in-population-of-the-south-east/census-south-east-nr0712.html> (accessed 18/06/13)

<sup>33</sup> <http://www.aci.aero/Data-Centre/Annual-Traffic-Data/Passengers/2010-final> (accessed 18/06/13)

<sup>34</sup> <http://www.atlanta.net/visitors/population.html> (accessed 18/06/13)

<sup>35</sup> <http://www.dsc.gov.ae/EN/Pages/DubaiInFigures.aspx> (accessed 18/06/13)

in terms of total traffic, which is largely due to the splitting of its airport operations.

However, there is academic research that supports multiple competing hubs that serve 'world cities' such as London and New York. De Neufville & Odoni (2003)<sup>36</sup> state that multi-airport systems exist in all the metropolitan areas that generate the largest amount of traffic, such as London and New York, and as a general rule multi-airport systems perform well for cities that are the largest generators of originating traffic, as can be seen with London's large origin-destination (O-D) market. They state that airports compete with each other for traffic and services; and the dynamics of this competition lead to concentration of traffic at the primary airports and volatile traffic at the secondary facilities. These effects can be seen in London with Heathrow as the main hub and the more volatile traffic, i.e. charter and low cost, at Gatwick, Stansted and then other secondary airports such as Luton and now more recently at Southend. However, until recently this was due to competition between airlines in their own markets, rather than competition between airports as Heathrow, Gatwick and Stansted were all owned by BAA. Since BAA was forced by the Competition Commission to break up the monopoly and sell Gatwick and Stansted, more competition between the airports is now beginning to be seen; and as previously described, could significantly change the airport market in London and the South East.

In addition, the latest technological advances in the aviation industry point to the fact that the shape of aviation operations could change in the future. The traditional hub and spoke aviation model may become less dominant with more point to point long haul services being provided by other airports. Such a scenario could operate to ensure UK connectivity remains amongst the highest in the world but without reliance on only one hub airport to provide this. The next generation of aircraft, such as the Boeing 787 'Dreamliner', a smaller plane (210-290 passengers) is capable of operating on long range routes. This means that non-hub airports, i.e. without significant numbers of transfer passengers, will be able to start to offer a full range of long haul destinations as the aircraft has sufficient range and requires just 210-290 passengers to fill its seating capacity. An aircraft of this size could achieve an economically viable loading from the large origin-destination (O-D) market of London through an airport such as Gatwick, without the aircraft being supplemented by passengers from feeder flights in a hub and spoke model, as is the case at Heathrow. This could enable long haul international connectivity to be provided at London airports other than Heathrow, i.e. at Gatwick and Stansted, and potentially across the country at regional airports if there is sufficient demand for long haul services from their catchment areas.

Heathrow's existing capacity of 70 million passengers per annum in combination with a two runway Gatwick, assuming that it could also handle 70mppa, gives a total capacity of 140mppa, equal to that of a new hub airport. In time, if Stansted also needs extra capacity, a two runway airport could

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<sup>36</sup> De Neufville, R. & Odoni, A. (2003) *Airport Systems: Planning, design and management*. McGraw-Hill, New York.

potentially add another 70 million passengers per annum, giving a total of 210mppa across three airports with a combined total of six runways.

### **Recommendation**

**Kent County Council recommends that in combination with Heathrow's two existing runways, a second runway at Gatwick delivered within the next decade, and a second runway at Stansted delivered in the 2030s, will give London three main airports with a total of six runways and a combined capacity of around 210 million passengers per annum. This is sufficient capacity to serve the London/South East area without the need for an entirely new hub airport located in the Thames Estuary or elsewhere. The advantages of a dispersed hub model spread across the London multi-airport system is that it provides resilience if problems occur at one airport; competition between airports to improve choice, and provide better value and convenience for passengers; and reduced environmental impact with growth at existing airport sites rather than an entirely new airport developed on land previously unaffected by aviation development.**

### **Second Runway at Birmingham Airport**

Birmingham Airport is situated some 6.3 miles southeast of Birmingham city centre in the West Midlands. It is the UK's seventh largest airport after Heathrow, Gatwick, Stansted, Manchester, Luton and Edinburgh airports. In 2012, it handled some 8.9 million passengers with some 84,000 ATMs, although traffic peaked at some 9.6 million in 2008. The airport primarily serves a catchment area covering the Midlands and the northern Home Counties, with some 10 million people living within 1 hour's drive time from the airport. It should be noted however, that in 2011, some 2.3 million passengers travelling to or from the Midlands area used one of the London/South East airports in preference to Birmingham or its nearby competitor, East Midlands Airport.

The airport has recently refurbished its passenger terminal by joining together the old T1 and T2 terminals into a single integrated unit. It is also currently in the process of extending its runway from 2,605m to 3,000m to increase the prospective range of destinations served. It was originally planned to build a tunnel for the A45 which crossed the extension (see Figure 3), although this road has now been diverted to the south of the extended runway.

The option for a second runway at Birmingham was assessed in the Government's 2003 White Paper, 'The Future of Air Transport in the UK'<sup>37</sup>, but was not taken forward. The Airport's Master Plan<sup>38</sup>, which was published in 2007 covered the period up to 2030 and did not envisage that a second runway would be required within this timescale. Since this date, some

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<sup>37</sup> 'The Future of Air Transport', Department for Transport, December 2003

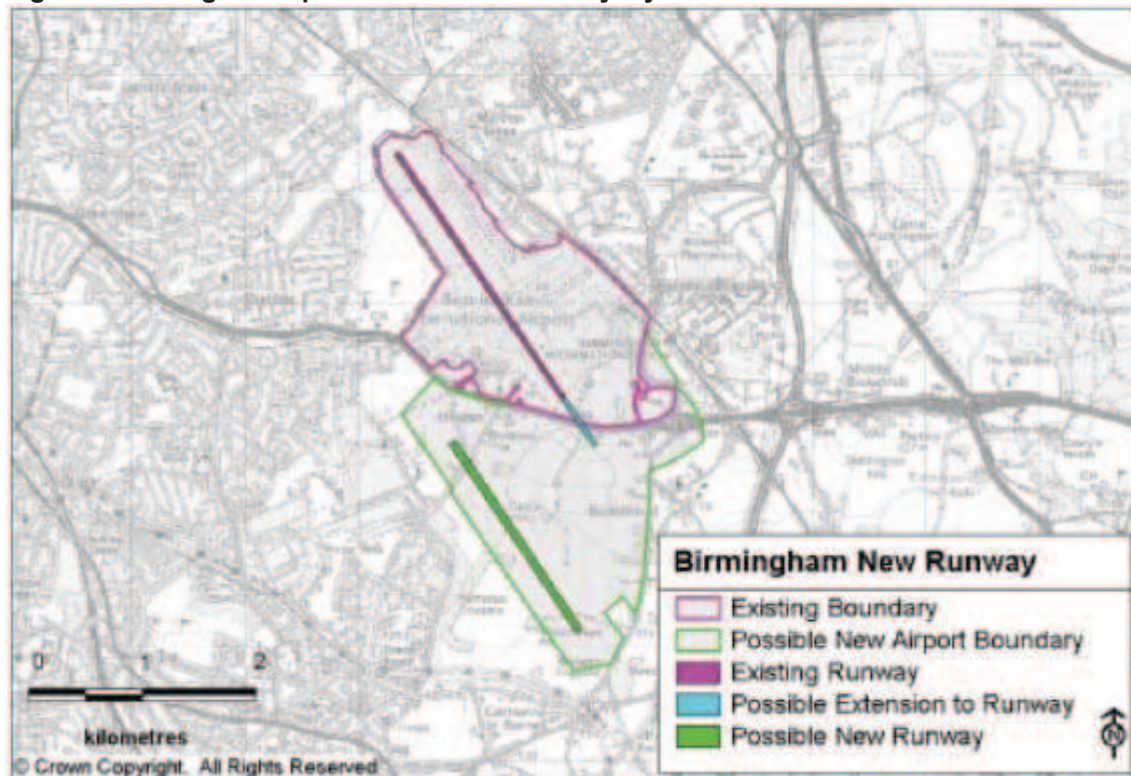
<sup>38</sup> 'Towards 2030: Preparing a sustainable future for air transport in the Midlands', Birmingham International Airport, 2007

Midland's MPs have suggested that this option should be reconsidered. It is not known whether the Airport will actively promote this option to the Airports Commission.

### Runway Layout Options

The proposed layout shown in the Government White Paper assumed that the second runway would be built to the south of the existing runway (see Figure 3).

**Figure 3 Birmingham – potential second runway layout**



Source: 'The Future Development of Air Transport in the UK: Midlands', 2002

### Local Environmental Impacts

The impact on people and on the natural and built environment would be significant. At its proposed location, the new runway would result in the loss of around 600 hectares of Green Belt land and 150 properties. Around 100,000 additional people would be forecasted to live within the 57 dBA noise contour as effectively there would be separate noise footprints for each runway.

### Climate Change Impacts

As far as CO<sub>2</sub> emissions are concerned, the impact is related to the additional traffic generated by any new runway and is not therefore specific to particular options. This is described further in a later section looking at climate change impacts for all airport runway options.

### Economic Impacts

With a second independent runway, the airport could theoretically handle about 70 million passengers per annum. In terms of economic impact, the 2003 White Paper consultation document<sup>39</sup> suggested that a new runway would be likely to provide around 15,000 more jobs than a 'maximum use' option for the existing runway.

### Surface Access Improvements

Road access is via the A45 dual carriageway road. The airport is close to Junction 6 of the M42 motorway, which links to the M1 motorway via the M6 and to the M40 for access to London and the South East. The 2003 Air Transport White Paper<sup>40</sup>, in the context of a new runway, stressed the need to improve public transport mode share and that road access, including capacity on M42 junctions 3 to 7 would need to be reviewed given both background and airport traffic growth. Congestion on the M42 has been addressed by Active Traffic Management / hard shoulder running and improvements to M42 Junction 6 were conditioned as part of the airport's planned runway extension; although the complex nature of this part of the M42 would make further additional capacity challenging<sup>41</sup>.

Rail access is through the elevated AirRail Link with Birmingham International railway station on the West Coast Main Line (WCML). London Midland and Virgin Trains currently operate from Birmingham New Street station to Birmingham International station approximately every 10 minutes (during the day time), with a journey time of 10 to 15 minutes. There are three services per hour to and from London Euston, the journey time being around 70 minutes. Birmingham New Street Station is currently being redeveloped in order to improve passenger facilities and increase rail capacity.

In the longer term, Birmingham Airport will be directly accessible via the HS2 high speed rail line. Phase 1 of HS2 between London and Birmingham is planned to open in 2026. This will include the Birmingham Interchange Station which will be around one mile from Birmingham Airport, to which it would be linked by a people mover. This will be served by 3 trains per hour (tph) from Euston with a journey time of 38 minutes including an intermediate stop at Old Oak Common to connect with CrossRail and Heathrow Express. Birmingham Airport<sup>42</sup> estimate that the first phase of HS2 could bring more than three million additional people who live within key population centres to be within one hour of the airport by rail; bringing a total of six million, or a doubling today's total catchment, within an hour's travel time by rail. A further 2 million, or a 163% increase, will be within an hour's travel time by rail when Phase 2 of HS2 opens in 2033.

<sup>39</sup> 'The Future Development of Air Transport in the United Kingdom: The Midlands', DfT, 2002

<sup>40</sup> 'The Future of Air Transport', Department for Transport, December 2003

<sup>41</sup> 'Airport Study for the South East Local Enterprise Partnership: Research Study – Greater South East Airport Capacity', Parsons Brinckerhoff, May 2012

<sup>42</sup> 'Helping Birmingham Airport become more accessible by rail from across Britain', Birmingham Airport, report by Steer Davies Gleave, June 2013

A commitment has not yet been made on the detailed changes to the existing London to Birmingham services after HS2 is opened. It is likely that some of the existing intercity 3 tph would be retained to link intermediate stations, particularly Coventry. The economic appraisal of HS2<sup>43</sup> assumed that 2 tph would be retained, although with some additional stops while the slow services would be reduced to 2 tph. It is likely that any released train paths would be required for local services.

With HS2 Phase 1 therefore, Birmingham Airport is likely to be served from Euston by 3 tph from HS2, and 4 tph slower services via the existing line with journey times between around 80 and 120 minutes. HS2 is likely to have premium fares.

Phase 2 of HS2 will extend the line to Manchester and Leeds. This is programmed to be completed in 2033. This phase may also include a link to Heathrow Airport. Birmingham International would be served by 5 tph from Euston and 2 tph from Heathrow.

### *Feasibility and Deliverability*

There are no technical issues which would prevent the development of a second runway at Birmingham Airport, although it is unknown if the airport has the aspiration and ability to make the significant investment needed to double its runway capacity.

It is recognised that the airport will have potential for growth as the London/South East airports become increasingly capacity constrained over the next 15-20 years. HS2 will give the airport increased connectivity, although the use of premium fares on the high speed service could impact on whether it will be used by a high proportion of passengers based in the London/South East area. It may also struggle to attract passengers from the North West where Manchester already has a second runway and substantial scope for growth.

### *Recommendation*

**Kent County Council recommends that in the longer term consideration is given to a second runway at Birmingham Airport if the need arises, as a way of relieving demand on the London airports, which may become significant with the airport accessible from London within 38 minutes when HS2 opens in 2026.**

### **Utilisation of Regional Airport Capacity**

The UK has a substantial number of smaller regional airports which are underutilised. Whilst a number of these are currently unprofitable and will find it difficult to compete against larger airports as surface access links improve, there are some certain niche airports which can contribute towards the UK's

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<sup>43</sup> 'Updated Economic Case for HS2, Explanation of the Service Patterns', January 2013

capacity shortage in the longer term, particularly in the South East. The Aviation Policy Framework<sup>44</sup> states its support for airports across the UK and acknowledges the growth and importance of airports outside of London.

### **London Southend Airport**

The Stobart Group has invested significantly in Southend Airport since its acquisition in 2008 and was successful in attracting a based low cost carrier in 2012. It is an example of what can be achieved at a regional airport in the South East to cater for demand both locally and from the wider South East, despite sharing catchment areas with the major London airports; therefore is playing a valuable role to address the London/South East airport capacity shortage. Although limited by runway length (1,905m having recently been extended), Southend has developed a small network of European low cost services in just two years and is set to consolidate this market in the longer term, which takes the pressure off the other London/South East airports. London Southend Airport, which handled some 616,974 passengers in 2012, has the current capacity to accommodate up to 2 million passengers per annum, therefore currently has around 1.4mppa of spare capacity. In the longer term, this capacity could be increased allowing the airport to handle a significant share of the short haul point to point low cost market.

### **Local Environmental Impacts**

The airport is situated on the edge of the large urban area of Southend and therefore will inevitably have issues with noise pollution as the air traffic increases. The airport has received over 1,000 claims for compensation over aircraft noise since flights at the airport increased significantly<sup>45</sup>.

### **Economic Impacts**

Over £100 million has been invested by the Stobart Group in Southend Airport since 2008 and has created more than 500 new jobs on site<sup>46</sup>. A £10million extension to the new terminal is set to open by December 2013. This will enable 300 new local jobs which will arise from the increase in Southend based aircraft over time; resulting in a variety of additional operational and service roles<sup>47</sup>.

### **Surface Access Improvements**

Road access is via the A127 dual carriageway that connects to the M25 at Junction 29. This section of the M25 in Essex has recently been widened to four lanes. However, through the urban area of Southend to the airport, the

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<sup>44</sup> 'Aviation Policy Framework' Secretary of State for Transport, March 2013

<sup>45</sup> <http://www.bbc.co.uk/news/uk-england-essex-22554104> (accessed 26/06/13)

<sup>46</sup> <http://www.southendairport.com/news/latest-news/london-southend-airport-helps-solve-the-south-east-air-capacity-shortage/> (accessed 26/06/13)

<sup>47</sup> <http://www.southendairport.com/news/latest-news/london-southend-airport-enjoys-its-busiest-year-ever/> (accessed 26/06/13)



A127 is an urban 40mph route. Local road improvements are likely to be required if the airport surpasses its planned growth of 2mppa.

Southend Airport is served by Southend Airport Station which was opened in 2011 and is adjacent to the new terminal building which opened in 2012. It is served by trains between Southend Victoria and Liverpool Street, which join the Great Eastern Main Line (GEML) just east of Shenfield. Trains call at all stations to Shenfield and then only at Stratford. There are 3 tph in the off-peak and 6 tph in the peak. Journey times to Liverpool Street are 53 minutes in the off-peak and 60 minutes in the peak.

When Crossrail opens it will take two of the four tracks on GEML between Shenfield and Stratford. The Rail Utilisation Strategy (RUS) notes that it is not practical to increase the number of trains between Shenfield and Liverpool Street beyond 24 tph, although it is planned to increase trains to 12 cars. In the longer term, the remodelling of Bow Junction should allow this to be increased to 28 tph.

The Southend Airport service could be enhanced by running the peak 6 tph, subject to sufficient paths being available on the GEML. To improve journey times the 3 additional trains could skip some of the other stops.

The completion of Crossrail in 2019 to Stratford and Liverpool Street will provide additional accessibility from west London via connections to Southend Airport services from those two stations. Interchange with HS1 at Stratford International also provides accessibility to St Pancras and north of London services; and to Kent with services to Ebbsfleet, North Kent/Medway Towns, Ashford and East Kent. With an HS1-HS2 link, passengers on high speed services from north of the capital could also access Southend via interchange at Stratford International/Stratford Regional.

The London Tilbury and Southend Line serves a large catchment in Essex Thameside. To provide access to this it would be beneficial to provide a bus link over the two miles between Southend Central Station and the airport.

### **Manston (Kent's International) Airport**

Manston airport, which has a full length 2,748m runway, is some 70 miles from London. It serves a well defined catchment area in North and East Kent and it is estimated that 1.3 million people live within one hour's drive time of the airport, with a substantially higher figure of 8 million passengers within two hours travel time from the airport<sup>48</sup>. Surface access would improve in the future with the introduction of a new rail station at Thanet Parkway. At present the airport operates a scheduled daily twice service to Amsterdam (KLM) and ad-hoc charters, although the recent successful development of Southend demonstrates that a similar type of model could be established at Manston.

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<sup>48</sup> 'Manston – Kent International Airport: Master Plan', Infratil Airports Europe Ltd, 2009

Manston Airport has the potential to make a significant contribution, through providing connections to European destinations. With its full length runway it is able to cater for all modern jet aircraft. The airport's master plan states that the airport can handle up to around 1mppa with the existing terminal subject to aircraft used, scheduling and a modest extension to the terminal; and plans for a new terminal to accommodate up to 3mppa which would then be extended to handle up to 6mppa over the next 20 years. The master plan forecasts 4.7mppa by 2033.

### Local Environmental Impacts

Manston Airport is located close to the urban area of Margate, Ramsgate and Broadstairs; therefore if air traffic is to increase, there will be environmental impacts that will affect an urban area. If air traffic increases in the future, aircraft must avoid flying over Margate and Broadstairs by keeping their path over the sea. However, as stated in its Master Plan<sup>49</sup> due to the orientation of the runway there will always be a requirement for aircraft to approach and depart over residential areas. The impact will therefore be increased noise pollution for local residents; although the Master Plan sets out a method for noise monitoring and noise contour mapping to identify which properties will require noise insulation in the future so that residents affected by noise will be assisted.

### Economic Impacts

Development of Manston as a regional airport would create employment opportunities in one of the South East's most disadvantaged areas, development for which is generally supported by the local community. Manston Airport<sup>50</sup> forecast that when the airport achieves 1mppa it would support approximately 1,000 jobs both directly at the airport, and with airlines, maintenance operations, supply contracts and induced in the tourism sector; with a Gross Value Added (GVA) of £11.4 million per annum from a total visitor spend of £48.6 million from 160,000 inbound tourist visitors due to the attractions of East Kent. The Master Plan forecasts total employment generated including direct, indirect, induced and catalytic to reach 2,800 jobs in 2018 (500 of which are direct jobs) with 2.2mppa and 6,150 in 2033 (of which 1,000 are direct jobs) with 4.7 million passengers per annum using the airport.

### Surface Access Improvements

Manston enjoys good strategic road links to London and the wider South East via the A299 dual carriageway which joins the M2 motorway. Local access has recently been improved with the completion of the East Kent Access Road. The Master Plan states that growth at Manston may result in increased surface access traffic congestion and air quality problems. With 1mppa 1,800 vehicle movements per day (departing and arriving) are expected, with 3mppa

<sup>49</sup> 'Kent International Airport – Manston: Master Plan', Inratil Airports Europe Ltd, 2009

<sup>50</sup> 'Manston – Kent International Airport: A Vision for the Future', 2011

5,400 vehicle movements per day and 10,800 vehicle movements per day if 6mppa were achieved<sup>51</sup>. Measures to improve road access into the site will be needed to mitigate congestion, along with a Surface Access Strategy to encourage sustainable surface access.

Manston is about two miles from Ramsgate station. In the off peak this route is served by 1 tph from Margate to St Pancras International via High Speed 1 (HS1), while in the peak this increases to 2 tph with a journey time of 76 minutes. Journey times will be reduced to around an hour with Network Rail's Journey Time Improvement (JTI) scheme between Ashford and Ramsgate. It is also served by 1 tph stopping train from Ramsgate to Charing Cross via Canterbury whose journey time from Manston is approximately 130 minutes, 1 tph to Charing Cross via Dover with a journey time of some 150 minutes and 2 tph to London Victoria via the North Kent Line with a journey time of around 120 minutes.

However these connections will need to be improved if Manston is to truly succeed as a regional airport. Research commissioned by KCC<sup>52</sup> through an EU funded project seeking to improve sustainable surface access to regional airports, reveals evidence that with a fixed rail link, passenger numbers increase as it enables a wider catchment of people to use the airport. A station (Thanet Parkway) near to Manston Airport served by high speed rail services to London will increase the attractiveness of the airport to airlines and passengers.

Line speed enhancements have been secured through a successful Regional Growth Fund bid for Phase 1 (Ashford to Canterbury) to be completed by 2016 and Phase 2 (Canterbury to Ramsgate) should be delivered by Network Rail by 2019. This will bring down journey times on high speed services between the airport and London to around an hour.

Work is underway to take forward the provision of the proposed Thanet Parkway rail station, linked to the airport by dedicated shuttle bus. KCC is seeking funding for this station to be delivered by 2017, which is estimated to cost some £12 million. The potential service frequency from the station to London would depend on which of the HS1 paths allocated to domestic trains could be used to serve Manston. It may be possible to provide a 4 tph service using the current 2 peak paths and extending the 2 peak trains from Ebbsfleet back to Ramsgate. This would be dependent upon whether demand at Ebbsfleet could be catered for. It is unlikely that a precise interval service could be offered as trains would probably need to be flighted in sets of two to avoid conflicts with the stopping services. The station would also be served by the Ramsgate to Charing Cross stopping services.

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<sup>51</sup> 'Kent International Airport – Manston: Master Plan', Intrafil Airports Europe Ltd, 2009

<sup>52</sup> 'Public Transport Access to Small and Medium Sized Regional Airports', Mott MacDonald, 2011

### **Lydd (London Ashford) Airport**

Lydd Airport in the southwest of Kent has a single runway which is 1,505 metres in length. Planning permission has been given to extend the runway by 300 metres, thereby allowing Boeing B737 and Airbus A319 operations, and the construction of a new terminal building for up to 0.5 million passengers per annum. There is a future aspiration for 2mppa. At present the airport is only used for corporate and general aviation, although the planned new facilities and the fact that the airport's local airspace is outside the London TMA, provides a good platform for the airport to develop a small network of domestic and European services.

### **Local Environmental Impacts**

Very few people would be affected by noise due to the low population density of the surrounding area. However, the Romney Marsh is an important habitat for birds and there are designated sites that abut the airport boundary. The Royal Society for the Protection of Birds (RSPB) opposes the runway extension and is legally challenging the permitted expansion of the airport<sup>53</sup>.

### **Economic Impacts**

The airport estimates that with half a million passengers per annum using the airport, this would generate between 182 and 393 direct, indirect and induced jobs. This is in an area where job creation is much needed especially given the uncertainty around the long term future of Dungeness as a national energy generator.

### **Surface Access Improvements**

The airport is close to the A259 and A2070 single carriageway providing a link to Ashford and the M20 motorway (approximately 18 miles away) for onward travel to London and the South East. Local access road and junction improvements into the airport would be needed and potential upgrades to the A259 and A2070.

The airport is approximately 16 miles from the HS1 station at Ashford, so the potential total journey time to London St Pancras from the airport is approximately one hour (38 minutes from Ashford to St Pancras on HS1). A bus link could be provided to Ashford International station. Such a link plus improvements to taxi facilities and demand responsive bus services to serve the local demand were proposed in the 'Public Transport Access to Small and Medium Sized Regional Airports'<sup>54</sup> and 'Innovative Bus Services to Small and Medium Sized Regional Airports'<sup>55</sup> reports for KCC through the EU Interreg funded 'Green Sustainable Airports' project. A direct coach service from Central London was also proposed for the longer term. These reports also

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<sup>53</sup> Local Transport Today, Issue 623, page 9, 31 May – 13 June 2013

<sup>54</sup> 'Public Transport Access to Small and Medium Sized Regional Airports', Mott MacDonald, 2011

<sup>55</sup> 'Innovative Bus Services to Small and Medium Sized Regional Airports', Mott MacDonald, 2012

noted that to support further development some improvements would be required on the A259 and A2070.

### **Recommendation**

**Kent County Council recommends that there should be better utilisation of regional airport capacity in the South East at Southend, Manston and Lydd airports in Kent, for point to point flights, complementing the main London airports that provide hub operations.**

**Southend has the potential to handle 2mppa in line with its existing planning consent, but could potentially grow beyond that to cater for a significant share of the short haul point to point market. Manston has the potential to accommodate up to 5 to 6 million passengers per annum from the 2030s.**

### **Improved Rail Connectivity to Airports to create an Integrated Air-Rail Transport System**

The Aviation Policy Framework<sup>56</sup> states that in the medium and long term, airports need to be integrated into the wider transport network and that the Government will ensure that its national strategies for aviation and high-speed rail are aligned, thus providing a better travel offer to the UK travelling public. Improved rail connections across the UK as a whole and particularly the development of the high speed rail network will complement its aviation connectivity, although it should be noted that a high proportion of passengers still access many UK airports by car.

The potential improvements to the rail access at specific London/South East airports have been assessed. Faster rail journey times between the North/North West and the London/South East airports should reduce the level of domestic / short haul feeder flights at these airports. HS2 connection to Heathrow, initially through interchange with CrossRail at Old Oak Common in 2026 and potentially by direct spur in 2033, will reduce the need for domestic feeder flights into London's principal hub airport.

It is also anticipated that as the high speed rail network in Europe develops; many short haul flights, particularly those from the London/South East airports to Northern France, Belgium, the Netherlands and western Germany will transfer to high speed rail. A dedicated HS2 to HS1 link is essential to facilitate this modal shift.

The diagrammatic map in Figure 4 shows how selected existing, planned and potential new rail connections could facilitate better access to the South East's airports and could create an integrated air-rail transport system for London and the South East.

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<sup>56</sup> 'Aviation Policy Framework' Secretary of State for Transport, March 2013

The map in Figure 4 is intended to show rail connections between airports and interchange rail/metro stations. It is simplified and therefore does not show all rail connections or stations. The map is diagrammatical and therefore its geographical accuracy is limited and it is not to scale.

Figure 4 Potential Air-Rail connections in London and the South East

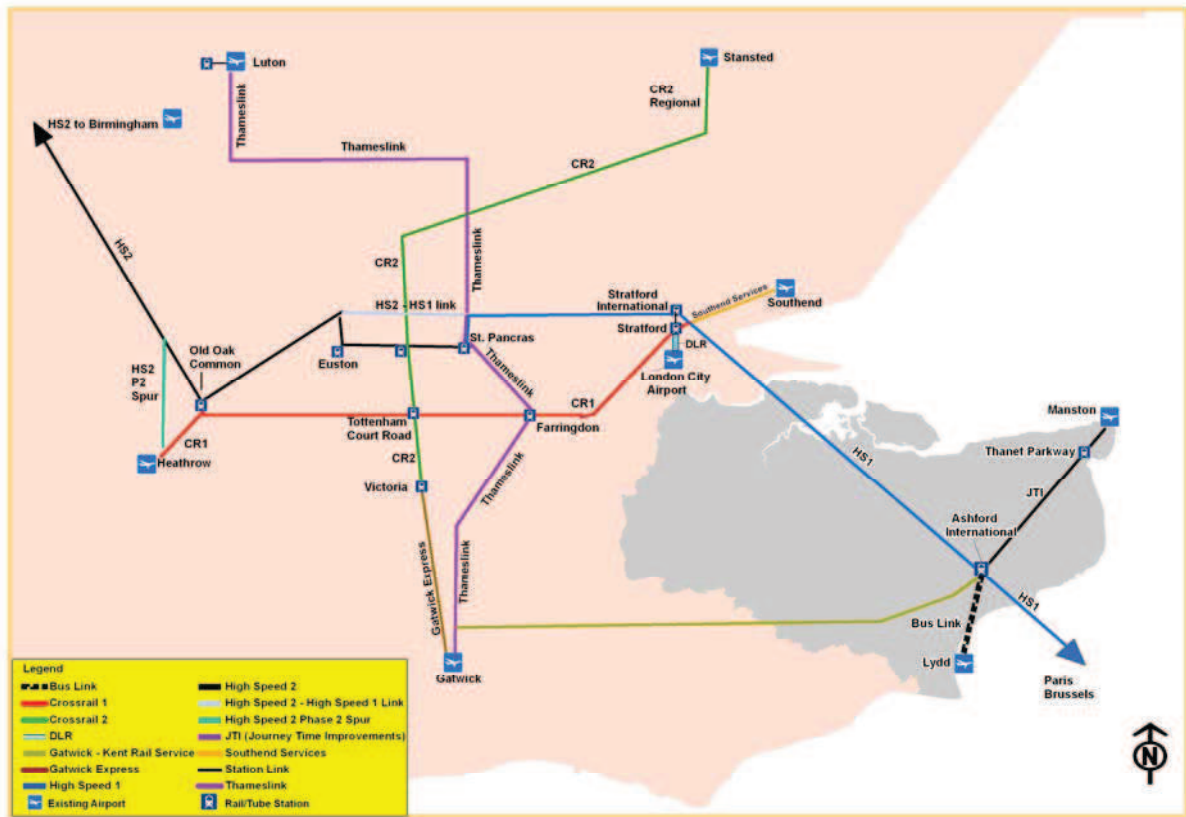


Figure 4 shows how all the main London and South East airports could be interconnected by rail. Heathrow is connected to Gatwick and Luton through CrossRail and Thameslink via interchange at Farringdon. The potential CrossRail 1 and CrossRail 2 interchange at Tottenham Court Road links Heathrow with Stansted if Option B for a Regional service goes ahead and services are extended to Stansted. CrossRail from Heathrow to Stratford (or Liverpool Street not shown in Figure 4) provides connections to services for Southend Airport. Docklands Light Rail (DLR) provides connectivity to London City Airport from Stratford. High Speed services from Stratford International via Ashford International and mainline with faster journey times from the Journey Time Improvements (JTI) scheme, provide connection to Manston Airport with a new Thanet Parkway station. A bus link between Ashford International and Lydd Airport also connects London Ashford Airport to the capital's rail network.

A service from Ashford International would provide connectivity to Gatwick from Kent. Thameslink connects Gatwick with Luton Airport and with interchange onto CrossRail at Farringdon also connects to Heathrow. The Gatwick Express provides fast direct non-stop service into Central London via

Victoria where interchange with the proposed CrossRail 2 provides connection to Stansted if the regional scheme is extended to the airport.

This proposed version of CrossRail 2 from Stansted with a Euston-St Pancras stop also provides access to HS1 at St Pancras with high speed services to Stratford International to connect to Southend Airport via Stratford Regional station; Ashford International for Manston and Lydd; and international services to Paris and Brussels. From Euston, HS2 via Old Oak Common connects to CrossRail and therefore Heathrow; and onward connection to Birmingham Airport, which with journey times of only 38 minutes from Euston, allows Birmingham to become part of the London/South East multi-airport system. An HS2-HS1 link provides the opportunity for through services from Kent to connect to Heathrow via Old Oak Common and CrossRail; or onward connection to Birmingham Airport.

Figure 4 shows that with CrossRail, which is under construction; the potential CrossRail 2 with the Option B regional service extended to Stansted; the planned High Speed 2 with proposed direct link to High Speed 1; the potential direct HS2 spur to Heathrow delivered in Phase 2; an improved Thameslink service; a new direct service between Kent and Gatwick; journey time improvements on mainline to Manston Airport served by a new Thanet Parkway station; and Lydd Airport connected to Ashford International by dedicated shuttle bus; together with enhanced service patterns on the existing services to airports; provides connectivity between airports via Central London stations and therefore an integrated air-rail transport system for London and the South East. This provides opportunities for passengers to connect between airports and therefore better integrates the London airports in the existing multi-airport system; and helps facilitate sustainable surface access to the existing airports as they expand.

### **Recommendation**

**Kent County Council recommends that in the longer term, significant investment is made to improve rail connectivity to airports to create an integrated air-rail transport system for London and the South East that facilitates sustainable surface access to the growing airports; and provides the potential for better integration of the London/South East multi-airport system.**

### **Climate Change Impacts of Additional Airport Capacity**

The carbon emissions impact of specific runway options is difficult to quantify without more detailed assessment. Therefore only a general commentary on the Climate Change impacts of additional airport capacity can be made.

Whilst there are currently no formal carbon emissions targets for aviation established on an international basis, the UK Government in 2005 set a target that total carbon emissions in 2050 should not exceed their current level of 37.5 MtCO<sub>2</sub> per annum. Forecasts for carbon emissions were produced by the Department for Transport (DfT) alongside their air traffic forecasts in January

2013. Their CO<sub>2</sub> forecasts for 2030 and 2050 by airport for a capacity constrained scenario, i.e. no additional runways, are shown in Table 2.

**Table 2 DfT CO<sub>2</sub> Emissions Forecasts 2030 and 2050 Central Constrained Case (MtCO<sub>2</sub>)**

Mppa	Base Year (2011)	Central Constrained Case (2030)	Central Constrained Case (2050)
Heathrow	18.8	21.4	18.2
Gatwick	3.9	4.7	4.3
Stansted	1.1	3.5	1.9
Manchester	2.2	3.2	5.3
Birmingham	.8	1.7	4.6
Other UK airports	6.4	9.0	12.7
<b>Total UK</b>	<b>33.2</b>	<b>43.5</b>	<b>47.0</b>

Source: DfT

By 2050, the UK’s carbon emissions will exceed the Government’s target by some 25%. It should be noted that whilst Heathrow contributes a high proportion of the UK’s total carbon emissions, this also reflects the fact that many flights are significantly longer than those from other UK airports.

Clearly any development of an airport with new runway capacity and to operate as an additional hub will attract both increased passenger demand and longer flights. It can also be argued that transfer passengers at UK hub airports also contribute to the UK’s carbon emissions levels. In practice, however, such passengers would probably fly from another international hub if a UK option were not available, so there would be no net global increase in carbon emissions from additional runways at UK airports.

**Recommendation**

**Kent County Council recommends that additional airport capacity should be provided in the UK at selected airports, to ensure that UK airports can compete with European airports for global aviation. To restrict UK airport development on the basis of targets for UK emissions would not achieve net global reductions as there would be additional flights through non-UK hub airports. Internationally agreed carbon emission limits are needed for a global aviation industry that apply equally to all countries.**



## Conclusion – Satisfying the Long Term Options Sift Criteria

This high level proposal for additional airport capacity in the longer term, through a strategic approach, satisfies the sifting criteria for long term options as set out by the Airports Commission’s Guidance Document.

### Strategic Fit

The nature, scale and timing of the airport capacity is summarised in Table 3.

**Table 3 Summary of Proposals for Additional Airport Capacity in the Longer Term**

Airport	Additional Capacity	Timescale	Total Capacity (mppa)	Market	Connectivity
Heathrow	None	N/A	70	Hub – alliance network carriers, transfer and direct	Mix of short and long haul; long haul focus - transatlantic
Gatwick	Second Runway	2020s	70	Hub – compete with Heathrow – low cost carriers; ‘self-made’ transfers; point to point O-D market; potential alliance network base	Short haul with growing long haul; long haul focus – Asia; BRIC countries
Stansted	Second Runway	2030s	70	Point to point O-D; low cost carriers; potential competing hub if capacity constraints at Heathrow and Gatwick displace an alliance	Short haul; potential long haul development
TOTAL London Airports with Runway Capacity Added			210		
Birmingham	Second Runway	Long term horizon - post 2040	70	Point to point O-D; catchment extended to London with HS2	Short haul; potential long haul development
TOTAL including Birmingham (with extra runway) in the London system			280		
Utilise Regional Airport Capacity	N/A	Within next 5 years		Point to point O-D; low cost carriers; charter	Short haul
- Manston			6		
- Southend			2		
- Lydd			0.5		
Applicable Short and Medium Term Measures (including Luton Airport)*	N/A	Next 5 – 10 years	30	Applies to various market segments	Various connectivity benefits
<b>TOTAL</b>			<b>318.5</b>		

\* See ‘Proposals for making the best use of existing capacity in the short and medium term’, Response by Kent County Council to the Airports Commission, May 2013

Table 3 shows how this strategic approach will provide the UK's aviation capacity and connectivity needs over the coming decades. It provides more capacity than an entirely new hub airport whilst providing opportunities for competition between airports. Each market segment is addressed, i.e. low cost and network carriers and a range of connectivity needs are provided, i.e. short haul and long haul to existing and emerging market destinations. Building on the success of existing airports, it will enhance the UK's status as Europe's most important aviation hub; without the risk of this being lost while a new hub airport is being built and no investment takes place at existing airports given that they would be closed or significantly downsized.

As shown in Table 3, with an extra runway at Gatwick and Stansted, in combination with Heathrow's existing two runways, this provides capacity for 210 million passengers per annum; more than a new hub airport. With Birmingham included in the London/South East multi-airport system via high speed rail connection, this increases capacity to 280mppa. With better utilisation of regional airports in the South East and the applicable short and medium term measures to increase capacity at existing airports; system wide capacity is 318.5 million passengers per annum.

### ***Economy***

The advantages of this dispersed model for aviation growth is that the economic benefits are spread around London and the South East, and even to the Midlands with the option of an additional runway at Birmingham. Benefits are also spread to regional economies with growth at regional airports. This will help the Government's objective to re-balance the economy.

Jobs will be created directly and indirectly at each airport. Induced and catalytic jobs will be created through agglomeration as businesses locate near to the airports. It builds on the existing success of airport development in the South East, such as the agglomeration of businesses around Heathrow and Gatwick, rather than risk losing them if a new hub airport was built elsewhere.

Passengers will be given a greater range of choice as to what airport they use and competition between the airports will drive prices down for both passengers and airlines. This will be beneficial to the UK economy rather than all aviation activity being based at a single hub.

Overall the national economy will benefit as London will have six runways at three airports and will continue to be the best connected city in Europe and one of the best connected in the world. The London multi-airport system, rather than a single dominant airport, will be able to compete with the hub airports at Amsterdam, Paris and Frankfurt. It is essential that the UK has a level playing field with Europe in regards to Air Passenger Duty (APD), therefore action is also needed to correct this competitive disadvantage and a long term commitment is needed to ensure that UK airports are able to compete with their European rivals.

### **Surface Access**

Key to this proposal is improved surface access by rail. Investment is needed in existing infrastructure and alternations to service patterns in combination with planned new infrastructure, e.g. HS2 and CrossRail, to provide good connectivity to airports to create an integrated air-rail transport system. The rail proposals outlined will improve sustainable surface access to existing airports from London and the South East; and create excellent connections between airports. This will improve journey times from major business and population centres for users of aviation services and enhances existing transport corridors.

Although the rail improvements outlined will help to facilitate sustainable surface access to airports, and help to mitigate against increased road congestion from access traffic as the airports grow; improvements to road access will also be needed. As with the rail investment, improvements to the highway network, both strategic and local, will also provide significant wider economic benefits to regional and national economies in addition to directly enhancing accessibility to the South East's airports.

### **Environment**

Air quality and noise implications for expanding the airports in this proposal are far less than adding a third runway at Heathrow. There will be noise and air quality issues for all additional runways at all airports, therefore it is essential that the proposed airport expansions are only permitted with adequate mitigation measures and substantial compensation to affected local residents.

The proposed expansion of existing airports does far less environmental damage than constructing a new hub airport with new surface access infrastructure in the Thames Estuary or off the Kent coast, which would impact on many designated sites or local, national, European and international significance.

Climate change implications of new runways are negated as without new capacity at UK airports, UK passengers would use other European and international hubs to make their journeys; therefore is likely to result in a greater level of carbon emission than if UK passengers can fly direct from major hub airports in the South East with newly added runway capacity.

### **People**

Passenger experience in terms of choice, cost and accessibility will be improved as passengers will be able to choose which airport to use based on convenience for them; and through the enhanced competition that this model will create, lower fares should result.

The social impacts of airport expansion will be both positive, in terms of job creation and economic prosperity, and negative in terms of noise and health.

It is vital that communities feel the benefits with adequate new community facilities, schools, hospitals etc that will be needed for the increased population that will grow around the expanded airports. This will put pressure on local housing stock and create a significant need for new development; however this would be less than that required for a new hub airport built in an area that does not already experience these demands, such as a new airport in the Thames Estuary or off the Kent coast.

### **Cost**

A second runway at Gatwick could be delivered for around £5 billion. It would be financed by the private sector without any public subsidy. The airport's owners are already investigating the business case for making the investment, which is likely to be positive.

A second runway at Stansted has been estimated to be deliverable for around £2-2.5 billion, excluding surface access infrastructure. It is anticipated that the runway would be financed privately by the airport operator, however it is unknown whether the existing owners see this significant investment as part of their current business needs; although an additional runway at Stansted is not likely to be needed for a further twenty years.

Further work is needed to establish the cost and commercial viability of an additional runway at Birmingham Airport. This is a longer term option, unlikely to be needed before the 2040s.

Investment at regional airports, such as Manston, where significant capacity exists already, is minimal in comparison as the runways already exist. Terminal improvements would be needed but these would come online incrementally as the airports grow.

The cost of the surface access improvements needed to facilitate sustainable surface access by rail and create an integrated air-rail transport network needs to be more fully investigated. A lot of the works outlined are already planned as part of existing wider programmes and funding is already committed. Further enhancements that are needed, including road access infrastructure, could be financed by a combination of the public and private (airport operator) sector.

Both the airport developments (runways and terminals) and the required surface access infrastructure to the existing airports, is of far lower cost, more deliverable and more reliant on private sector rather than public sector funding, compared to a new hub airport in the Thames Estuary or off the Kent coast.

### **Operational Viability**

Although there would be some requirement to redesign airspace to accommodate the additional air traffic movements arising from new runways, these existing airports are already part of the UK airspace system and the

London Terminal Control Area (LTMA). This is unlike a new airport in the Thames Estuary or off the Kent coast, which would require a complete re-design of UK and Northern European airspace.

Operational resilience would be enhanced with multiple airports capable of handling the traffic that currently uses one principal hub, therefore maintaining the UK's connectivity in the event of disruption from bad weather or other unforeseen events.

### ***Delivery***

Gatwick Airport Ltd is likely to be able to deliver a second runway by the mid 2020s. It is needed imminently and the airport operator is keen to push ahead with plans. There is very little risk to this not being delivered as it would be entirely privately funded.

Additional runways at Stansted and Birmingham present a greater level of risk as their need, and therefore commercial viability, is much further into the future, i.e. the 2030s and 2040s. However, once a policy of incremental growth at existing airports is set by the Government, and as these airports reach full capacity on a single runway, the business case for delivery of additional runways will become apparent.

Regional airports, such as Manston, are already in a position to accommodate extra passengers but require airlines to take the commercial risk to run services.

The majority of the surface access improvements for rail schemes are already planned and funding is set aside, therefore negating the risk of non-delivery. The further improvements that are needed can also be justified on the benefits that they will bring for rail passengers, or road users, and their wider economic impacts in addition to supporting growth at existing airports; providing the backbone of the UK's transport infrastructure.

All of these proposals outlined in this submission are far more deliverable, affordable, less environmentally damaging and more economically beneficial than a new hub airport in the Thames Estuary or off the Kent coast, and will satisfy the UK's long term aviation needs.

In the interests of the national economy the need to act is now.

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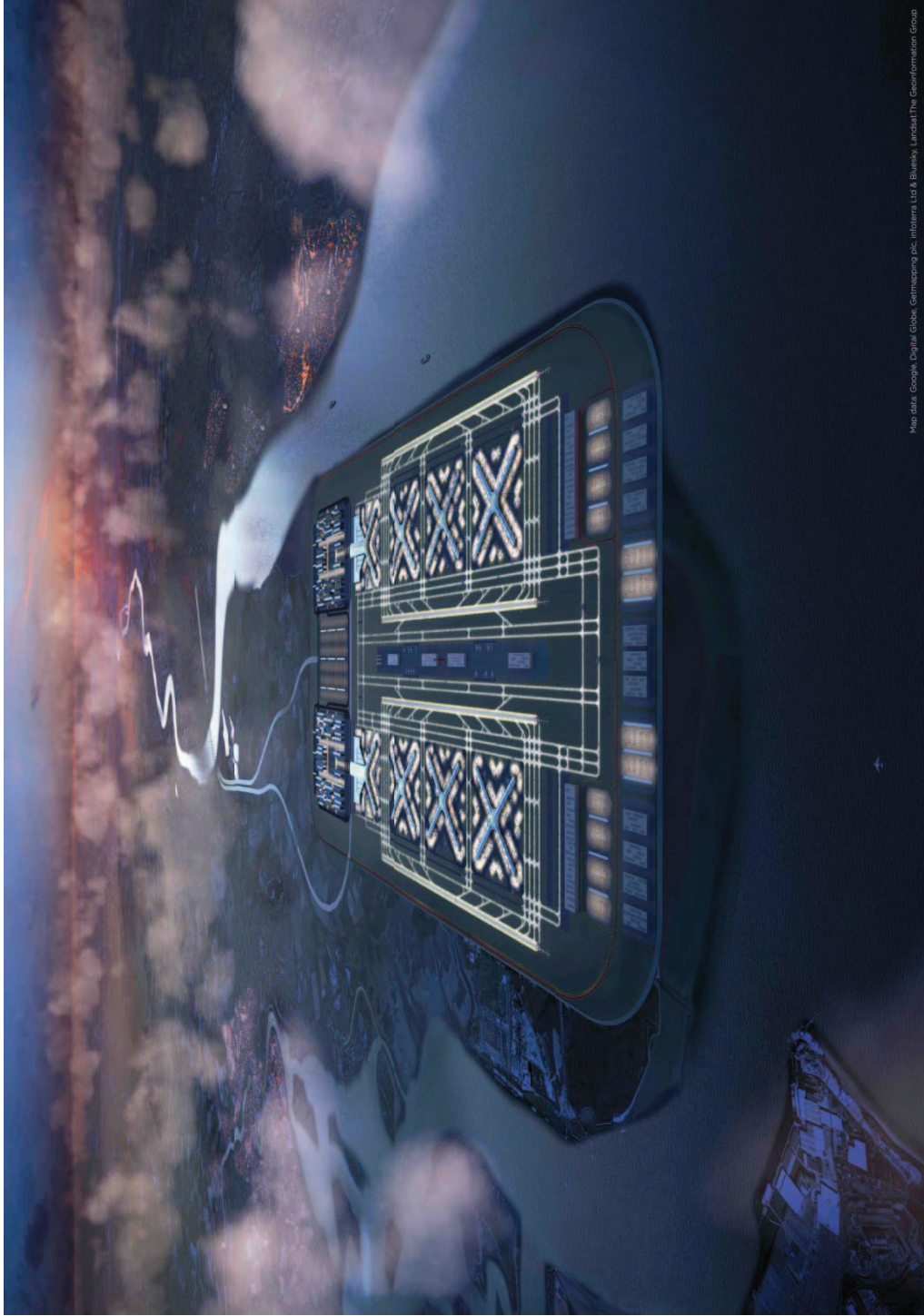
David Brazier  
Cabinet Member – Transport and Environment

Kent County Council

19 July 2013

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**The Mayor of London's submission to the Airports Commission**  
**Outline proposal for long term aviation capacity**



**A new hub airport for London and the UK**  
**Isle of Grain**



## Agenda Item 9

for the foreseeable future, something that will never be possible at Heathrow.

I believe that a new hub can be environmentally sustainable, and could represent excellent value for money to the Government when considered in the context of the nation's economic development needs as a whole. By providing all of the necessary evidence, I am calling on the Commission to set out in its interim report at the end of this year that our priority is for additional hub airport capacity. It should explicitly reject suggestions that Britain does not need a hub airport or that a hub can be "manufactured" by asking airlines and passengers to treat discrete and disparate airports as a "virtual" hub or a "dispersed" hub. I want to see the Commission take forward these three locations for further assessment, and for its work to set the groundwork for an Aviation National Policy Statement and a delivery plan for a new hub airport.

**Boris Johnson**  
**Mayor of London**

### **FOREWORD**

I have long been convinced that the UK needs to take a bolder approach than ever before to respond to our shortage of world-class hub airport capacity. It is necessary to ensure that London and the UK can continue to compete at the highest level in the world.

I am responding to the Airports Commission's request for detailed proposals, and have assessed my favoured options against the range of criteria the commission have specified. I have considered the costs and benefits of air travel to the economy, the environment, and wider society alongside the rate of future demand growth and airline and alliance behaviour. The only workable solution is a new, single hub airport.

I am making three separate submissions to the Airports Commission. Each is an option for a new hub airport serving London and the UK. Given current levels of information, they are all credible and deliverable. They have different and in some cases profound impacts, but in each case, the positives far outweigh the negatives. An Isle of Grain location would be at the heart of the Thames Gateway, offering an excellent balance between maximising the economic and regeneration impacts of a new hub airport, whilst reducing and managing the negative impacts of aviation. I am convinced that any of the three options would be far better decisions than reverting to our tried and failed method of incremental expansion – a runway and a terminal here and there. I am also convinced that each option will enable the UK to have an airport that will fully meet its needs



## **A NEW HUB AIRPORT AT THE ISLE OF GRAIN** **- INTRODUCTION**

London and the UK need a new hub airport, at a single site. The Mayor's responses to the Airports Commission's Discussion Papers have made very clear why this capacity and the improvements to connectivity are both necessary, and compatible with the Government's climate change commitments. Three sites can potentially meet our needs. This is why the Mayor is making three separate submissions to the Commission, describing each proposition and its impacts.

This document sets out one possible way of developing a new hub airport serving London and the UK. The focus of this submission is a new hub airport at the Isle of Grain, approximately 30 miles east of Central London. It is a proposition which is both credible and deliverable. This document responds directly to the questions posed by the Commission in their Guidance Document 02 - Long Term Capacity Options: Sift Criteria which are set out in this document.

The content of this report examines a combination of issues and impacts, those which are:

- broadly common to any effective new hub airport serving London
- specific to an effective hub airport at an Isle of Grain location

The Isle of Grain has the space to accommodate a world-class, efficient hub airport, avoid the overflying of Greater London, and the potential to catalyse growth and development across the Thames Gateway – the largest regeneration area in the UK - and East London. It could take advantage of close proximity to the London Gateway port, and enable a flexible night flying regime. Excellent surface access connections, building on existing and planned infrastructure will get passengers, staff, and freight to and from the airport quickly, and in an environmentally sustainable way. Heathrow will have to take on a different role, but it can be part of the solution. It could offer London a redevelopment opportunity of unprecedented size and scale.

### **Contents**

- 1 A new hub airport at the Isle of Grain – Introduction
- 2 The proposition: airport and surface access
- 3 The economic impacts
- 4 The impacts on people
- 5 Surface access impacts
- 6 The impacts on the environment
- 7 Operational viability
- 8 Delivery and financing
- 9 Endnotes and bibliography

## Agenda Item 9

### 2 **THE PROPOSITION: AIRPORT AND SURFACE ACCESS**

**Commission question - What is the nature, scale and timing of capacity delivered by the proposal? How will the proposal support or enhance the UK's status as Europe's most important aviation hub?**

#### 2.1 The Mayor's vision

The Commission and the Government must give serious consideration to developing a new hub airport at the Isle of Grain, accompanied by a comprehensive, wide-ranging package of rail and road improvements. The Isle of Grain can accommodate the new hub airport that London and the UK needs:

- 1) It could accommodate the world-class airport London and the UK needs, with:
  - **Four new runways**, able to accommodate up to 200 air traffic movements (ATMs) per hour'. Average runway utilisation would be around 75 per cent to ensure operational resilience.
  - **Sufficient capacity** and suitable design so the airport can expand in line with demand, able to fully meet Government forecasts of more than 170 million passengers per annum at the UK's principal airport in 2050. This capacity will enable the 'waves' of traffic characteristic of an effective hub airport.
  - **Minimum connection times of around 45 minutes**, ensuring that the airport is attractive to airlines and to passengers who want to use the airport as a hub.
  - **All markets and route types served**, with the airport able to fully accommodate all relevant aircraft codes and classes, including regional, medium, and longhaul passengers and freight-only aircraft.
  - **Minimal noise impact and operational flexibility during the night**. An Isle of Grain location would expose fewer than 5 per cent of the number of people to noise compared to a similarly sized airport at Heathrow.
  - **A target opening date of 2029**. Following the work of the Commission, and an Airports National Policy Statement, a Hybrid Bill covering a new hub airport and surface access links could be passed by 2019. A nine year construction phase could see a new hub airport and its supporting access links open in 2029.

#### A new airport at the Isle of Grain:

##### Key features

- A world-class hub airport opening in 2029, providing a substantial increase in capacity able to facilitate hub operations. This will maximise and improve the reliability and resilience of London and the UK's global connections, fully meeting demand to 2050 and beyond.
- Connectivity for London and the whole of the UK will be transformed. London and the UK will become the best connected city and country in the world.
- A comprehensive package of brand new, high quality and environmentally sustainable surface access connections will make the airport readily accessible, and generate wider benefits across London and the southeast.
- Development and growth in London and the UK will be unlocked, including across the Thames Gateway, the UK's largest growth and regeneration area.
- 10.7 million people within a 60 minute public transport journey.

##### Advantages

- Space to accommodate the size of facility required – around 55 kilometres.
- Overflying of Greater London avoided and worst areas of noise and poor air quality are over water.
- Opportunities for a far greater degree of night flying than currently possible at Heathrow, Gatwick or Stansted.
- Development and growth in London and the UK, and catalysing growth in the Thames Gateway, the UK's largest growth and regeneration area.
- Synergies with London Gateway port, existing shipping channels can be kept fully navigable.

##### Challenges

- Exposing 31,500 new people to aircraft noise.
- Displacing approximately 2,000 residential dwellings, and existing and disused energy generation and storage facilities.
- Mitigating and compensating the impacts on large areas subject to national and international biodiversity designations.

- 2) It could offer excellent and environmentally sustainable surface access connectivity, providing benefits to travellers across the South East:
- Key Central London locations including Waterloo, London Bridge and St Pancras accessible in under 30 minutes, by combining new, planned, and committed rail improvements.
  - Around 10.7 million people with access to public transport links within 60 minutes reach of the hub airport, including areas such as northwest and southwest London, southeast Kent, and places as far afield as Woking and Reading.
  - A target public transport mode share of 65 per cent, a significant improvement on the proportions currently travelling to and from London's airports by public transport.
  - Benefits also being realised by non-airport users, such as those travelling between Central London and Canary Wharf, and from West to East London.

- 3) It could underpin growth and regeneration across the UK and the Thames Gateway:

- Supporting 388,000 jobs nationally by 2050, resulting in a cumulative UK GVA increase of £726 billion between 2015 and 2050.
- Further adding 0.5 per cent to UK GDP by 2050 due to international connectivity improvements, which would have a value today of £6.9 billion per year.
- Creating 134,000 new additional jobs locally, generating £16.6 billion in GVA per year.
- Catalysing further jobs and development in a number of 'zones' in Kent, Essex and London establishing a 'corridor' of development alongside the major transport links connecting the airport.

- 4) It would require Heathrow to take on a different role, but this would offer a huge opportunity for:

- More than 40,000 new jobs, including in sectors such as hi-tech manufacturing, creative design and higher education, able to benefit from a large, accessible site.
- New homes for up to 184,000 people, which could be accommodated in an area the size of the Royal Borough of Kensington and Chelsea.

### Heathrow cannot be the future hub airport that London and the UK needs

- Its two runways operate at 99 per cent capacity and can only accommodate around 50 arrivals and departures in a peak hour – rendering it unable to operate as an effective hub, with 'waves' of arrival and departure.
- It accommodates around 70 million passengers per annum, but is constrained and lacks sufficient space to grow to accommodate long-term demand for aviation.
- Night flights are severely restricted and without this capability Heathrow misses opportunities in supporting early morning longhaul arrivals and larger freight operations
- It exposes 766,100 people to unacceptable levels of noise, by far the highest number in Europe; additional runways would exacerbate this problem.
- Heathrow expansion is highly controversial and has resulted in decades of indecision.

### 2.2

#### A future hub airport that meets our needs

A brand new hub airport designed and built at a new location will make optimum use of space, and offer excellent facilities for its customers and users – passengers, airlines, and freight transporters.

A new airport would be designed for rapid and ready modular expansion. It would be able to fully meet demand decades into the future without becoming less efficient and more constrained as it grows. A new airport would also avoid a number of significant risks and the added complexity associated with undertaking major construction jobs on or adjacent to a live airport site.

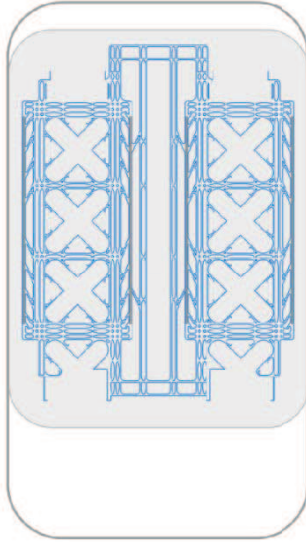
Transport for London have worked closely with Atkins and Pascall+Watson who have brought to bear their considerable experience in designing and developing major airports the world over, to develop a potential future hub airport footprint that can deliver the Mayor's vision. This document sets out one of a number of possible ways of bringing forward a new hub airport on the Isle of Grain. The first thing to establish is a potential airport footprint, the evolution of which is illustrated in Figure 2.1.

Figure 2.1: The process of developing a potential new hub airport footprint

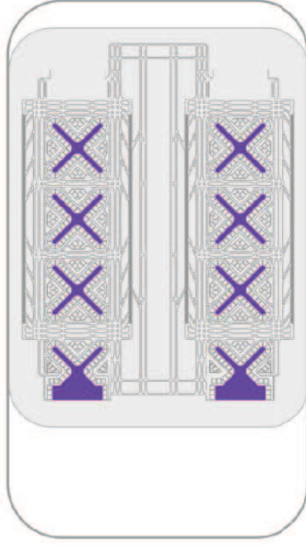
**Runways** - 4 independent runways delivering a high capacity hub operation, circa 1million movements per annum at 75% utilisation



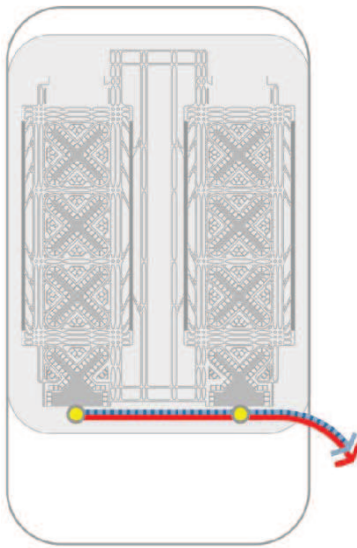
**Taxiways** - network maximises efficiency & minimises delays by providing End Around Taxiways eliminating runway crossings



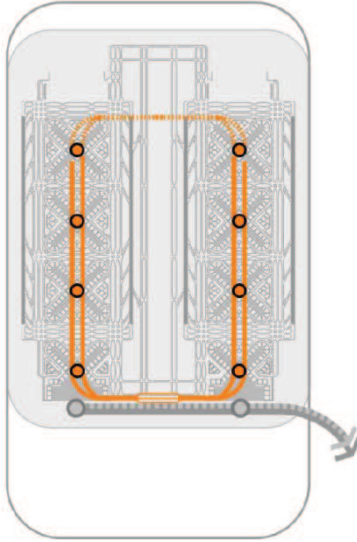
**Terminals** - Flexible airline hub facilities with twin terminals and satellites providing capacity for 180mppa



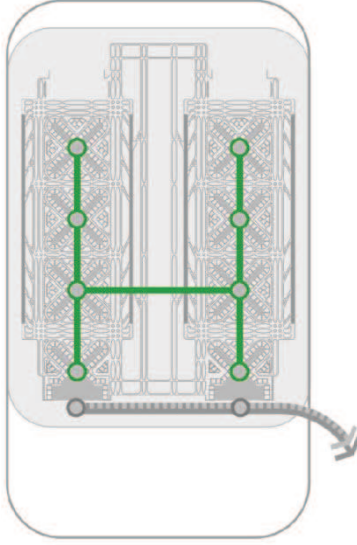
**Surface access** - public transport interchanges prioritises rail and coach services supporting a world class public transport mode share



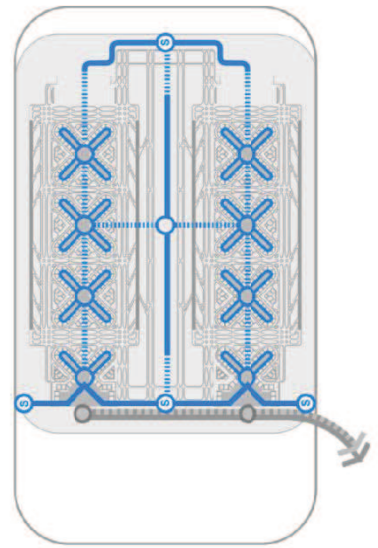
**Hub transfers** - with world class connections via airside people movers delivering 45 - 60 minute minimum connection times



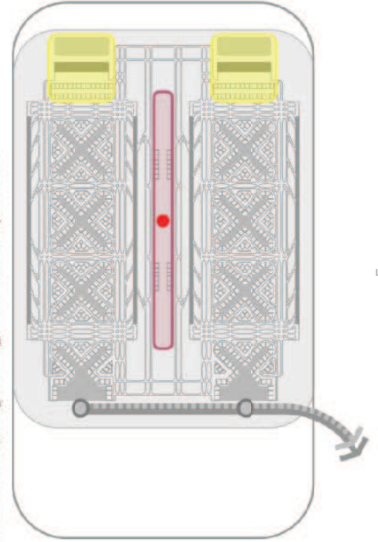
**Baggage system** - decentralised build & break for efficiency & performance supporting hub transfers



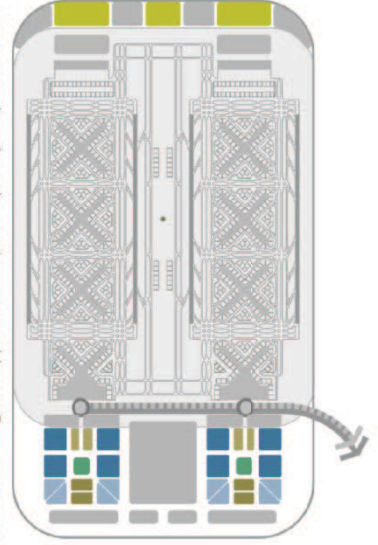
**Airside roads** - A resilient network linking operational areas



**Airport & airline technical support facilities** - for airline line maintenance, freight and general airside operations



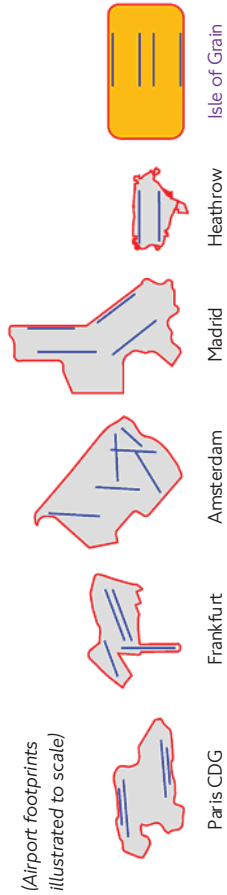
**Landside zones & airport city** - encompassing hotels, offices, conference & logistic support facilities, developed by the private sector



### 2.3 An efficient airport layout

An airport configured in this way offers an extremely efficient airport layout, and a significant improvement on other European hub airports. While the footprint of a new London hub would be of a similar size to Amsterdam and Madrid, it would be able to accommodate more than three times the number of passengers. It would also be a more efficient use of space than either Paris or Frankfurt. This is set out in Figure 2.2.

**Figure 2.2: Comparison of principal airports in Europe and a new hub airport at Isle of Grain**



	As currently configured					Isle of Grain (2050)
	Paris CDG	Frankfurt	Amsterdam	Madrid	Heathrow	
Site Area (km <sup>2</sup> )	30.7	23.7	54.5	53.5	13.5	54.7
Passengers per annum (millions)	60.9	56.4	49.8	49.6	69.4	180
Air Traffic Movements per annum	506,900	487,200	420,000	429,000	480,000	1,000,000

### 2.4 A phased introduction of capacity

A new hub airport designed in this way could fully meet our needs to 2050 and beyond – with a capacity of up to 180 million passengers per annum (mppa). The Government’s own forecasts identify that Heathrow would have demand in excess of 170mppa by 2050 if unconstrained by capacity.

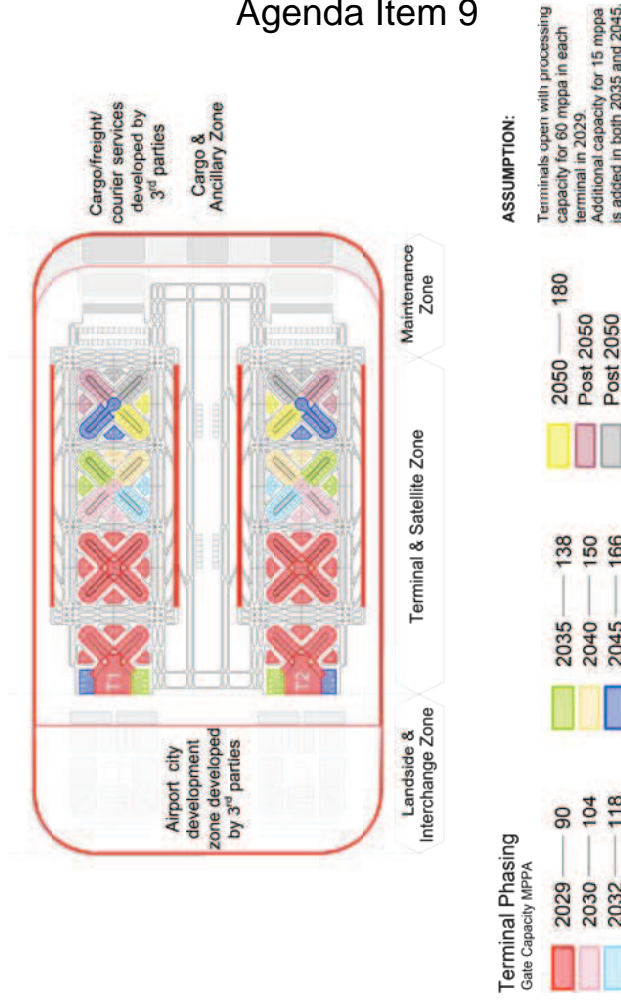
To be successful, a new hub airport will have to be bigger and better than Heathrow from the start. It is assumed that it will accommodate all of the traffic from Heathrow on day one, as Heathrow’s operations relocate to the new hub airport overnight. The DfT forecast Heathrow will accommodate 82mppa in a capacity constrained scenario in 2030. The remainder of traffic at the new hub will comprise a small amount of additional traffic that will have

been suppressed by Heathrow’s capacity constraints. The new hub is therefore assumed to open with a throughput of 90mppa.

All relevant planning permissions and consents will be secured in one go, but the airport will be built in phases. It will grow quickly within the first 5 years of operation. It is reasonable to expect a well planned new airport to be a success once it opens. With plenty of spare capacity to attract new custom, it could fully meet expected (DfT unconstrained Heathrow) demand of 119mppa by 2034. The new hub would have the capacity and quality of service offering to fully meet unconstrained demand beyond 2050 – where it could accommodate in excess of 170mppa.

The new hub airport will have enough capacity to operate a resilient service at all times. It would open with a full complement of 4 independently spaced runways to ensure robust and flexible hub operations are available from the outset. This is a key benefit of the investment. Terminals and satellites will be designed and constructed to ensure that expansion is planned, simple, and does not disrupt normal operations. A potential approach to phasing the construction of the airport to respond to growing demand is set out in Figure 2.3 and Table 2.1.

**Figure 2.3: Airport phasing and build-out**



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## 2.5 The surface access proposition

**Commission question – What estimate has been made of the surface access requirements of the proposal for both existing and/or new infrastructure?**

A key part of the proposition is the provision of a comprehensive package of rail and road enhancements, making the most of current and planned schemes such as Crossrail, High Speed 1 and 2, and the new Lower Thames Crossing project, as well as building brand new links. A target public transport mode share of 65 per cent will not only make a new hub airport a more sustainable solution but will also avoid placing undue pressure on the road network.

TfL have worked closely with Atkins to design a rail and road improvements package for a new hub airport at the Isle of Grain, which not only ensure that the airport is appropriately served, but that the new and enhanced links have wider benefits across London and the South East. The proposition meets the following requirements:

- Sufficient capacity to accommodate airport trips in the places and at the times that it is needed.
- Integration with existing/planned networks including HS2 and a new Lower Thames Crossing.
- Levels of service commensurate with the expectations of users.
- Facilitating appropriate levels of connectivity and accessibility to key UK population centres, areas of economic growth, and key international destinations.
- Mitigation against adverse impacts on the performance of the wider transport network, while exploiting opportunities for transport benefits to non-airport users.
- A genuinely attractive proposition, encouraging people to use sustainable modes for airport access. This will further limit the airport's adverse impacts on the environment.

Meeting all of these requirements will require a balanced package of both public transport and road infrastructure and non-infrastructure measures.

Table 2.1 : Airport capacity growth

Airport capacity (million passengers per annum – mppa)	2029 (opening year)	By 2035	By 2050
Runways and taxiways	180	180	180
Terminals and transport facilities	120	150	180
Satellites and gates	90	120	180

### Heathrow is unable to offer the capacity the UK needs

- London and the UK's status as a leading world aviation hub must be safeguarded. The global economy is growing fast. Heathrow is not able to service our long term needs. London's connectivity to key markets should not merely keep pace, but should lead and innovate.
- Heathrow is essentially operating at capacity, serving 70 million passengers annually. It will not be able to cope with the Government's forecasts for demand of more than 170 million passengers annually by 2050.

**Rail connections**

The proposed Isle of Grain rail strategy integrates existing and planned infrastructure to maximise airport connectivity across London and the UK. It also delivers significant benefits to non-airport users. The components are described in Table 2.2, and illustrated in Figure 2.5.

**Table 2.2: A new hub airport at the Isle of Grain – the rail connections**

Rail strategy component	Connectivity impact
Central London Airport Express	High speed connectivity to key London destinations - Waterloo (28mins) Riverside (14mins), Canary Wharf (20mins) and London Bridge (24mins)
HS1-HS2 link	Direct high speed connections to St Pancras, Old Oak Common (29 minutes) and onward connectivity via HS2 to Birmingham and the North
Crossrail extension	Extensions from Abbey Wood via Dartford and Gravesend to provide an additional rail alternative to/from Central London
Local rail connections	Connections to South Essex (via the Thames Crossing), North Kent and South East London, including radically enhanced connectivity to growth and regeneration areas such as the City, City Fringe, Riverside and Thames Gateway

To maximise the public transport mode share, it is assumed that the rail network is in place from the day the airport opens.

**Road connections**

A phased enhancement of the highway network has been assumed. Some enhancements are potentially only needed beyond the early years of airport build-out. Interventions have been planned to accommodate the needs generated by the airport’s construction. Road provision in the long term will also be dictated by general changes in traffic levels and land uses. Some costs of the assumed road interventions may in practice be borne by (or shared with) other delivery agencies as non-airport related road traffic increases. The interventions proposed are described in Table 2.3, and illustrated in Figure 2.5.

**Table 2.3: A new hub airport at the Isle of Grain – the road connections**

Road strategy component	Purpose
Airport access roads	New access roads and widening of existing roads, to provide efficient access, with two links to provide resilience
Lower Thames Crossing (LTC)	Collaboration with DfT to ensure LTC has enough capacity for peak airport demand.
Capacity enhancements to the M25 and the A2	Widening and enhancement to mitigate against delay and congestion for airport and non-airport users.

**Surface access investment will be required regardless of location**

- Substantial expansion at any existing or new airport location in South East England, including Heathrow, will require significant investment in surface access infrastructure.
- Proposals for a four runway Heathrow building on the existing infrastructure would involve a more dispersed development of terminals, making it more complex and expensive to provide the necessary surface access.

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### 2.6 Siting the airport and the surface access links, and their spatial context

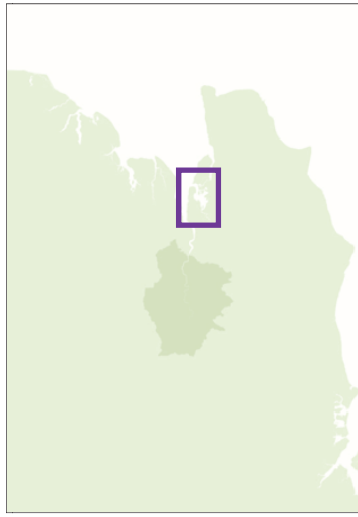
The eastern end of the Hoo peninsula is 30 miles east of Central London. The local area is sparsely populated, relatively flat and open. Historically, the area has accommodated farming, energy generation and storage, shipping, and industrial land uses, as well as a small number of settlements. It is located in an 'arc' of towns stretching from Gillingham, Chatham, Rochester and Gravesend to the south, to Grays, Tilbury, Basildon and Southend to the north, as well as being at the heart of the Thames Gateway regeneration area – the largest in the UK.

The Mayor's preferred Inner Thames Estuary location is illustrated in **Figure 2.4 – siting and key considerations**. This map identifies a number of key considerations that have influenced this recommendation. The new road and rail links described above, and the associated key development zones that they could stimulate are illustrated in **Figure 2.5, the spatial context**. The remainder of this document is focussed upon exploring the impacts and deliverability of the airport and the surface access links.

AIRPORT AND SURFACE ACCESS DESIGN ASSUMPTIONS : SUMMARY	
Opening year	<ul style="list-style-type: none"> <li>• 2029</li> </ul>
Capacity	<ul style="list-style-type: none"> <li>• Opening capacity of 90mppa with a full complement of 4 x 4000m runways</li> <li>• Expand terminals and satellites to allow for 180mppa capacity by 2050</li> </ul>
Operating features	<ul style="list-style-type: none"> <li>• Few constraints around night flying. New hub can accommodate substantial demand between 2100 and 2400, and 0400 and 0600 hours – and retains the flexibility to accommodate some night operations as required</li> <li>• Minimum connection times (MCTs) for passengers transferring of around 45 minutes</li> </ul>
Passenger demand	<ul style="list-style-type: none"> <li>• Heathrow takes on a different role. Traffic at Heathrow will relocate to the new hub</li> <li>• 90mppa in 2029, the opening year</li> <li>• In 2034, the new hub airport will fully serve DfT unconstrained demand - 119mppa.</li> <li>• From 2034 through to 2050 airport throughput mirrors DfT unconstrained demand, reaching 170.1 mppa in 2050.</li> <li>• 1 per cent growth per annum after 2050.</li> </ul>
Rail / Road demand	<ul style="list-style-type: none"> <li>• Percentage of airport passengers who are transferring during peak hours, 35 per cent.</li> <li>• Airport passenger surface access mode share: 65 per cent public transport, 35% private car.</li> </ul>



Figure 2.4: A new hub airport at the Isle of Grain – siting and key considerations



**Isle of Grain: Headlines**

- Central London: 30 miles
- Airport footprint: 55km<sup>2</sup>
- Airport capacity: up to 180mppa
- Overflying of London avoided
- Prevailing winds from the southwest, hence east-west runway alignment
- 31,500 people exposed to noise - less than 5 per cent who would be at Heathrow
- Significant areas of land affected are subject to national and international environmental designations
- Catalyst for development and growth across the Thames Gateway, the UK's largest growth and regeneration area
- Potential hazards such as bird strike risk and SS Montgomery can be managed and mitigated

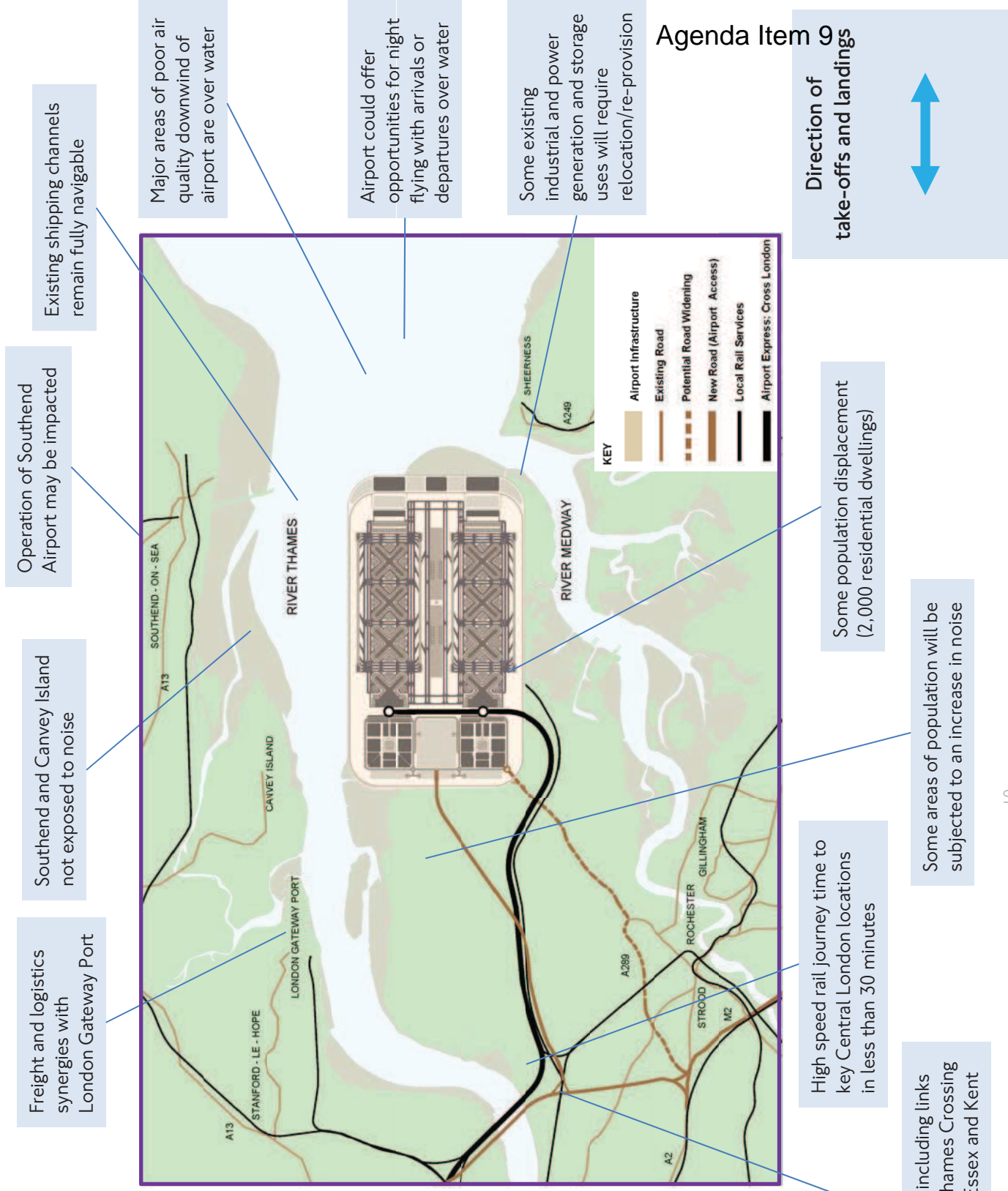
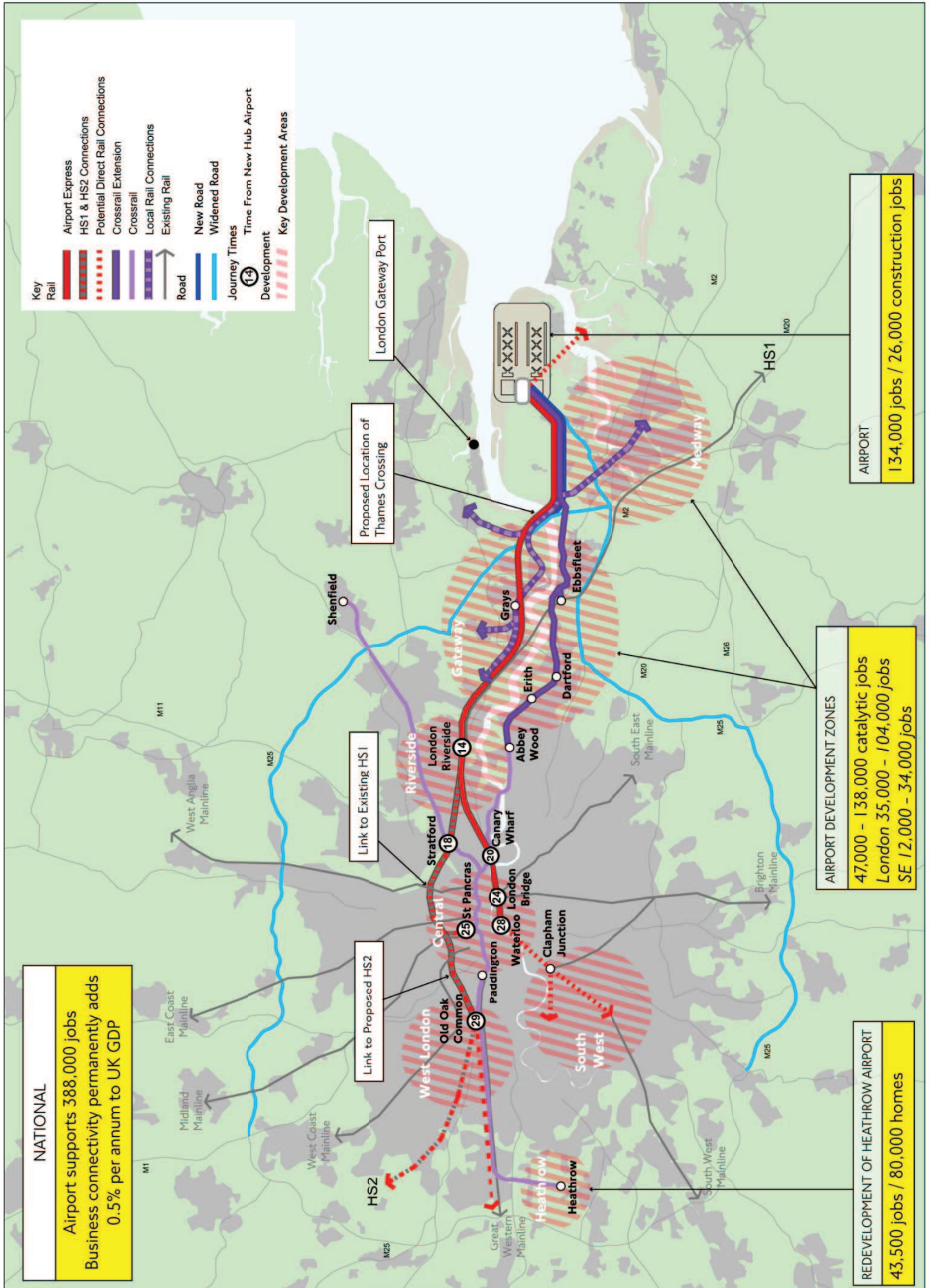


Figure 2.5: A new hub airport at the Isle of Grain – the spatial context



### 3 THE ECONOMIC IMPACTS

**Commission question – What are the potential national economic impacts of the proposal?**

**Commission question – What are the likely impacts of the proposal on the regional / local economies surrounding a) the proposed site for new or enhanced capacity and b) other airports affected by the proposal?**

Oxford Economics, Ramboll, Atkins, York Aviation, Regeneris and Innovacion have worked with Transport for London to identify the potential long term economic benefits for London, the South East and the UK of a new hub airport at the Isle of Grain, driven by a step change in connectivity and the UK’s participation in global business. This assessment is based on the proposition set out in Chapter 2.

#### 3.1 Impacts on the UK economy through the provision of international connectivity

York Aviation have compiled a detailed route-by-route analysis of the potential global connectivity on offer at a new hub airport, compared to alternative scenarios. A new four independent runway hub airport at a single site will offer:

- A 75 per cent increase in destinations served by Heathrow currently and a 13 per cent increase in the number of destinations served in total by the London Area Airports.
- Substantially improved connectivity to areas of international business growth and emerging markets. More than 40 new destinations in these markets will be added, including six new country markets. The expanded range of destinations is particularly notable to the large, rapidly growing countries of China, Brazil and India: eight more destinations are added in China, three more in Brazil and three more in India compared to the next best option.
- Nine new domestic connections (16 domestic destinations in total), complementing the improvements to pan-UK connectivity enabled by the planned new High Speed Rail network. There will also be a substantial increase in frequencies on many existing domestic air connections.

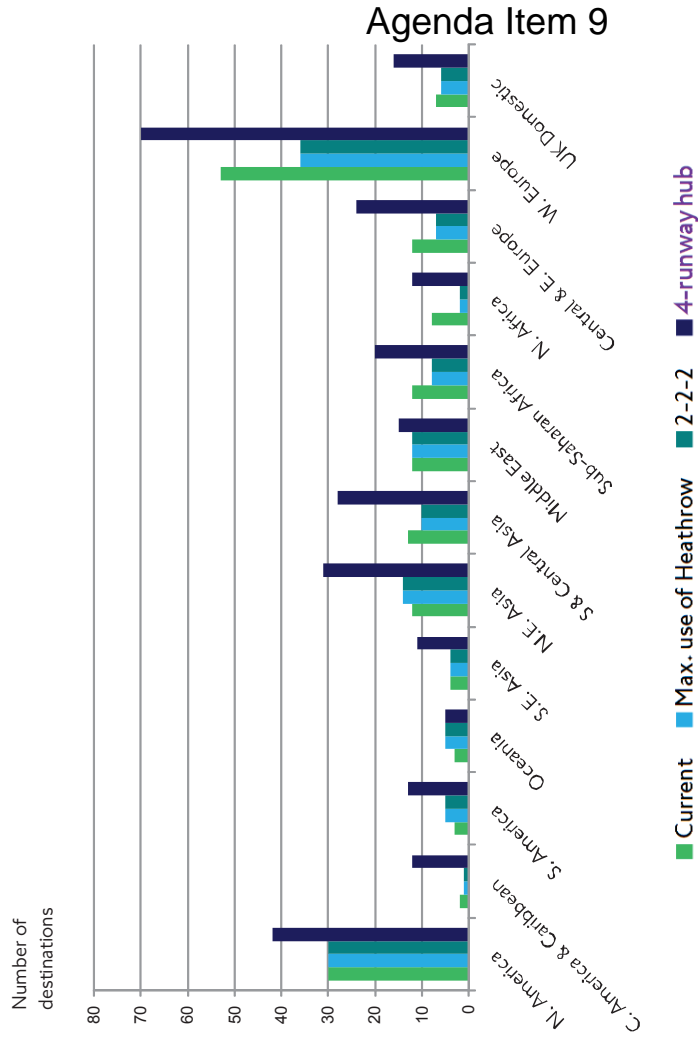
By 2050, the proposed new four independent runway hub is projected to serve a total of 299 destinations with 9,226 flights per week<sup>2</sup>, the distribution

of which compared to Heathrow currently, Heathrow in 2050, and a distributed expansion model (2-2-2) is set out in Figure 3.1, below.

#### Heathrow cannot meet our connectivity needs

- A new four-runway hub would serve 159 more destinations and more than double the flight frequencies than would Heathrow in 2050, without new runways or terminals.
- A distributed hub model, or 2-2-2 (two runways at each of the three main London airports) would not offer any connectivity advantages. It is difficult to envisage Gatwick and Stansted becoming meaningful competitors to Heathrow, even with substantial investment.

Figure 3.1: The connectivity benefits of a new hub airport – destinations served, by world region, by scenario<sup>3</sup>



The potential long-run productivity growth that could arise from such an increase in aviation connectivity has been modelled. The economic benefits include ready access to new and fast growing markets, and quicker adoption of new ideas. The long-term economic benefit of the increased capacity provided by a four runway hub airport is to permanently increase the UK's GDP by 0.5 per cent by 2050<sup>4</sup>. In terms of current GDP this is worth £6.9 billion a year and is in addition to the demand-side employment and output impacts which are discussed in Section 3.4 below.

Each UK region is already heavily dependent on exporting to emerging markets. This is forecast to need to increase if the Government is to fulfil its economic ambitions.

Overall, a new hub will substantially improve the UK's ability to connect to areas of international business growth and emerging markets. Through its role in enabling domestic connectivity the new hub airport will also provide benefits to all regions of the UK. For some areas it will provide hub connectivity for the first time, for others it will either reintroduce connections that have been lost or enhance the existing offer.

<p><b>Heathrow is not a hub for the UK regions</b></p> <ul style="list-style-type: none"> <li>Domestic connections have steadily decreased at Heathrow to only 7 destinations currently. A new hub could support 16 domestic routes, at increased frequencies, and ensure that the UK regions had excellent global access.</li> </ul>
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**3.2 Facilitation of UK trade in goods and services**

The new hub airport will significantly support the UK's ambition for increasing trade in goods and services globally. Aviation plays a critical role in supporting trade between countries, both in terms of trade in goods (via air cargo transport) and in services (via air passenger transport). Goods traded by air accounted for 35 per cent of the value of the UK's non-EU trade in 2012, with a value of £120 billion. Nearly two-thirds of companies report that passenger services are either vital or very important for sales, marketing and servicing or meeting customers<sup>5</sup>. Currently, the UK's high-value service industries, such as banking and finance, accountancy, insurance, pension funds and advertising - which provide 2.4 million jobs, one third in London - are those most reliant on air transport for international connectivity. They are also fast growing: more than 63,000 new jobs were created in these sectors between 2010 and 2011 alone (+2.7 per cent).

The global economy is forecast to become even more dependent on trade over the next decade, with world trade projected to increase by over 90 per cent by 2021<sup>6</sup>. The UK government has put forward ambitious export targets for 2020: a doubling of the current levels of trade to £1 trillion by 2020 and to have 100,000 UK companies exporting. Demand remains weak in both the UK and European markets. Excellent aviation connectivity will benefit UK businesses looking to trade with the emerging markets in Asia, Latin America and the Middle East, whose middle class markets are expanding rapidly.

**3.3 Impact on tourism and VFR**

As the world's sixth most popular tourist destination, tourism is a key sector for the UK worth £106.3 billion in 2012<sup>7</sup> (6.8 per cent of GDP). The UK is ranked 8th out of 184 countries in terms of the GDP contribution of tourism.

The new hub airport will significantly enhance the UK's potential for tourism given the importance of air travel and London's role as a gateway for all regions of the UK. A new hub airport will allow the UK to potentially attract more than 70 million non-business travellers by 2050<sup>8</sup> and capture the economic benefits that flow from the £1,100 spent, on average, by each long haul passenger.

The potential of visiting friends and relatives (VFR) passengers from growth and emerging economies alone is significant<sup>9</sup>. In 2011, 4.2 million people used air travel for visiting friends and relatives in London, spending £2.3 billion and accounting for half of all inbound VFR trips to the UK. Air related VFR spend in London from visitors from growth economies has been increasing by 11 per cent per annum since 2002 and average trip length is 23 days compared to just six nights for visitors from EU15 countries. VFR also brings important social benefits for a city as diverse as London and enhances our ability to attract the best talent.

**3.4 Impacts on the local and national economy through both direct and indirect effects**

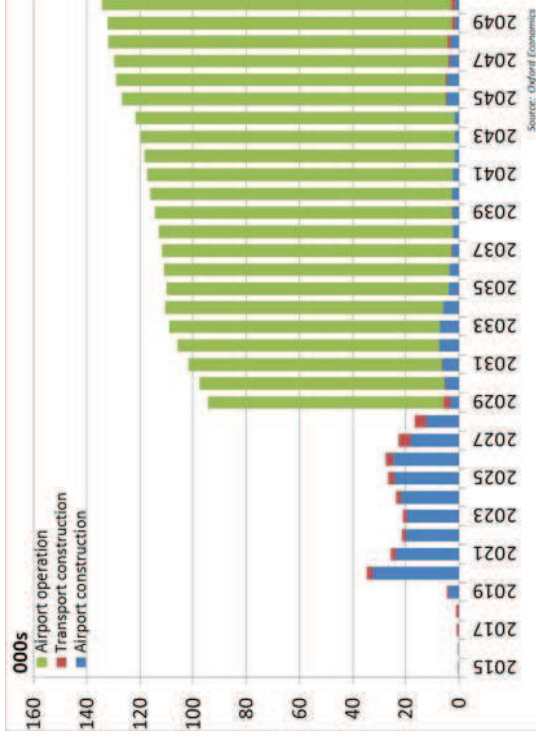
The development and operation of the new airport and its transport links will generate significant new employment and productive activity<sup>10</sup>. The effects will flow through to other parts of the local and national economy through supply chain effects. Those building or working at the airport, on the transport links, or in the associated supply chains, will spend some of the money they earn, creating further impacts. These effects have been quantified<sup>11</sup>.

- Phase 1 of airport construction starts in 2020 and lasts until the airport enters operation in 2029. A second phase of airport construction starts in 2025 and runs to 2050. Phased construction of road and rail links start in 2015 until airport opening and are then followed by renewals.
- By 2025 airport construction will generate a net total of 24,000 local area construction jobs generating £1.34 billion in local GVA. Ground construction will add a further 2,000 local jobs and approximately £130 million in local GVA. These impacts are net and account for the displacement of local labour from other jobs.

When the airport opens and as its operational use expands, a very large number of permanent additional jobs will be created locally. Defined on the basis of commuting, the local impact area that will benefit includes Medway, Swale, Maidstone, Tonbridge and Malling, Gravesham and Dartford.

By 2050 operations of the new hub airport will generate 132,000 jobs worth £16.4 billion in local GVA per annum. There will also be small local impacts arising from the operation of the surface transport link and on-going construction (both contributing about 2,000 net local jobs). The new hub airport will trigger high levels of growth in transportation, logistics and storage, wholesale and retail, administration, and accommodation and food services. As well as a wide range of low and high skill job opportunities the airport will permanently raise the productivity level of the local area. The local employment impact is illustrated in Figure 3.2, and the national and local employment and GVA impacts are set out in Table 3.1.

Figure 3.2: Additional local employment (net) created in the Isle of Grain local area



With exceptional levels of public transport provision, the 160,000 new permanent airport and construction jobs would be accessible to London’s growing workforce.

Table 3.1: Employment and Gross Value Added (GVA) created by construction and operation of a new hub airport at the Isle of Grain including ground transport links (2050)

	By 2050	
	Employment	Annual Gross Value Added (GVA) £2013
Total UK Jobs and Economic Output Supported (Gross National Economic Impacts)	388,000	£42.3 billion
Additional Local Jobs and Economic Output Created (Net Local Economic Impacts)	134,000	£16.6 billion

**Nationally, the airport will support 388,000 jobs<sup>12</sup> by 2050 and generate a cumulative GVA impact of £726 billion between 2015 and 2050 – about £20 billion each year.** This is in addition to the permanent annual supply-side improvements to the UK's economy discussed in Section 3.1.

### 3.5 Catalytic effects

A new hub airport will also trigger additional job creation through catalytic induced effects. There is substantial international evidence of this phenomenon with businesses benefitting from locating adjacent to an airport or in a corridor running from the airport towards the city.

A new hub airport on the Isle of Grain is conservatively estimated to trigger the creation of a further 47,000 to 138,000 catalytic jobs<sup>13</sup> around the airport and in the key development zones (illustrated in Figure 2.5). Based on global evidence, the airport corridor would include science and business parks, conference facilities, hotels, logistics, healthcare/medical services, higher education and advanced manufacturing as well as additional residential development.

Geographically, an Inner Estuary Aerropolis<sup>14</sup> would comprise an 'Eastern Growth Wedge' stretching in a corridor from Southend and Swale in the east, through Medway, Thurrock, Barking and Dartford to central London and Heathrow in the west.

### 3.6 Alignment with local and regional economic strategies

As part of an integrated infrastructure and development plan a new hub airport will support the high rates of growth that are forecast for London<sup>15</sup>:

- A population expanding by 2.1 million people from 8.2 million in 2011 to 10.3 million in 2036 at a rate of about 84,000 people each year.
- A labour market expanding by 850,000 jobs from 4.9 million in 2011 to 5.8 million in 2036 at a rate of about 35,000 each year.

Regional and local strategies, the London Plan, and the economic development strategies, core strategies and other relevant plans for the local area will be transformed by introducing a new hub airport at the Isle of Grain. The scale of growth will be much larger than is assumed in the plans and consequently the strategies would need to be revised to maximise the economic and social benefits for London, the south east and the UK.

### 3.7 Impact on inward investment to the UK

With net investment inflows of £41 billion into the UK in 2010, over 94,000 jobs depend on Foreign Direct Investment (FDI) in the regions and countries of the UK. FDI is particularly important in the North East, the West Midlands, Northern Ireland and Wales. There is a significant evidence base showing a clear link between air connectivity and inward investment. Transport links are an essential factor in the location decision of 52 per cent of companies and 63 per cent of firms stated that air transport was vital or very important to investment decisions. Other research suggests that FDI increases by 50 per cent after a first direct connection to a foreign region<sup>16</sup>.

### 3.8 Impacts on Heathrow Airport

There will be economic impacts from relocating Heathrow's activities to a larger hub airport in 2029 and implementing a carefully planned redevelopment scheme for the airport site immediately on closure<sup>17</sup>. With its location, the dynamism of the surrounding economy, the high growth forecast for London and the current transport provision Heathrow offers a unique development site in terms of location and scale. For this assessment, the complete closure of Heathrow has been assumed, though in practice a small airport could remain.

In the long run, closing Heathrow would not reduce the UK's total employment and GVA. All of the economic activity associated with the airport will find alternative uses elsewhere in the economy. Any job loss does not mean a rise in unemployment. With a relocation, large-scale redundancies are avoidable. Whilst some of the Heathrow workers will find alternative employment in the local area, others will be attracted to regional opportunities using the excellent public transport connections. Those currently employed in skilled airport operational jobs would be able to transfer to the new hub airport.

In a residential redevelopment scenario<sup>18</sup>, that is consistent with the current London Plan, the area would have an additional 184,000 residents (approximately 80,000 households) and four town centres by 2053 as well as many thousands of construction jobs and increased supply chain purchasing during redevelopment. GLA forecasts anticipate that London's population will increase from 8.4m in 2013 to more than 9.6 million in 2030 – an increase of more than 1 million people<sup>19</sup>. Given the scale and location of the site, there is also potential for significant high value, knowledge intensive uses, for

example, bringing together higher education and science / innovation parks as part of an international offer.

The switch from employment use to the creation of a new London Borough is estimated to result in a net loss of 33,500 jobs locally which is fewer than the jobs that London is forecast to create each year in the future (35,000). Furthermore, between 1998 and 2008 London and the South East created more than 94,000 jobs each year. These impacts are summarised in Table 3.3.

**Table 3.3: Employment impacts of Heathrow closure and residential redevelopment (to 2053)**

	By 2053 Employment
Closure of Heathrow	-77,000
Residential redevelopment	+43,500
<b>Total</b>	<b>-33,500</b>
<b>Annual job creation in London to 2036 (GLA Forecast May 2013)</b>	<b>+35,000</b>
<b>Annual job creation in London and the South East 1998-2008 (ONS)</b>	<b>+94,190</b>

### 3.9 Impact on the freight and logistics industry

Aviation infrastructure is critically important to the air freight industry and London’s six airports facilitate 76 per cent of the UK’s air cargo. Sustaining enough aviation capacity to meet future air freight demand is the first step in encouraging trade growth. However, with increased global trade the UK’s demand for air freight, in both bellyhold and dedicated cargo freighters, could treble by 2050.

The difference between forecasts to 2050 for air cargo and the DfT’s constrained forecasts of total Air Traffic Movements represents economic activity that may not pass through London. While some surplus demand may be met using airports outside the London area or even airports in continental Europe, it would be at a higher cost and represent a welfare loss. Modelling the lost value of these traded good involves analysis of a range of air cargo forecasts (e.g. DfT, Boeing, and Airbus) and then estimating the financial value.

Using this approach<sup>20</sup> it is estimated that by 2020 up to £21 billion worth of air cargo could be lost to London airports due to capacity constraints. By 2050, this loss rises to £270 billion due to an increase in capacity constraints. A new hub airport would substantially remove these freight constraints by increasing both capacity and operational periods.

### 3.10 Additional economic benefits

A new hub airport at the Isle of Grain would have a range of other economic benefits not quantified in this assessment<sup>21</sup>. These include:

- **Crowding relief and user time savings** - particularly on the congested central London corridors for non-airport traffic and on congested parts of south east road network.
- **Wider economic development opportunities**
  - Releasing supply-side (infrastructure and market conditions) constraints on growth in the South East of England could trigger new jobs and housing; additional housing could improve affordability and support the London labour market.
  - Agglomeration benefits – maximising the clustering potential of industries and workforce.
- Impacting in a similar way to Crossrail, there would also be wider economic benefits (e.g. agglomeration) arising from the investment in rail capacity

improvements to support an expanding central London. These user and wider benefits for central London rail investments alone are conservatively estimated at between £12 and £15 billion.

ECONOMIC IMPACTS : KEY FINDINGS
<ul style="list-style-type: none"> <li>• The additional business connectivity offered from a new hub airport will permanently add 0.5 per cent to UK GDP by 2050, currently valued at £6.9 billion.</li> <li>• Nationally, a new hub airport would support 388,000 jobs by 2050 and result in a cumulative UK GVA impact of £726 billion between 2015 and 2050.</li> <li>• Locally, by 2050 the hub airport will create 134,000 new jobs generating £16.6 billion in local GVA per annum. Significant expansion would occur in transport, retail and accommodation sectors and local productivity levels will increase.</li> <li>• By 2025 airport construction will generate a net total of 24,000 local area jobs generating £1.34 billion in local GVA.</li> <li>• By 2020, up to £21 billion worth of air cargo could be lost to London airports due to capacity constraints. By 2050, that amount rises to £270 billion due to increasing capacity constraints.</li> </ul>

#### 4 THE IMPACTS ON PEOPLE

**Commission question – How will the proposal impact upon the passenger experience (eg. choice, cost, accessibility, etc?)**

##### 4.1 Impact on price of air travel for the consumer

If airport expansion is to be feasible, it must address the needs of passengers, offering meaningful choice, a quality experience and reasonable fares. A new hub airport on the Isle of Grain will:

- Encourage airline competition by having capacity for new entrants, routes and frequencies, in sharp contrast to a highly constrained Heathrow, this will have a positive impact on fares and improve airlines’ service offering.
- Safeguard passenger choice of airports, between an effective hub airport with a comprehensive shorthaul and longhaul network and more local non-hub airports with a selection of popular routes, mostly shorthaul and leisure focused.
- Need to be regulated appropriately, because hub airports by their nature have no perfect competitors. This will – in conjunction with market forces – maintain airport charges at a reasonable level, as well as securing investment for ongoing improvements to facilities. The impact of charges levied by the airport as a result of its commercial requirements is discussed in chapter 8.
- Be designed to offer significant operational efficiencies, helping further reduce costs, by, for example significantly reducing the delays and resilience issues that plague Heathrow today, by introducing ample runway, apron and terminal capacity.
- Have the space to improve the overall passenger experience, allowing for a more spacious terminal design and improved facilities dedicated to premium passengers.

It is also important to emphasise that the airport’s surface access connections have been designed to offer fast, direct, rail connections that bring the airport front door to many different locations across London and the southeast and beyond. Remote city air terminals could be implemented and optimised for multi-modal access, and offer check-in and bag-drop facilities.



<p><b>London needs a proper hub airport that offers a world-class passenger experience</b></p>
<ul style="list-style-type: none"> <li>• Heathrow’s piecemeal evolution has resulted in long connecting times and convoluted routings for aircraft, passenger, baggage, and cargo transfers. Despite recent developments, using the existing infrastructure will continue to place limitations on the overall passenger experience at Heathrow.</li> </ul>

**4.2 Impacts on identified regeneration or growth areas – including on local business and employment**

**Commission question – What are the likely social impacts of the proposal, including impacts around the proposed location for new capacity, and around any other airports which would be affected, for example on employment, housing and local communities, vulnerable groups, quality of life and health**

There is a clear national strategic case for locating a new hub airport to the east of London - providing a 50 year+ spatial framework for the long term expansion and development of London and the South East. Despite London’s track record and prospects for continued economic success, the capital faces a range of challenges and potential growth constraints:

- A chronic and growing shortage in the supply of housing affecting affordability, labour market performance, economic growth and global competitiveness.
- Although London and the Greater South East drive the UK economy, substantial concentrations of persistent deprivation and unemployment remain. These are particularly evident in east London and the Thames Gateway - areas identified as growth locations in current planning documents.
- The Thames Gateway offers the single largest latent supply of development land in the Greater South East (34 per cent of the total for housing). This capacity, which does not exist at other locations in the South East, will be required to accommodate the potential development opportunity that a four run hub airport would trigger in the long term.
- Focussing long term development where it is needed could protect Green Belt and rural areas in other parts of the UK and avoid increases in congestion in other areas. This is effective stewardship of the UK’s scarce land resources while supporting national economic growth.

- The slow progress in completing the Thames Gateway project has been due to a significant infrastructure deficit and the absence of large, catalytic economic projects. A new hub airport is such a project.
- The local community will benefit from greater employment and better housing opportunities. Being in employment has been shown to have beneficial health impacts. Local communities will be affected by an increase in aviation and surface transport noise and air pollution. For some, this may be a substantial step change from existing conditions, but the number of people who would be affected is many multiples lower than those at both Heathrow now – and in the future.

A summary socio-economic profile of the Isle of Grain together with the forecast impacts is given in Table 4.1, below. The local community will benefit from: an unprecedented increase in local employment opportunities around the airport and more widely; falling unemployment; increasing incomes; increasing housing and social infrastructure provision and a reduction in out-commuting for work. The long term annual rate growth in jobs will double.

Table 4.1: Current profile and forecast impacts for Isle of Grain local area (six neighbouring authorities).

Isle of Grain Local Area <i>Medway, Swale, Maidstone, Tonbridge and Malling, Gravesham and Dartford</i>		Forecast Impacts
<b>Population</b>	<b>Current Profile</b>	<ul style="list-style-type: none"> <li>Population increases by 81,000 residents by 2050</li> </ul>
<b>Housing</b>	<ul style="list-style-type: none"> <li>Resident population of 875,000 (2011)</li> <li>A stock of 371,000 housing units which grew by 10% between 2002 and 2012.</li> </ul>	<ul style="list-style-type: none"> <li>Households increase by 35,000 over baseline population forecast</li> </ul>
<b>Economy</b>	<ul style="list-style-type: none"> <li>An economy of 401,000 jobs and 26,945 businesses</li> <li>Jobs grew on average by 0.48% per annum (1991-2013 including a period of comparatively strong national growth).</li> </ul>	<ul style="list-style-type: none"> <li>An additional 134,000 local jobs per annum by 2050 (concentrated in transport, storage, retail, food, accommodation, administration and support services) and 24,000 construction jobs by 2025.</li> <li>Access to a significant proportion of up to 138,000 catalytic jobs in the airport corridor and nearby development zones.</li> <li>On average, in the future, employment will grow by 0.78% per annum between 2020 and 2050 – a doubling of the historic rate. Growth will peak at 1.35%/annum during the construction phase (2020-2030)</li> </ul>
<b>Labour Market</b>	<ul style="list-style-type: none"> <li>Above average unemployment (18,920 JSA claimants in March 2013)</li> </ul>	<ul style="list-style-type: none"> <li>Unemployment (claimant count) falls from an average of 3.3% to 1%.</li> <li>A reduction in net out-commuting from 49,000 in 2012 to 5,000 in 2050.</li> </ul>
<b>Income</b>	<ul style="list-style-type: none"> <li>Levels of deprivation higher than the UK average (in Swale, Medway, Gravesham and Dartford)</li> </ul>	<ul style="list-style-type: none"> <li>Personal disposable income forecast to grow by an additional 7.4% by 2050 (+£2,600).</li> </ul>

**Commission question – Improvements in access to international connectivity from areas previously poorly served?**

The new hub airport will significantly improve international connectivity for previously poorly served regions of the UK. It will increase both the number of destinations and the frequency of domestic air services. By 2050, the number of domestic destinations could rise from seven in 2013 to 16 (Figure 3.1). Remote regions of the UK in particular will gain. New connections would be established to Dundee, Inverness, Belfast International, Derry, Newquay, Guernsey, Jersey and the Isle of Man. Existing services to destinations such as

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Aberdeen and Glasgow will also benefit as they experience significant increases in frequency.

**Commission question – Urbanisation effects particularly in rural or Green Belt areas resulting from major infrastructure?**

Urbanisation would lead to positive economic impacts (primarily realised in the employment gains) and positive societal impacts, such as the facilitation of significant housing provision. Modelling forecasts that the direct, indirect and induced employment effects<sup>22</sup> of a new airport at the Isle of Grain would increase households by 35,000 in the local area. However, 37,000 units were built over the last decade and the capacity for housing development in the vicinity is 98,620 units which could accommodate a population of 227,000<sup>23</sup>. This capacity rises to more than 379,000 housing units across the wider Thames Gateway<sup>24</sup>.

**Expansion at Heathrow would have significant impacts on the Green Belt**

- A four runway Heathrow including the associated commercial and residential development requires a major incursion into the surrounding Green Belt and a significant increase in house building in an already congested area. Constructing the 30,000 houses needed for the expanded airport workforce would absorb every house planned to be built in Hillingdon and Hounslow over the next 15 years. The alternative is that local residents and younger people in particular would be priced out of the housing market and unsustainable commuting patterns will be increased further.

**Commission question – How does the proposer plan to engage with local communities in taking forward their plans?**

A new hub airport at the Isle of Grain would have a number of impacts on the local area, but working with local authorities and local communities can ensure any issues are handled sensitively and that the appropriate mitigations are put in place.

A new hub airport will also present a unique range of opportunities for local communities in terms of the jobs created, potential for regeneration and the very significant boost to local transport infrastructure investment. Dialogue with local authorities will be essential to ensure that growth is as much as possible aligned with their existing development plans and regeneration sites. Similarly, an Isle of Grain airport, as well as creating an incredibly well

connected public transport interchange for the benefit of local people, could also support specific local transport objectives, such as a Lower Thames Crossing.

**PEOPLE IMPACTS : SUMMARY OF FINDINGS**

- After 25 years of public regeneration expenditure, the hub airport offers the potential to complete the original aims of the Thames Gateway and provide a spatial planning strategy to accommodate London and the South East's growth needs for the next 50 years.
- By focusing development where there is capacity - Green Belt and rural uses are protected in other parts of the UK.
- The local community will benefit from: an unprecedented and permanent increase in local employment opportunities around the airport and more widely; falling unemployment; increasing incomes; increasing housing and social infrastructure provision and a reduction in out-commuting for work.
- A new hub airport will be a powerful mechanism to address deprivation which persists in concentrations in East London and outwards to South Essex and North Kent.

**5 SURFACE ACCESS IMPACTS**

*Commission question – Does the proposal provide effective surface access for passengers, businesses and relevant freight traffic? Will surface access plans provide the capacity needed for expected future demand? How does the proposal impact upon local traffic and congestion? What is the expected surface access split between public and private transport?*

**5.1 Potential surface access demand**

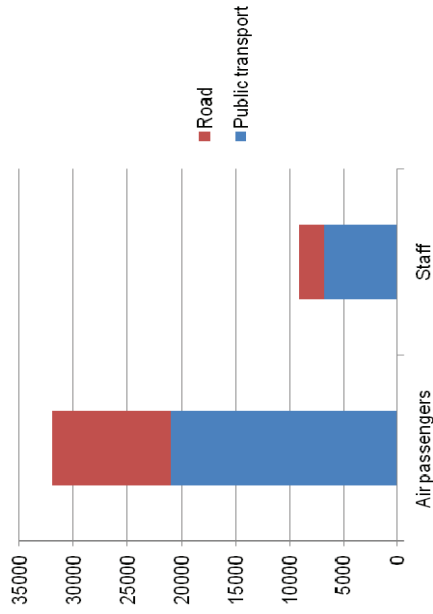
An airport transport network must cater for a range of demands, each with their own characteristics - trip purpose, time of travel, origin/destination and mode will vary. This analysis has distinguished between air passenger, airport staff and freight, recognising that each category displays significantly different travel characteristics and requires different surface access provision.

The scale of the proposed intervention, which is described in chapter 2, is designed to meet the volume of surface access trips estimated at full build out of the airport to 180 mppa and provide excellent levels of sustainable connectivity to key destinations. Well established transport models have been applied to test transport network performance (TfL's Railplan for public transport and the Highway Agency's M25 model for road). It is assumed that during the peak hour 35 per cent of air passengers are undertaking transfer trips and do not therefore leave the airport. A target of 65 per cent use of public transport has also been set, although the proposed strategy has been tested for capacity and impact against a range of mode split outcomes.

**5.2 Formulation of surface access demand**

The peak hour of demand for surface access is forecast to be 07.00 to 08.00, when 32,000 air passengers will be travelling to and from the airport<sup>25</sup>. It is also assumed that a further 9,000 two way staff trips will be made during this hour (although predominant staff movements will occur outside the air passenger peak because of patterns of shift working). The scale of the demand challenge in serving a new hub airport is illustrated in figure 5.1. These figures imply a forecast of around 8,000 vehicle trips to the airport, allowing for cars, taxis, buses and coaches and freight movements.

Figure 5.1: The scale of the demand challenge - 0700-0800 (peak hour, two-way person trips)

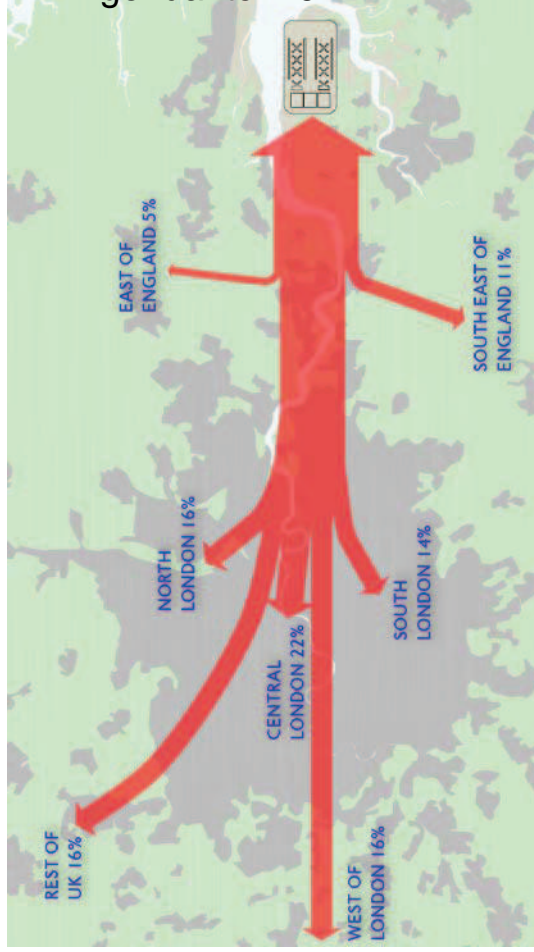


### 5.3 Distribution of trips

An analysis of current patterns of air passenger distribution at Heathrow has been conducted. Minor, conservative adjustments have been made to reflect a shift of demand towards the east of London. A more thorough review would predict a greater displacement of trips to occur. Figure 5.2 shows peak hour air passenger distribution assumptions. Half of staff trips are assumed to be drawn from a 20km 'local' North Kent/south Essex area – including key settlements such as the Medway Towns, Basildon and Dartford. With excellent public transport links and the potential for travel discounts for staff on these connections, the vast majority of the remaining 50 per cent of those employed at and around the airport could live within Greater London.

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Figure 5.2: Potential distribution of air passenger demand from a hub airport at the Isle of Grain (all trips)



### 5.4 Wider benefits of surface access network enhancements

The rail proposition brings benefits to both airport and non-airport public transport users in London. These benefits will be realised in terms of new and improved travel opportunities on the London public transport network, and much needed relief on some of the busiest parts of the public transport network in Central London, notably the Jubilee line between Waterloo and Canary Wharf via London Bridge (which will reduce pressure on key peak hour bottlenecks). The Thames Gateway will also benefit from a step change in connectivity, from both high speed services and more frequent and north-south local connections.

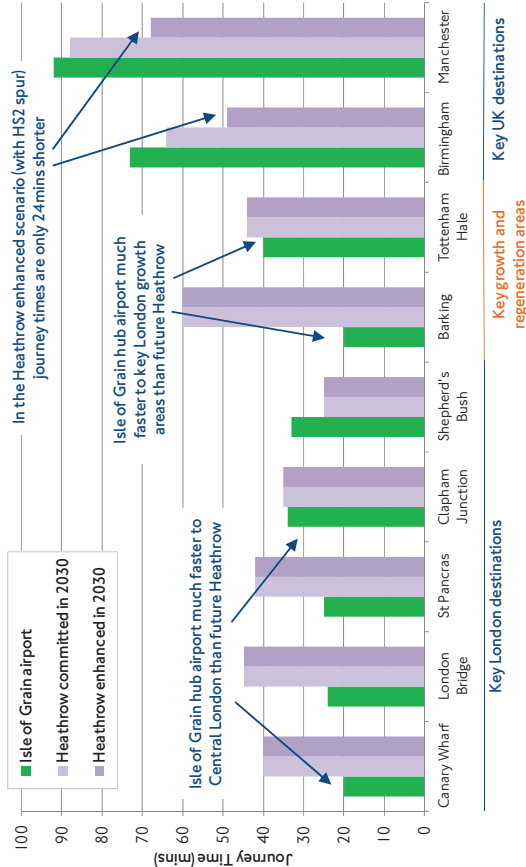
The road network strategy provides efficient access to the airport for road users, and also ensures that airport traffic does not impose additional delay and congestion on other road users.

5.5 Surface access strategy – Key impacts

**Commission question – How will the proposal change journey times from major business and population centres for users of aviation services?**

The proposed network of links will enable much faster public transport journey times between London’s principal airport and most key destinations in London than are currently (and will be with Crossrail) possible from Heathrow. Well designed high speed rail services could permit Old Oak Common and Waterloo to be connected to an airport at the Isle of Grain in less than 30 minutes. Most of South East England and many locations across London will benefit from shorter journey times to an Isle of Grain airport compared to a 2030 Heathrow scenario – as illustrated in Figure 5.3.

Figure 5.3: Comparison of future journey times from the Isle of Grain to key places in 2030

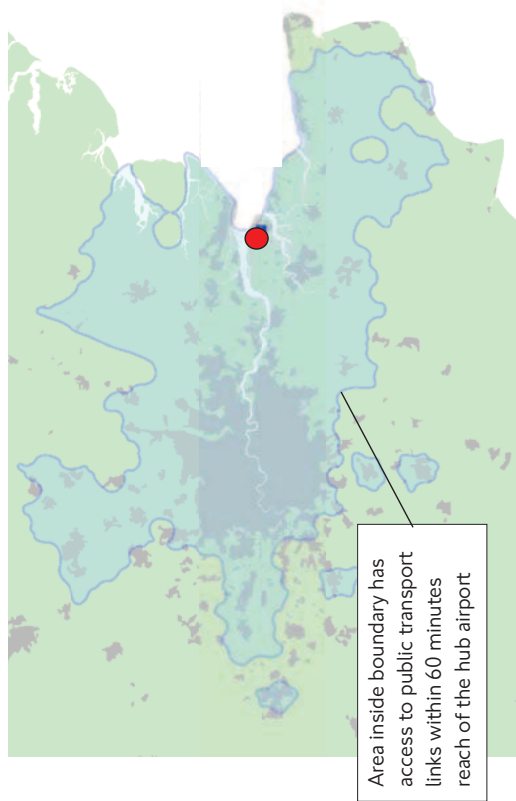


Most of London and a significant part of the South East will have access to public transport links within 60 minutes reach of the hub airport, as illustrated in Figure 5.4.

Access to an Isle of Grain airport is broadly comparable to access to Heathrow

- 10.7 million people within the 60min Isle of Grain catchment area

Figure 5.4: Isle of Grain Airport – 60 minute public transport journey time contour map



**SURFACE ACCESS : SUMMARY OF FINDINGS**

- Significant investment in both rail and road infrastructure, including a new high speed rail line to Central London will provide the capacity, connectivity and mode share required to ensure that a new hub airport located at the Isle of Grain is both successful and sustainable. The new rail and road links will also provide significant and wide-ranging benefits to non-airport users across the region.

6 **THE IMPACTS ON THE ENVIRONMENT**

New airport capacity will generate considerable impacts on the environment. This chapter identifies the potential impacts on air quality, noise, climate change, and designations of an airport at the Isle of Grain. Unless otherwise stated, the impacts of the airport at full-build out in 2050 are assumed, with 180mppa and 1m ATMs. The assessment has made prudent assumptions regarding technological improvements for aircraft and road vehicles.

To prepare this evidence, TfL has worked closely with Atkins and the Environmental Research and Consultancy Department of the Civil Aviation Authority as well as ABPmer. Initial discussions have taken place with bodies such as Natural England, Environment Agency, English Heritage, Defra, Marine Management Organisation, Crown Estate and RSPB. Discussions will need to be continued to ensure proper consideration is given to the potential impacts of a new hub airport on the environment.

**Air quality impacts**

**Commission question – What are the air quality implications of the proposal (including impacts due to aircraft, airside operation and local surface transport links)? Are these consistent with the legal frameworks for air quality? What mitigation plans are proposed?**

A high level, qualitative assessment of the potential impacts on local air quality on human health and vegetation was undertaken for 2034 (five years after airport opening) and 2050 (airport at full capacity<sup>26</sup>). The assessment focused on pollutants of most concern to local authorities, Government and the EU in terms of public health compliance risks: nitrogen dioxide (NO<sub>2</sub>), particulates smaller than 10 micrometres (PM<sub>10</sub>) and particulates smaller than 2.5 micrometres (PM<sub>2.5</sub>). Compliance risks in relation to air quality standards to protect public health are reported by the floorspace area of building footprint where people may be exposed on a regular basis.

Today, background air quality in the vicinity of the site is relatively good, typical of a rural location with low background annual mean concentrations of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>. The most notable air pollutant sources on the Isle of Grain are two power stations, one of which (Grain) will have to be relocated. Air Quality Management Areas (AQMAs) away from the site where the annual mean NO<sub>2</sub> standard is already exceeded include stretches of the M25, M2 and A2.

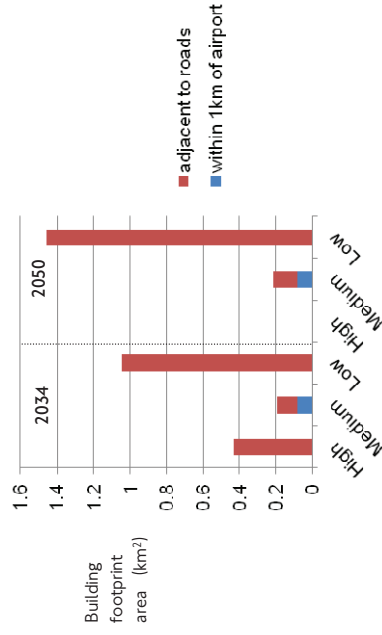
The risk of annual mean NO<sub>2</sub> non-compliance has been categorised as high, medium or low for the airport and new or widened road links as a result of the airport and surface access proposition described in chapter 2. This assessment is set out in Figure 6.1.

- Low risk is presumed acceptable for human health.
- Medium risk means there is a reasonable probability that mitigation will be required in places.
- High risk is presumed harmful to human health.

Categories were assigned according to:

- proximity of the new airport or new/widened roads to AQMAs
- proximity of the new airport or new/widened roads to residential areas

**Figure 6.1: Air Quality Compliance Risks for Public Health in 2034 and 2050 - Annual Mean NO<sub>2</sub>— measured by building floorspace area and the level of non-compliance risk**



**Air quality impacts in 2034 and 2050:**

- **Airport** - there are no high risk areas in 2034 and 2050, but a relatively small area which is subject to medium risk.
- **Roads** - in 2034 high risks are anticipated within 200m of centrelines of roads with proposed widening, the M25 (junctions 2-9, 21-26 and 27 to Lower Thames Crossing) and two sections of the A2 (between M2 junction 1 and Northfleet (Hall Road) and the A2/B255 junction). In 2050 it is anticipated no high risks remain because of expected reductions in

vehicle emissions from advances in and take up of cleaner vehicle technologies.

Measures to mitigate the risk of poor air quality include maximising the use of public transport access and potentially restricting access to low emission vehicles only. While the risk assessment indicates some compliance risk, it is likely that with mitigation a new hub airport at the Isle of Grain could be consistent with relevant legal frameworks.

Heathrow's location in a densely populated area results in substantial air quality impacts	
•	Local air quality currently exceeds NO <sub>2</sub> limits at several locations around the airport and access points to it <sup>27</sup> .
•	An expanded Heathrow would require expansion of the existing road network, with higher traffic flows, exacerbating the local air quality impacts.

6.2

Noise impacts

**Commission question – What are the noise implications of the proposal? How will the proposal alter current and predicted patterns of noise in the surrounding area? What changes to noise profiles would be seen at other airports as a result of the proposal? What measures are envisaged to limit or reduce the number of people affected by noise?**

Despite recent technical advances and the commendable aspirations and efforts of many in the aviation industry, the rate of progress in reducing aircraft noise is slowing. The Commission must plan for the future on the assumption that aircraft will remain noisy and disruptive.

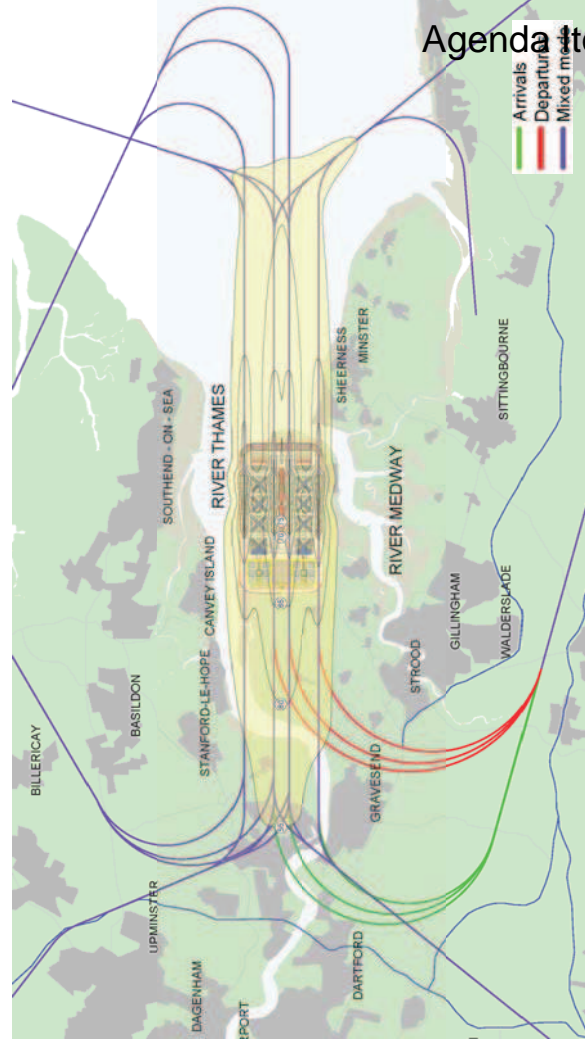
Table 6.1 identifies the number of people who would be exposed to different noise levels, at the Isle of Grain. An assessment of L<sub>den</sub>, L<sub>night</sub> and L<sub>Aeq,16h</sub> noise metrics has been conducted. A comparison against the number of people a four independent runway hub airport located at Heathrow would expose to noise is provided.

Table 6.1: Population exposed to noise by a four runway hub airport in 2050 at 180mppa<sup>28</sup>

Four runway hub airport location	L <sub>den</sub> over 55 dB	L <sub>night</sub> over 50 dB	16h L <sub>Aeq</sub> over 57 dB
Isle of Grain	31,500	1,600	8,200
Heathrow	967,000	Comparison not available	Comparison not available
Heathrow today (2-runway)	766,100	Comparison not available	Comparison not available

A new hub airport at the Isle of Grain would expose 31,500 people to noise in excess of 55dB L<sub>den</sub><sup>29</sup>, meeting Government objectives to minimise aviation noise impacts<sup>30</sup>. This area is illustrated in Figure 6.2.

Figure 6.2: L<sub>den</sub> dB noise contours 2050



L<sub>den</sub> – Much of the area within the L<sub>den</sub> contours are over water or sparsely populated land. Approximately 28,200 people are exposed between 55 and 60 dB(A) L<sub>den</sub>, and 3,300 would be exposed in excess of 60 dB(A) L<sub>den</sub>.

L<sub>night</sub> – Assuming night time operations are limited to the centre two runways, approximately 1,600 residents on the Hoo Peninsula would be exposed.

$L_{Aeq,16h}$  – The area enclosed by the 57 dB  $L_{Aeq,16h}$  noise contour is approximately half the area of the 55dB  $L_{den}$  contour and therefore affects a significantly lower population.

#### Heathrow's noise impacts are of a completely different magnitude to a new hub

- If Heathrow was the location of the four runway airport that the UK needs, almost a million people would be exposed to at least 55db  $L_{den}$ .
- A new hub airport at the Isle of Grain would expose a mere 5 per cent of the number of people to noise in 2050 as Heathrow does today, despite being able to accommodate nearly three times as many passengers.

#### Minimising the number of people affected by noise

- Aircraft noise is already experienced by some communities from nearby airports. People underneath the flight paths of an Isle of Grain airport would experience a worsening of their noise environment with more, larger and lower aircraft movements.
- A number of measures could assist, including careful orientation of the runways and flight paths, the use of noise abating operating procedures, and ensuring that new residential and employment buildings are located so as to minimise their exposure to noise.
- There are some tranquil areas in the vicinity of the proposed airport - mainly coastal marshlands – that will be adversely affected by noise. There is a trade off between this loss of tranquility and the reduction in the number of people exposed to aircraft noise at Heathrow and other airports.
- There will also be noise generated by the construction and operation of new rail and road surface access links.

### 6.3 Climate change impacts

#### Commission question – How might the proposal compare in terms of its impact on greenhouse gas emissions, with alternative options for providing a similar amount of additional capacity?

The Mayor accepts the Committee on Climate Change's recommendation that aviation passenger demand growth could be limited to 60% by 2050 (on 2005 levels). UK-wide this translates to an additional 140 million passengers per annum by 2050. Therefore, if the relocation of Heathrow to a new hub airport is assumed, that new hub airport could accommodate 180mppa and be fully compatible with this target.

A high level assessment of the CO<sub>2</sub> emissions from a brand new, efficient four-fully-independent-runway hub airport in 2050 has been conducted. A new hub airport has been compared against Heathrow today, and a two-runway (constrained) Heathrow in 2050. Two measures have been assessed, and the results presented in Table 6.3:

- **The CO<sub>2</sub> emissions from an average passenger movement.** This has been estimated based on the DfT's 2050 demand forecasting model and their assessment of a capacity unconstrained Heathrow<sup>31</sup>, accounting for a potential future fleet mix, and potential technological improvements, together with ATM forecasts for the Hub.
- **The potential annual CO<sub>2</sub> emissions from passengers and staff travelling to and from the airport.** This has been estimated based on the number of people travelling to and from the airport and their mode of travel (public transport or private car). Assumptions accounting for potential future technological improvements have been made.



Table 6.3: A new hub airport at the Isle of Grain - estimated annual aviation emissions 2050 (rounded)

	Air traffic movement (ATM) emissions Kg CO <sub>2</sub> per passenger	Surface access emissions (passengers and staff travelling to and from the airport) KT CO <sub>2</sub> per annum
New hub airport at the Isle of Grain, 180mppa <sup>32</sup>	130-140 Kg	350 (+/- 20) <sup>33</sup>
Heathrow today (2009 demand figure of 66mppa has been used)	280 Kg <sup>34</sup>	620 <sup>35</sup>
Two runway Heathrow (constrained) in 2050, 93mppa	200 Kg	assessment not conducted

Two key findings are observed:

- Due to both improvements in technology, larger planes and efficient hub operations, the CO<sub>2</sub> per passenger at a new hub in 2050 would be much less than both Heathrow currently, and a two runway Heathrow in 2050.
- Technological improvements, and a significant mode shift to public transport could result in a new hub airport – despite a more than doubling of demand – having lower surface access emissions than Heathrow does today.

An efficient hub airport with four fully-independent-runways will have valuable emissions benefits in addition to those accounted for in the preceding table. These benefits have not been quantified here, but will include:

- **Additional runway capacity** - Will facilitate landing slot flexibility which will achieve significant savings in holding times (stacking) and associated fuel use and emissions. It will allow continuous climb operations and will enable efficient management of aircraft movements such as drawing together large volumes of demand on common routes, allowing it to be served more efficiently in fewer, larger and better loaded planes.

- **Additional apron and taxiway capacity** - Larger airside areas will facilitate efficient aircraft ground activities such as taxiing using a single engine and the layout of the hub will reduce the taxi and idling periods.

- **New Build** - Opportunity to include efficiencies into the design such as implementing renewable power sources and installing ground based equipment to deliver fixed electrical ground power and preconditioned air to reduce the use of plane auxiliary power units.

#### 6.4 Designated sites

**Commission question - Does the proposal affect any designated sites (Sites of Scientific Interest or Special Protection Areas) and if so how might any effects be managed?**

The proposed location of the airport has taken into account designated sites and where possible has sought to reduce its impact. Nevertheless, there are a number of international and national environmental designations within the Thames Estuary. The proposal would affect the following designated sites, as defined by Natural England: Special Protection Areas, Ramsar sites and Sites of Special Scientific Interest<sup>36 37</sup>.

As the proposal affects European designated sites, consideration needs to be given to the European Commission Habitats (92/43/EC) and Wild Birds (2009/147/EC) Directives<sup>38</sup>.

There are a number of measures that can be used to mitigate the impact a new airport would have on existing habitats and species. These include;

- Habitat enhancement of new environments.
  - Using planning and detailed design to avoid environmentally sensitive areas.
- The proposed airport would directly affect approximately 1,830 ha of intertidal and subtidal habitat, and it is considered highly likely that mitigation measures alone would not be sufficient to avoid adverse effects on the integrity of at least some of the features of European sites. Although challenging, it is considered that adequate compensation – in the form of habitat replacement could be identified. Examples of compensatory schemes can be found in Europe and elsewhere, including a number of port developments in Estuaries around the UK. The cost of this has been included in the land preparation costs for the project.

Table 6.4: Other significant local environmental impacts

	Potential impacts likely to include	Potential mitigation and next steps
<b>Biodiversity</b>	<ul style="list-style-type: none"> <li>Other sites of ecological interest such as RSPB Reserves.</li> <li>Protected species: Great Crested Newts, Bats, Dormice, Reptiles, Water Voles, Birds and Otters.</li> </ul>	<ul style="list-style-type: none"> <li>Further desk studies and comprehensive field studies required as design progresses.</li> </ul>
<b>Landscape and Visual</b>	<ul style="list-style-type: none"> <li>Loss of landscape and visual components although the airport does not fall within an Area of Outstanding Natural Beauty (AONB) or within a National Park .</li> </ul>	<ul style="list-style-type: none"> <li>Future design work will provide the opportunity to identify measures to reduce visual and landscape impact which could include landscaping to aid integration with existing landforms.</li> </ul>
<b>Water resources and flooding</b>	<ul style="list-style-type: none"> <li>Site is subject to major coastal flood risk.</li> <li>The airport would impact upon existing watercourses and coastal processes including: wave climates, sediment transport, tidal currents and existing shoal and sandbank features.</li> </ul>	<ul style="list-style-type: none"> <li>Proposal as designed and costed has assumed flood defence level of +3mOD to accommodate a 1 in 200 annual chance against coastal flooding.</li> <li>Further assessment should include a hydrodynamic model of the Hoo Peninsula and a coastal process model; a detailed Water Framework Directive screening could also be required.</li> </ul>
<b>Historical and archaeology</b>	<ul style="list-style-type: none"> <li>Proposal would impact on 2 I listed buildings and two Scheduled Monuments (Grade II).</li> <li>Proposal would indirectly impact on other areas of historical interest.</li> <li>High potential for prehistoric, medieval and later remains.</li> </ul>	<ul style="list-style-type: none"> <li>Detailed siting work could reduce impacts on historical and archaeological features.</li> </ul>

Irrespective of a new airport, the Thames Estuary 2100 plan estimates £6-7bn of investment in Thames tidal defences, continuing floodplain management and intertidal habitat replacement will be required to 2100. Developing appropriate mitigation and compensation measures for the airport could contribute to the more strategic issues identified in the TE 2100 Plan<sup>39</sup>.

6.5 Other significant local environmental impacts

**Commission question – What other significant local environmental impacts should be taken into account?**

Further detailed work is needed on a number of areas to understand the full ecological, landscape & visual, water resources, flooding and heritage impacts that an airport at this location would have, as set out in table 6.4. Impacts that surface access would have on the following areas have not been included. Further work is also required to fully understand these.

7 **OPERATIONAL VIABILITY**

**Commission question – Is the proposal consistent with relevant safety requirements? What operational, safety, and/or resilience risks are associated with the proposal? What measures are proposed to manage these?**

**Commission question – Is the proposal deliverable within relevant airspace constraints? What assumptions underpin this assessment?**

IMPACTS ON THE ENVIRONMENT: SUMMARY OF FINDINGS
<ul style="list-style-type: none"> <li>• Air quality - a new hub airport is not expected to result in areas of high risk for poor NO<sub>2</sub> compliance by 2050.</li> <li>• Noise – considerably less noise impact with 31,500 people exposed at Isle of Grain compared to 967,000 in west London with a four runway Heathrow in 2050 .</li> <li>• Climate change - the Isle of Grain proposal will emit significantly less CO<sub>2</sub> per passenger than a constrained Heathrow 2050.</li> <li>• Designated sites - impacts will be considerable, but there are precedents for minimising, mitigating and compensating for affected areas.</li> <li>• Other - further assessment of a number of potential impacts, particularly coastal processes and hydrodynamics, is necessary to ensure appropriate measures can be identified to mitigate adverse impacts.</li> </ul>

A new hub airport at the Isle of Grain can be operationally resilient:

**7.1 A safe, effective and compatible air traffic control solution can be found**

Transport for London has engaged National Air Traffic Services (NATS) to provide expert advice on the feasibility of the potential airport layout, and the potential to develop a safe, workable airspace solution. NATS have stated that it is feasible to assume that a new hub airport could be included in a London airspace development programme, and that operational procedures and airspace changes could be developed to accommodate a new hub airport at the Isle of Grain<sup>40</sup>.

Assuming that the closure of Heathrow would be an element of the scheme, a significant portion of London-area approach and departure flight paths would shift east, towards open waters. Air traffic patterns of nearby airports, depending on runway orientation, may require review with air traffic rules reconfigured. Close coordination with Southend, Manston and London City airports would be necessary, and the closure of Southend airport could be required.

**7.2 Arrival and departure routes can be routed away from overflying Greater London and other heavily populated areas**

A hub airport located on the Isle of Grain would provide benefit in terms of increased flight path safety. An airport at the Isle of Grain can ensure that almost all air traffic is routed away from overflying large population centres across London and the South East.<sup>41</sup>

**7.3 The airport is located on the coast, but flooding can be prevented**

A new hub airport at a coastal location on the Isle of Grain would take account of the potential for sea levels to rise, and would be built from the first phase of construction with flood defence measures protecting the site from storm

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surges and sea level rise<sup>42</sup>. This would prevent the need for retrofitting infrastructure and ensure operational resilience is maintained.

## 7.4 A number of specific operational factors can be addressed

**Fog** – Average runway utilisation of 75% means that fog should have significantly less of an impact at the new airport than it does currently at Heathrow. Ongoing developments in precision, all-weather aircraft landing systems such as the Local Area Augmentation System (LAAS) will provide even greater safety in the future, potentially even in zero-visibility conditions.

**Prevailing winds** – The orientation of the airport takes into account the prevalent wind direction, with the runways lying due East West. Wind rose data from nearby Shoeburyness, deemed the most appropriate estuary weather station, has been used to confirm that the cross wind component would be compatible with modern aircraft types. ICAO Annex 14 Volume I – Aerodrome Design and Operations (Jul 2009) requires runways to be available 95% of the time in relation to wind conditions and advises that the cross wind component should not exceed 20 knots on more than 5% of the time. Winds greater than 20 knots, from any direction, are typically experienced at Shoeburyness less than 2.5% of the time, hence the cross wind component will not exceed the ICAO recommendation. The wind rose data for Shoeburyness is consistent with the prevailing winds across the South East of England and as such an estuary airport would not be expected to experience any increase in adverse operational impacts due to wind than other South East airports.

**Existing land uses on the Isle of Grain** – Two features that would require special consideration are the 244-metre chimney of Grain Power Station on the east end of the island, and 198-metre chimney of Kingsnorth Power Station on the southeast coast of the island. Additionally, National Grid’s LNG (liquefied natural gas) facility, also on the south-east side of the island, is too tall and too close to the proposed airport site, and would also need to be relocated.<sup>43</sup>

**SS Richard Montgomery** – The wreck of this munitions ship lies some 5 km east of the Isle of Grain. Even though it is within an exclusion zone under the Protection of Wrecks Act and subject to 24-hour radar surveillance by Medway Ports, several large tankers pass within a few hundred metres of the wreck daily. The former Defence Evaluation and Research Agency has concluded that the likelihood of an explosion on the ship is remote. A new

airport on the Isle of Grain is not expected to alter the level of risk associated the wreck.<sup>44</sup>

**Bird populations** – Local and migratory bird populations are present around most airports and this applies especially to coastal locations. The Civil Aviation Authority (CAA) requires that airport operators carry out risk assessments and develop a Bird Control Management Plan<sup>45</sup>. There are a variety of established approaches for addressing bird strike, including habitat management and deterrence and dispersal systems. For example, an advanced noise-based deterrence technology being introduced at major airports in New York and Istanbul this year seeks to eliminate 95% of bird strikes within the airport perimeter.

## 7.5 A new hub airport has been designed to be able to adapt to a range of future demand scenarios

A new hub airport will have the ability to adapt to changing trends in aviation demand and operating scenarios, should these occur. These may include the use of larger and new types of aircraft, and changes to the demand for air cargo and freight transfer by air. As the hub will be designed for modular expansion, these and other trends can be taken into account as the airport site is built out.

### OPERATIONAL VIABILITY: SUMMARY OF FINDINGS

- A new hub airport at the Isle of Grain can be designed so as to remain fully operationally resilient. There are no operational risks or hazards which are deemed insoluble.

**8 DELIVERY AND FINANCING**

**Commission question – What is the estimated cost of the proposal, including surface access, land purchase, compensation, and any other associated infrastructure? What are the associated cost assumptions and risks?**

**8.1 Estimated cost of the proposal**

- Capital expenditure of **£47 billion** (2013 prices, including risk) would be required to deliver a new hub airport and surface access for 90 mppa.
- Once open, an additional **£21 billion** (2013 prices, including risk) of capital expenditure would be required to expand operations to increase capacity to 180mppa by 2050.

**Table 8.1 : the cost of a new hub airport at the Isle of Grain and the surface access links**

Element	Phase 1 (opening year, delivering 90mppa capacity by 2029)	Phase 2 (delivering 180mppa capacity by 2050)
Airport Land – acquisition and preparation	4.8	-
Airport infrastructure	17.7	14.6
Airport rail links	10.2	-
Airport road links	2.6	2.8
<b>Total investment, excluding risk</b>	<b>35.3</b>	<b>17.4</b>
Allowance for risk (surface access)	8.8	1.4
Allowance for risk (non surface access)	3.2	2.2
<b>Total investment</b>	<b>47.3</b>	<b>21.0</b>

These costs envisage a phased approach to expansion after opening in 2029 to ensure infrastructure provision keeps pace with demand. The estimates are compiled using data from major construction programmes and other international airport schemes, are normalised for the South East of the UK, and are in 2013 prices.

Capex associated with commercial development opportunities such as offices and hotels surrounding the airport footprint are not included and it is assumed that they would be delivered by the private sector.

A risk provision based on a blended set of assumptions has been added to the base costs which equates to around 34 per cent in phase 1 and 21 per cent in phase 2<sup>46</sup>.

**Commission question – Is it likely that the cost can be met entirely by the private sector? What is the likely split between public and private sector funding if not? How would the proposal be financed? What are the associated assumptions and risks?**

**8.2 Delivering and financing the infrastructure**

Transport for London have worked alongside Ernst & Young and Ashurst to explore potential delivery options.

The scale and timescale of investment, combined with the level of risk, make it likely that **Government** will have to play the key role in delivering both the airport and surface access links. Particularly in the early (pre-operational) stage of the project, Government is likely to be the only party able and willing to provide the level of funding required and take on the associated project risks. Government support mechanisms, such as guarantees, could increase the attractiveness of the project to the private sector.

**Private sector funding** would be targeted at specific asset groups at specific points in the process to align with the investment appetite of private institutions. Allowing the private sector to fund later stage of construction once major (and high risk) elements are completed could prove attractive: for example, after the land preparation phase or once the airport becomes operational.

One model by which the required infrastructure could be delivered is described below – and considers: transfer of operational risk; transfer of revenue and passenger risk; complexity; value for money; ownership and control and financeability.

- **Airport land** – is acquired by the Government through compulsory purchase, authorised by a Hybrid bill. The land would be prepared through a design and build contract with a single prime contractor or multiple ‘design and build’ contracts. When available the Government would

Table 8.2: Key commercial assumptions

Item	Assumption (2012 prices)
Aeronautical revenue (per passenger)	An increase to £25-30 pp by 2029 from £19pp today. Beyond 2029, charges increase in line with RPI inflation only.
Non-Aeronautical revenue	Set at £16pp from 2029 and increase in line with RPI inflation only.
Airport earnings (EBITDA <sup>47</sup> )	Operating expenditure set at a level to allow for an EBITDA margin of 59 per cent.
Nominal discount rates	6.1 per cent before construction, 10 per cent during construction and 8.5 per cent once operational. Operational discount rates benchmarked against current market levels, with a 1.5 per cent premium applied for construction.
Land	Purchased and prepared separately by Government, then leased back to airport operator.
Time period	Construction between 2020 and 2029 followed by a 50 yr operational period.

Based on the assumptions described above, it can be demonstrated that the new 4 runway hub airport that is being proposed could be commercially viable (with a positive NPV).

It is worth placing the level of airport charges in context; for longhaul routes, they typically constitute no more than 10 per cent of total airline operating costs. Moreover, the Air Passenger Duty (APD) applied to most flights departing the UK ranges from £13 to £188 per passenger.

Nonetheless, should these assumptions not be realised, it may be possible that some Government support may be required. This could additionally entail securing state aid clearance from the European Commission, specifically for the airport infrastructure.

subsequently lease the land to the Hub airport operator on commercial terms.

- **Airport infrastructure** – following a positive decision by the Commission, a National Policy Statement would be prepared, followed by a Hybrid Bill to deliver the on-site infrastructure. As airport operations are seen as commercially viable enterprises, this element in particular would need to be considered against state aid rules. An arms length Special Purpose Vehicle (SPV) would be established by Government to manage, plan, design, and procure the project and take it through to fruition.
- **Airport rail links** – to be constructed with Government funding, overseen by the Department for Transport, via an existing or new SPV. The model would be as per most of the UK network, with operations transferred to the private sector through appropriate franchise agreements.
- **Airport road links** – include both existing roads requiring widening, and brand new roads. The former would be done by the Highways Agency, while the latter could be delivered by either public-private-partnership (PPP) or design-build-finance-operate (DBFO) type delivery structures. Tolls or user charges may be considered, though Government might need to underwrite demand risk.

**Commercial viability**

As mentioned above, airport operations are seen as commercially viable enterprises. To test commercial viability, costs and revenues have been inflated over 50 years, and then discounted. A net present value (NPV) has been calculated. A value which is greater than or equal to zero indicates that the airport element of the project would be commercially viable.

The commercial viability of the airport is highly sensitive to a number of key assumptions, for example the return required for land acquisition and preparation costs, capital expenditure, the level of passenger growth at the hub airport, the profitability of the airport, and the level of aeronautical and non-aeronautical charges. The assumptions used to explore the commercial viability of the airport are set out below, in Table 8.2:

#### 8.4 Cost to Government

A range of potential sources of funding have been identified and suggested allocations put forward, based on the delivery model described above. A summary of the applicability and potential scale of these sources, and the approximate net cost to Government is given in Table 8.3.

**Table 8.3: Potential net cost to Government to new hub airport sale in 2032 if the base case assumptions set out in table 8.2 are applied**

£ billions, nominal	Government Funding Requirement to 2032	Private Sector Sources*	Net Cost to Government
Airport land	7	1	-6
Airport infrastructure and acquisition of Heathrow	55	68	13
Airport rail links	26	-	26
Airport road links	7	1	6
<b>Total</b>	<b>96</b>	<b>71</b>	<b>25</b>

\* Following the successful transfer of operations to the new hub airport, the airport could be privatised via a sale, an IPO or a concession. The value of the hub airport at sale has been arrived at using discount cash flow analysis of the cash flows from the hub airport and the application of assumptions detailed in Table 8.2.

Notes:

- i. Funding requirement is captured through to 2032 in order to include receipts from the sale of land at Heathrow for development following the closure of the airport at Heathrow. New hub airport sale is assumed in 2032 following preparation of the site and permissions post operations transferring to the new hub in 2029.
- ii. These figures differ from those in Table 8.1 for the following reasons:
  - Figures presented in Table 8.1 are real (2013) values, those presented in Table 8.3 are nominal having been subject to inflation.
  - Figures in Table 8.3 represent the net totals of a defined time period. Those presented in Table 8.1 correspond to specific phases. Some costs incurred between 2019 and 2032 include both Phase 1 and Phase 2 costs.

#### Airport charges at a viable new hub airport are in line with levels proposed by Heathrow

- For the 2014-19 control period, Heathrow proposed an increase that would result in an aeronautical charge of £23 (in today's prices) per passenger by 2019. This is comparable to the £25-30 (in today's prices) per passenger at a new hub in 2029, necessary for a new hub airport to be viable.

8.5 Legal mechanisms, risks and timescales

**Commission question – What are the main delivery risks in the proposal?**

The most appropriate legal mechanism to secure approval for a new hub airport is deemed to be a hybrid bill. This is the mechanism best able to grant the necessary suite of approvals – including the surface access links and the nationalisation of Heathrow.

The main delivery risks are listed below; none of them are deemed to be beyond mitigation:

- Securing significant political consensus – to ensure Hybrid Bill proceeds through Parliament and process not impacted by change of Government.
- Proving the environmental case for the airport – including appropriate mitigations.
- Securing the scale of funding required; part of this is ensuring sufficient Government protection and guarantees for private sector investors and debt holders.
- Ensuring robust governance and management, mitigating planning and construction risk.
- Ensuring a successful transition to a new hub airport.
- Introducing a new regulatory regime to support the transition and new airport landscape.

**Heathrow offers neither a quicker solution nor a stop-gap**

- Any expansion at Heathrow would face the same lengthy planning process and similar construction timescales as any other option, regardless of whether for one new terminal and one new runway, or multiple runways and multiple terminals.

8.6 Timescales

Table 8.4: A timeline for delivering a new hub airport and its surface access links

Time	Description of activity
2015	<ul style="list-style-type: none"> <li>• Airports Commission make final recommendation for a new hub airport</li> <li>• The Commission’s recommendation is endorsed by Government, who set up a special purpose vehicle (SPV) to manage, plan, design and procure the project.</li> </ul>
2016	<ul style="list-style-type: none"> <li>• Government publish National Policy Statement</li> </ul>
2019	<ul style="list-style-type: none"> <li>• Government passes a Hybrid Bill for new hub airport and surface access connections</li> </ul>
2020	<ul style="list-style-type: none"> <li>• Government acquire Heathrow and operate through to 2029</li> </ul>
2020 – 2021	<ul style="list-style-type: none"> <li>• Government acquire the required airport land</li> </ul>
2020 – 2026	<ul style="list-style-type: none"> <li>• Government prepare the airport land</li> </ul>
2020 - 2029	<ul style="list-style-type: none"> <li>• Government construct the airport and surface access connections</li> </ul>
2028	<ul style="list-style-type: none"> <li>• Transition to the new hub airport commences</li> </ul>
2029	<ul style="list-style-type: none"> <li>• Overnight move of operations to new hub airport</li> <li>• <b>New hub airport opens</b></li> <li>• Close Heathrow</li> </ul>
2030	<ul style="list-style-type: none"> <li>• Sale of the hub airport by the Government via a sale, an IPO or a concession</li> </ul>
2032	<ul style="list-style-type: none"> <li>• Sale of the land at Heathrow and commencement of residential and commercial development</li> </ul>



### 8.7 The Airports Commission and the Government must take a bold decision

To deliver a new hub airport at the Isle of Grain, the UK needs a clear aviation strategy, and a clear vision from the Commission. Proposals for a new airport at a similar location have been discussed for several decades. They have not been brought forward for a variety of reasons. First and foremost, it has been too easy for decision-makers to revert to the approach they know best, the bit-by-bit, piecemeal expansion of existing airports.

The Mayor of London is calling on the Commission and the Government to take a bold and urgent decision, one that is in the national interest. However this means being pragmatic about overcoming obstacles and being clear about how impacts can be managed and minimised. It also means overriding the views of those with a vested interest in existing infrastructure.

#### AFFORDABILITY AND FINANCING : SUMMARY OF FINDINGS

- An investment of £47 billion would be required to deliver a new hub airport and surface access for 90 mppa. Once open, an additional £21 billion of investment would be required to expand operations to increase capacity to 180mppa by 2050 and support London and the UK's growth.
- A new 4 runway hub airport for 90 million passengers could be commercially viable under a scenario where aeronautical charges of £25-30 per passenger were sustained.
- There are a number of risks associated with the delivery of a new airport and the surface access links, but none are deemed to be insoluble.

## 9 ENDNOTES AND BIBLIOGRAPHY

Technical notes prepared by Transport for London to enhance the evidence contained within this document are identified in **bold**. These can be made available to the Commission upon request.

<sup>1</sup> Atkins, Technical note Isle of Grain Masterplan, June 2013.

<sup>2</sup> York Aviation, London Airports Route Networks in 2050 (TfL Aviation Unit, June 2013, Draft Report)

<sup>3</sup> York Aviation, London Airports Route Networks in 2050 (TfL Aviation Unit, June 2013, Draft Report)

<sup>4</sup> In March 2013 the Office of Budget Responsibility forecast UK growth to be just 0.6 per cent in 2013.

<sup>5</sup> Oxford Economics survey 2006.

<sup>6</sup> Oxford Economics global forecast.

<sup>7</sup> The World Travel and Tourism Council

<sup>8</sup> Ramboll, TN4 Impact on Tourism and other Non-Business Travel (TfL Aviation Unit, June 2013, Draft Report)

<sup>9</sup> Regeneris, The Economic Importance of VFR (TfL Aviation Unit, April 2013, Draft Report).

<sup>10</sup> Oxford Economics TN 5 – Impacts upon the local and national economy (TfL Aviation Unit, June 2013, Draft Report) which outlines the assumptions used including projecting future labour productivity improvements.

<sup>11</sup> These effects have been estimated conservatively using input-output modelling and additional economic benefits can also be expected from off-airport passenger expenditure (e.g. hotels) and from firms near to the airport but not part of its supply chain. These types of catalytic effects are discussed in Section 4.5.

<sup>12</sup> Heathrow's national direct, indirect and induced job impact was estimated at 205,900 in 2010.

<sup>13</sup> See TN6 for detailed references. **Ramboll TN6, Impact of new hub options on Business Location, FDI and Alignment with Strategies** (TfL Aviation Unit, June 2013, Draft)

<sup>14</sup> Aerotropolis – the infrastructure and the activities supporting both aviation-related businesses and the airport's passengers. These are likely to cluster close to the airport, and around the key transport nodes in the rail and road corridors which serve the airport.

<sup>15</sup> GLA labour market (2013) and population forecasts (2012).

<sup>16</sup> **Ramboll, TN6 Impact of new hub options on Business Location, FDI and Alignment with Strategies** (TfL Aviation Unit, June 2013, Draft)

<sup>17</sup> Oxford Economics, TN7a Impacts of Closure and Redevelopment of Heathrow Airport (TfL Aviation Unit, June 2013, Draft Report)

<sup>18</sup> It is assumed that the 1,200ha airport site would accommodate 68,000 new residential units by 2050 and 80,000 units by 2053 accommodating a population of 156,400 and 184,000 respectively including the development of four centres with existing public transport connections.

<sup>19</sup> Greater London Authority (GLA), Population Projections 2012 Round. 2012

<sup>20</sup> Oxford Economics, TN 10 Impacts on the Air Freight Industry, Customers and Associated Business Sectors (TfL Aviation Unit, June 2013, Draft Report).

<sup>20</sup> The airport noise assessment used the UK Civil Aviation Noise Contour Model (ANCON) and fleet mix assumptions to produce noise contours for the metrics Lden, Lnight and LAeq,16h for the year 2050. The areas of the contours were calculated along with estimates of the population and number of households exposed based on CACI 2012 UK population data.

<sup>21</sup> For Crossrail, on top of £16bn of user (mainly time-saving) benefits, agglomeration benefits were forecast in 2007 to have a value to UK GDP of between £15-£60bn.

<sup>22</sup> The catalytic employment effects would also trigger additional housing demand though this would be across a wider geography.

<sup>23</sup> Atkins - Land and Housing Technical Note (TfL Aviation Unit, June 2013, Draft Report) covering nearby major sites for 100 or more dwellings.

<sup>24</sup> PDL Statistics CLG

<sup>25</sup> Atkins, The Mayor's Aviation Work Programme: Surface Access Technical Report July 2013

<sup>26</sup> High Level Qualitative Assessment of Air Quality Compliance Risks for a Hub Airport at Isle of Grain: Technical Note, Atkins, June 2012

<sup>27</sup> Heathrow Airport Limited, Towards a sustainable Heathrow: a focus on air quality, 2010

<sup>28</sup> ERCD Noise Analysis Report Isle of Grain, 2013

<sup>29</sup> ERCD Noise Analysis Report Isle of Grain, 2013

<sup>30</sup> DEFRA, Noise Policy Statement for England, (2010)

<sup>31</sup> Atkins, Technical Note WP4 Climate Change, June 2013 using unpublished information produced in support of the DfT's UK Aviation Forecasts 2013, provided by the DfT for this analysis.

<sup>32</sup> Atkins, Technical Note WP4 Climate Change, June 2013

<sup>33</sup> Atkins, Technical Note WP4 Climate Change, June 2013. (Methodology based on speed based emissions derived from highway modelling and the additional emissions associated with new/extended PT services, assuming 2050 emissions values)

<sup>34</sup> Heathrow Airport, Towards a sustainable Heathrow, 2010.

<sup>35</sup> Heathrow Airport, Towards a sustainable Heathrow, 2010. (Methodology unstated, expected to be based on surveys of activity multiplied by a standard grams/passenger km for relevant mode)

<sup>36</sup> Further information can be found in **Technical Notes: Ecology Desk Study and Mitigation & Compensation Measures (Atkins and ABPmer, 2013)**

<sup>37</sup> SSSIs are legally protected under the Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way (CROW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006. In addition consideration would need to be given to the Water Frameworks Directive (2000/60/EC).

<sup>38</sup> The Directives establish procedures for the approval of plans or projects that have the potential to affect designated features associated with sites classified as Special Protection Areas or Special Areas of Conservation.

<sup>39</sup> Environment Agency, Thames Estuary 2100 Plan, Managing flood risk through London and the Thames estuary, November 2012.

<sup>40</sup> National Air Traffic Services (NATS). TfL Workshop Notes: New hub airport for London. 28 June, 2013.

<sup>41</sup> Atkins, Technical note Isle of Grain Masterplan, June 2013.

<sup>42</sup> Atkins, Technical Note WP4 Climate Change, June 2013

<sup>43</sup> Atkins, Technical note Isle of Grain Masterplan, June 2013.

<sup>44</sup> Atkins, Technical note Isle of Grain Masterplan, June 2013.

<sup>45</sup> Atkins, Technical note Isle of Grain Masterplan, June 2013.

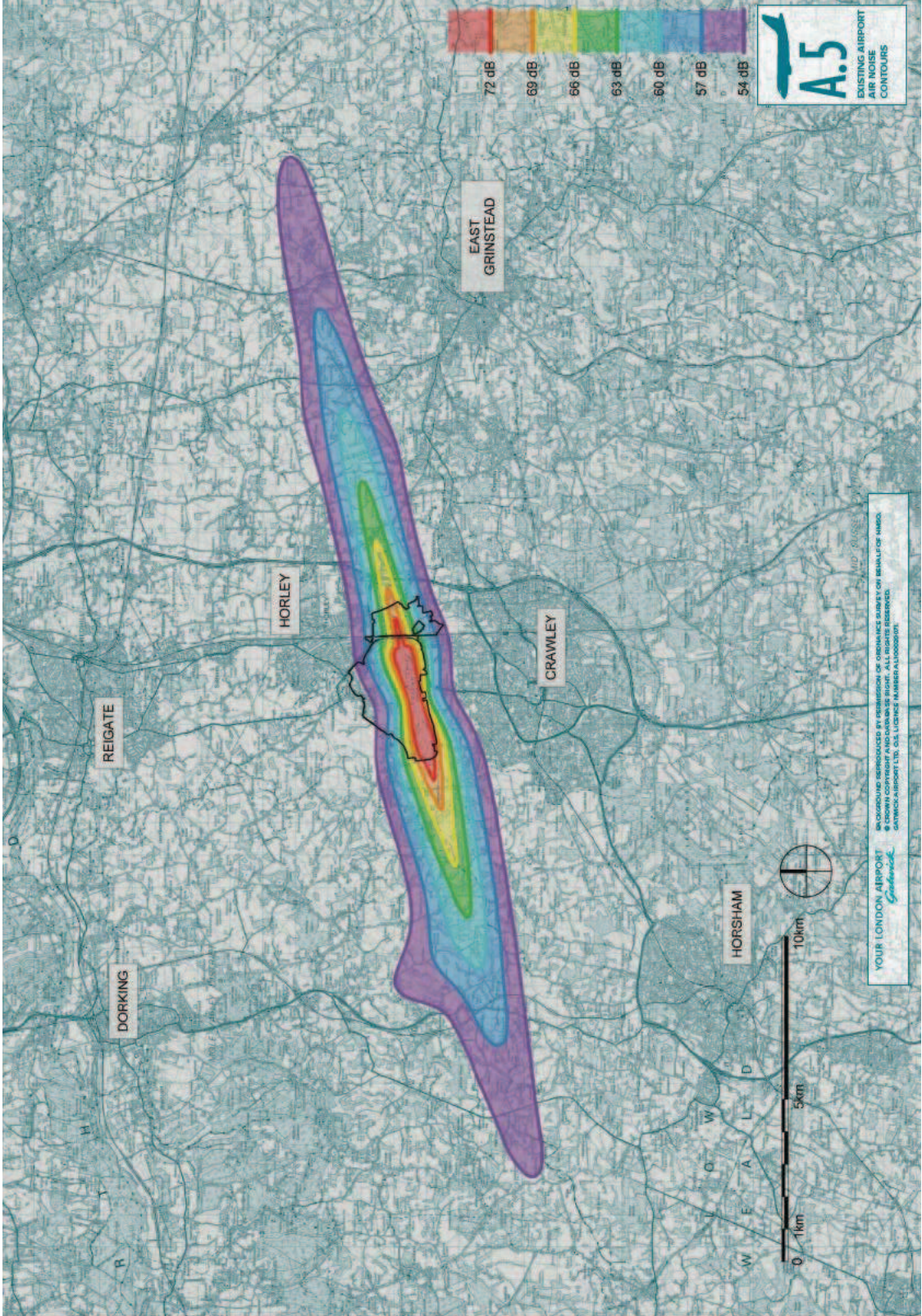
<sup>46</sup> The following assumptions for risk have been made for each of the infrastructure components: 15% for Airport Land and Airport infrastructure costs except for Land Acquisition, 50% for Airport road links and 73% for Airport rail links (including 63% for Price, Design and Development Risk and 10% for Project Integration Risk).

<sup>47</sup> EBITDA: earnings before interest, taxes, depreciation and amortisation

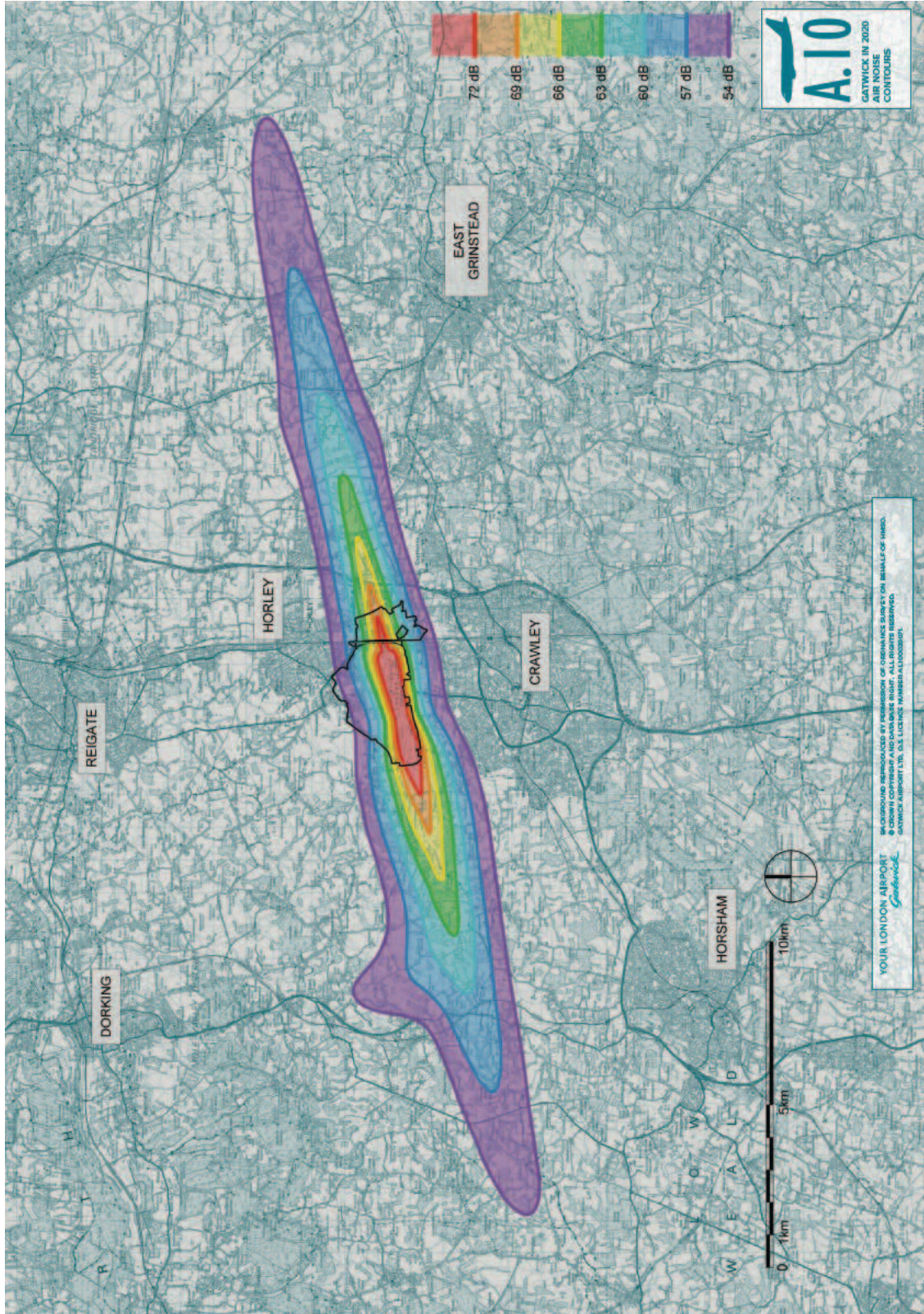
The Mayor has also published a number of reports, technical notes and responses to several inquiries into aviation and related issues over the last two and a half years. These provide valuable context to this work. All are available online at <http://www.newairportforlondon.com>

- i. TfL. *A New Airport for London – Part 1: The case for new capacity*. Published by the GLA January 2011
- ii. TfL. *The Mayor of London's Response to: Developing a sustainable framework for UK aviation: scoping document*. October 2011
- iii. TfL. *A New Airport for London – Part 2: The economic benefits of a new hub airport*. Published by the GLA November 2011
- iv. TfL. *The Mayor of London's Response to: The government's draft aviation policy framework*. October 2012
- v. TfL. *New Airport Capacity Options: Assessment criteria consultation results*. March 2013
- vi. TfL. *New Airport Capacity Options: Assessment criteria*. March 2013
- vii. TfL. *Airports Commission Discussion paper 01: Aviation demand forecasting*. The Mayor of London's response. March 2013
- viii. TfL. *The Mayor of London's Response to: The night flying restrictions at Heathrow, Gatwick and Stansted: stage 1 consultation*. April 2013
- ix. TfL. *Airports Commission Discussion paper 02: Aviation connectivity and the economy*. The Mayor of London's response. April 2013
- x. TfL. *Airports Commission Discussion paper 03: Aviation and climate change*. The Mayor of London's response. May 2013
- xi. TfL. *Airports Commission: Proposals for making best use of existing capacity in the short and medium term*. The Mayor of London's response. May 2013
- xii. TfL. *Airports Commission Discussion paper 04: Airport operational models*. The Mayor of London's response. June 2013
- xiii. TfL. *A new airport for London and the UK. Technical note – Shortlisting the options*. July 2013

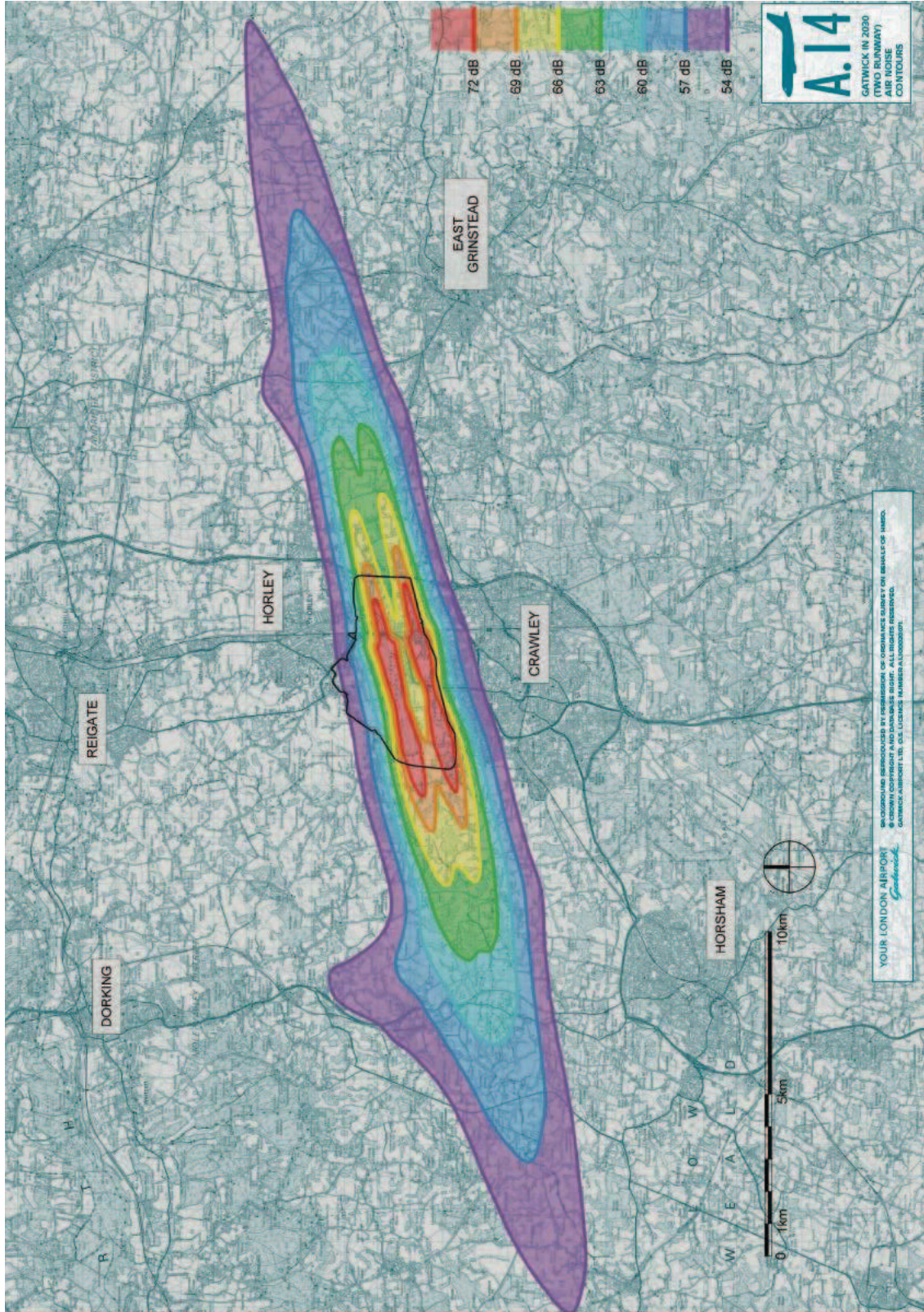
Appendix D – Existing Gatwick Airport Air Noise Contours (reproduced from A.5 of the draft master plan)



Appendix E – Gatwick in 2020 Air Noise Contours (reproduced from A.10 of the draft master plan)



Appendix F – Gatwick in 2030 (Two Runway) Air Noise Contours (reproduced from A.14 of the draft master plan)



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**Appendix G – Members’ comments on the long-term Capacity Options**

<p>Cllr Ramsey</p>	<p>The simplest way to achieve extra capacity at Heathrow is to use Northolt Airport as terminal 6 when the RAF vacate in two years.</p>
<p>Cllr Fittock</p>	<p>Any increase in capacity at Gatwick airport is likely to have some affects on flight paths over SDC. As I remember it, no further expansion of Gatwick can be considered before 2019.</p> <p>Any changes in flight paths could affect Edenbridge increasing noise pollution and this should be the major concern of SDC and planners should recommend that flight paths should avoid centres of population. to some extent the Northern parishes of Swanley and Hextable are overflown on the city airport inward flights. this is not particularly troublesome at present but needs to be considered when making any suggestions for change.</p> <p>On the wider issue of long term options KCC were opposed to development in the Thames Estuary for many reasons and suggested that regional airports should be better used to their full capacity or expanded to prevent over-development in the South East of England. This idea did not receive much support from the industry who are looking to retain London as a hub for international flights. The Thames estuary option would need a new transport infrastructure in place and any new road network might affect SDC though the new London port is likely to require similar road and rail improvements.</p>

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## Agenda Item 9

Dear Sirs

I wonder whether you might be willing to lobby or at least write to Sir Howard Davies at the Airports Commission, as well as Kent County Council, assuming that you might support us in our cause to try and ensure that a second runway is not created at Gatwick Airport.

Clearly I do not wish to publicise the fact, as it might potentially damage our visitor numbers, but we are already partially blighted by the current runway. At busy times, aeroplanes fly over Hever Castle every two minutes and it is indeed a regular complaint from visitors who seek rural tranquillity. Strictly speaking, legislation covering Areas of Outstanding Natural Beauty allows them to be protected from low-flying aircraft, but we are not.

With the Airports Commission on aeroplane movements (particularly in the South East) in play, it is important we do all we can to influence those in power to give heritage a bit more protection. Here at Hever Castle there are few planes that fly either to the north or south of us, with the vast majority flying directly overhead. This is principally because they built the runway in direct line with the Castle. However, if the aeroplanes were to join the ILS (Instrument Landing System) slightly to the west of Hever Castle, effectively joining it one mile further in, the impact of aircraft noise on Hever Castle would be significantly reduced. This would presumably also reduce the amount of planes flying over Tunbridge Wells. The residents of Mark Beech and Cowden would probably be subjected to more aircraft noise than they currently are, but as horrible as it is for anyone to be subjected to this noise, they do have the option of moving house if necessary. A heritage attraction does not have that option and if a second runway is built, we would potentially have low-flying aircraft over us every minute.

People who visit Hever Castle, particularly from towns, especially London, expect a rural attraction to afford them peace and tranquillity (especially one within an AONB). Fortunately when we have east winds, there are no low-flying aeroplanes, as they take a different route, and our visitors enjoy peace and tranquillity and hopefully tell others. The difficulty is that we also get west winds and that is when the aeroplanes fly overhead and in this competitive world, particularly with more visitor attractions being built and the new Warner Brothers attraction due to be built in the north of Kent, we need to exploit every advantage possible. If we become associated with aircraft noise, it will be very difficult to persuade people to visit us.

We believe that a second runway would almost certainly spell the end for Hever Castle as a visitor attraction. We currently employ 60 full-time staff ourselves, plus another 130 seasonal staff, and the catering company which operates on-site also has around 100 staff on their books. We support a vast number of local businesses in West Kent and all of this is threatened if we cannot persuade the 'powers that be' to move the flight path slightly away from the Castle, or at least ensure that no second runway is built.

When I asked Gatwick Airport management why the planes do not fly slightly to the south of us, they said that there were simply too many aeroplanes flying in airspace above the South East to make this possible, with Gatwick, Heathrow, Stansted and City Airports all impacting upon our air space. I am not entirely certain that their reasoning is plausible, especially considering that they are pushing for a second runway and I understand from some quarters that they are expecting to treble their air traffic. How can they do that if there is not enough space to move flight paths one mile to the south of Hever Castle? Is it because they are worried that it might compromise a second runway?

At any rate, I would ask you to do all you can to encourage the 'powers that be' to avoid Hever Castle. It is the most visited tourist attraction that I am aware of in West Kent. We typically have

## Agenda Item 9

well in excess of 250,000 visitors per year and have, in the past, had over 300,000 visitors. Ironically, since they narrowed the approach to the airport, our visitor numbers have dropped, maybe for other reasons as well, but it is almost certainly a contributory factor.

It is not entirely clear why Kent County Council is so supportive of Gatwick, as I cannot imagine it supports any jobs in Kent, whereas the 'Boris Island' scenario would provide a great many jobs in Kent, particularly the Medway Towns. It would also reduce the impact on the residents of Kent, as the aircraft noise rarely travels to the north or south of the airport; it is those underneath the flight path (to the east and west) who are affected. It would further make Kent a sought-after location for businesses and tourists.

Thank you for reading my letter. Any support you can give us would be hugely appreciated.

Yours faithfully

Duncan Leslie MRICS  
Chief Executive

**Local Planning & Environment Advisory Committee Work Plan 2013/14**

24 September 2013	19 November 2013	25 March 2014	July 2014
<p>Housing and Energy Conservation Officer</p> <p>Possibility of mitigating the impact of the new permitted development rights on potential CAMPs, and short presentation</p> <p>Monitoring Key Performance Indicators</p>	<p>Weald Conservation Area Management Plan</p> <p>Gypsies and Traveller Plan Consultation Document</p> <p>Pest Control Review Outcome</p> <p>Climate Local Sevenoaks</p> <p>Review of Service Plans/SCIAs</p> <p>Monitoring Key Performance Indicators</p>	<p>Gypsies and Traveller Plan Submission version</p> <p>Green Belt SPD</p> <p>Gatwick Airport Consultation</p> <p>Westerham Conservation Area Management Plan</p> <p>Monitoring Key Performance Indicators</p>	<p>Monitoring Key Performance Indicators</p>

**Possible future reports:**

- report to the meeting on the Community Infrastructure Levy (CIL); and
- a future report (if felt necessary) after the seminar on affordable housing contributions to take place in September 2013.

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