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PROTECTING LONDON'S  
POSITION AS A WORLD CITY:  
CREATING THE FIRST "VIRTUAL HUB AIRPORT"

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## INTRODUCTION

BRITAIN'S position as a pre-eminent world aviation hub is under threat. Heathrow is running at 99% capacity with 60% of arrivals delayed in holding patterns above London<sup>1</sup>. Jets circle over the capital for an accumulative 55 hours per day, burning unnecessary fuel and doing nothing towards cutting the country's CO2 emissions. The lack of runways in the south east means the UK economy is losing £1.2 billion a year to the Netherlands, France and Germany. <sup>2</sup>

Adjusting schedules and changing flight slots will not solve London's lack of aviation capacity. In contrast, building a new multi runway hub airport in the Thames Estuary or on the Isle of Grain cannot be delivered in time to stop the UK's continued slide against its competitors. The UK needs to be able to connect with emerging markets now. The quickest way of addressing this is to build on our current infrastructure, including giving consideration to adding additional runways in the south east at Gatwick or Heathrow.

The way forward is to adopt a systems approach, building on existing airport infrastructure by repositioning runways, adding new ones, and redeveloping terminals. In the case of London, this can be progressed by linking Heathrow and Gatwick via an airside high speed rail link creating one airport. A second runway could be built as part of an upgrade to Gatwick, which would create the world's first virtual, multi runway hub airport.

## AVIATION'S CONTRIBUTION TO UK ECONOMY AND THE CONSEQUENCES OF INACTION

A CLEAR MESSAGE is being sent from business that the UK risks losing trade deals with China, Brazil and other developing markets. At present the lack of air capacity in the south east means the UK economy loses £1.2 billion a year to other European countries. The Government's consultation document on aviation rightly states that "Aviation makes a significant contribution, both directly and indirectly, to the UK economy. We want to maximise this contribution in the future and explore how aviation growth can occur, while ensuring that it is genuinely sustainable".<sup>3</sup> To realise that aspiration, it is

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<sup>1</sup> Heathrow Plans branded inadequate, Financial Times, 15/7/11, pg 2

<sup>2</sup> Frontier Economics - "Connecting for growth: the role of Britain's hub airport in economic recovery." Sept 2011

<sup>3</sup> Developing a sustainable framework for UK Aviation: Scoping document, Department of Transport, March 2011, pg 12

essential that the Government has an open mind on capital investment in the south east's airports. It is important to remember that the aviation industry has an annual turnover of £26 billion.

The aviation industry sustains in excess of 230,000 jobs in the UK. It contributed £8 billion in revenues to the Treasury in 2007/2008, and has been estimated to provide £18 billion in wealth for the nation. Economically, this industry is pivotal to growth and jobs. Taking the example of the tourism industry alone, aviation supports 2.6 million jobs.<sup>4</sup>

*The Prime Minister has himself said "I want to see us in the top five destinations in the world...For every half a percent increase in our share of the world market we can add £2.7bn to our economy, and more than 50,000 jobs"*<sup>5</sup>

If we are serious about encouraging an export led recovery, it is important to highlight that 55% of all goods exported abroad are transported by air freight.<sup>6</sup> 50% of which currently goes through Heathrow.

A recently commissioned report by airport operator BAA and carried out by Frontier Economics, found that UK businesses trade 20 times as much with emerging market countries that have direct daily flights to the UK. The report also estimated that Paris and Frankfurt already have 1,000 more annual flights to the three largest cities in China than Heathrow, showing in striking contrast the disadvantage the UK already faces in remaining competitive.<sup>7</sup> Figures published in the Mayor of London's report "A new airport for London" state that Heathrow serves 180 destinations, whereas Frankfurt serves 262, Paris 223 and Amsterdam 222.<sup>8</sup> London has five flights per day to China, serving two destinations. This is in contrast to 11 daily flights to four destinations offered by

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<sup>4</sup> UK Airports- Delivering jobs and growth in tough economic times, Airport Operators Association, 2011, pg 4

<sup>5</sup> David Cameron, Speech made August 11, 2010

<sup>6</sup> UK Airports- Delivering jobs and growth in tough economic times, Airport Operators Association, 2011, pg 4

<sup>7</sup> Quoted in BBC News Online article <http://www.bbc.co.uk/news/uk-england-london-15016448>

<sup>8</sup> A new Airport for London, Greater London Authority, 2011

Paris, and 10 daily flights serving 6 destinations from Frankfurt. Sao Paolo is the only South American destination served directly from London. All of the mentioned European airports have 25-30% spare capacity. Heathrow has none. At present Heathrow is Europe's busiest airport, by 2021 it is likely to fall to third place behind Frankfurt and Paris Charles de Gaulle.<sup>9</sup>

Because of the lack of additional capacity at Heathrow, overseas airlines cannot fly into Heathrow because there are no spare slots available. It is not just passengers from the UK who want to fly direct to new markets, but overseas customers who want to do business with us cannot access our major London airport. Slots at Heathrow have traded for £25 million, which shows the competitive nature and importance of this market.

Taking into account the economic outlook in the next few years, it makes it all the more important to invest, to protect and grow this industry.

## GROWTH IN DEMAND

THE PRESENT DEMAND in terms of passengers per year travelling via the three main south eastern airports are:

Airport	Passengers travelling per year
Heathrow <sup>10</sup>	69.4 million
Gatwick	33 million
Stansted (2011)	18 million

By 2030 it is predicted that the demand in terms of passengers travelling per year would have increased to:

Airport	Projected demand for passengers travelling per year <sup>11</sup>
Heathrow	120 million
Gatwick	80 million
Stansted	65 million

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<sup>9</sup> ibid

<sup>10</sup> Ferrovial 2011 full year results

<sup>11</sup> 2030 unconstrained demand from Dft 2009 forecasts, giving a reasonable approximation to unconstrained demand in 2050 under Dft 2011 forecasts.

This amounts to an increase in demand from 120 million in 2010 to 265 million by 2030.

If Heathrow ran on mix mode it could reach a capacity of 85 million, however, this would also require other infrastructure developments at the airport. Heathrow has recently been testing using the runways in a more flexible and efficient way: Most of the time at Heathrow one runway is used for landings, and one runway for departures. When the build-up of arriving aircraft results in severe delays, Air Traffic Control is allowed to land aircraft on both runways.

This is known as Tactically Enhanced Arrivals Mode (TEAM). They are also investigating the use of dual departures when appropriate.

Gatwick is currently using about 78% of its current runways slots. By 2030, running on mixed mode and at full capacity it could service over 40 million passengers per year. Under the same operation Stansted could increase to 35 million travellers per year. However, even with all the airports running a mix mode capacity, London will fail to meet projected demand.

## NEW YORK – A CASE STUDY

NEW YORK provides an interesting case study that is comparable to London's situation. In New York, New Jersey, and Connecticut, like London the leading economic sectors are financial and business, tourism, media and communications. All these industries rely on air travel. The New York metropolitan area's status as a nexus for domestic and international air travel is intricately linked to its role as a centre for global commerce. New York also faces an aviation crunch that is in urgent need of solving if it is to maintain its current position. The Regional Plan Association, America's oldest independent urban research foundation, has compiled a study "Upgrading to World Class – The Future of the New York Region's Airports" in its attempt to solve the problems facing the region. It states the problems facing the airports and the need for additional flights per hour:

*"To both reduce delays and accommodate future demand for air travel, the region will need to expand capacity by 78 additional flights per hour during peak period...Just to maintain the current uncompetitive level of 20 minute delays, there would still be a need for 45 more flights per peak hour to handle an additional 22 million passengers".<sup>12</sup>*

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<sup>12</sup> Upgrading to world class, The future of the New York region's airports, Zupan, Barone, Lee, January 2011

Without an attempt to meet demand, there is the potential of 86,000 jobs being lost, \$11.5 billion in sales not made, and \$4 billion in wages not earned each year.<sup>13</sup>

The Regional Plan Association looked at number of options for meeting the increased demand in air travel. One of the options was for a completely new airport. This was ruled out as an option as there was no appropriate site that was within 40 miles of the Manhattan central business district. Anything further away would fail to attract the needed custom, and would hence be unworkable. Proposals for an Island alternative were also examined but the cost and regulatory hurdles deemed such a project hard to justify, especially if a cheaper redevelopment of existing airports was feasible.

A number of possible scenarios have been explored including the movement and or additional runways being built, alongside suggestions for expanding smaller regional airports such as Monmouth County Airport to divert some flights away from the larger hubs. It is envisaged that outlying airports could accommodate upwards of 2.4 million passengers per year by the 2030's<sup>14</sup> These proposals have the advantage of building on existing airports, and hence being cheaper than a completely new airport. They can be delivered in a timely manner, and limit the disruption of having to close JFK in favour of an island alternative. This type of solution is a good example of a systems approach to airport expansion.

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<sup>13</sup> *ibid*

<sup>14</sup> *ibid*



## A PROPOSAL FOR LONDON

THE SYSTEMS APPROACH used to find a solution to New York's capacity issues should be modified and provide a blueprint for further investment in London and the south east. It is important before exploring such an option, to state the political context in which such proposals are being put forward. A third runway at Heathrow, although recommended by London First, and British Airways is currently not an option; all of the main political parties oppose such a solution. Although an estuary airport is being considered, it is my belief that it would take too long to deliver, not just in terms of construction, but the transport infrastructure that would be needed to link it to the rest of the United Kingdom. The various options for the siting of an estuary airport have been discussed for over 30 years with various options being explored, and all have come to nothing, except allowing the UK to continue to fall behind in aviation capacity. What we need is a solution that will take less than 20+ years to deliver.

Whilst an estuary airport has the benefit of an approach over the North Sea which is preferable for noise and pollution constraints, there would still be the issue of the approach over London when flights were coming in from the west, as the traditional flight path of flying over the west coast when travelling from north-south would increase the number of flights over Britain, and over London if a westerly approach were used for the proposed estuary airport. Aircraft are becoming quieter, and are reducing their CO<sub>2</sub> emissions with greater fuel efficiency and the use of bio fuels, but the most important point is to reduce circling times and improve flight paths to reduce the amount of time in the air. The aviation sector accounts for 6% of total UK CO<sub>2</sub> emissions.

A new airport in the estuary would only succeed if Heathrow were closed. I am not convinced that there is the political will to action such a move. Closing Heathrow would mean the loss of 75,000 jobs in west London. There would also be a significant detrimental effect along the M4 corridor. Uncertainties over the future of Heathrow could have a negative effect on the area as a whole. Crossrail is already being connected to Heathrow; it is anticipated that it will take 45 minutes directly from Heathrow to Canary Wharf. High Speed 2 rail is expected to be available from 2033, so a scenario that supports the continuation of Heathrow's operation and makes use of the existing and planned infrastructure is the wisest option.

Action to deliver increased capacity has to be taken quickly, and be cost effective. One of the biggest drawbacks of an estuary airport, or Isle of Grain development, is the time it would take to deliver. In waiting for its completion London would have already lost its premier position as a hub, and would face great difficulty winning it back. A solution that looks only at a new airport delivered decades into the future would just not address the situation as it stands at present.

A solution could involve connecting Heathrow and Gatwick via an airside rail link, effectively making both airports terminals of the same entity.

The travel time between the two sections of the “virtual” airport would be about 20 minutes. This hub would allow greater flexibility in operation of both long and short haul flights with Gatwick becoming a feeder airport and Heathrow as the long haul focus. To complement the linking up of the two airports, the Government should seek to expand Gatwick when the present moratorium on planning expires in 2019. The plans for building of a second runway at Gatwick, which already exists in the two previous master plans for the airport, should be implemented, and the land necessary for this expansion continue to be safeguarded.

These two projects would in effect create a four runway airport hub with easy accessibility to central London. This would increase capacity by 40 million passengers a year. The total capacity for the virtual hub could be as great as 160 million passengers per year through mixed mode operations of both Heathrow runways and the current and proposed second runway at Gatwick.

## AIR SIDE / LAND SIDE LINKS

**THE FASTEST TRANSFER TIME** would be achieved by an airside link shuttle service. However if the decision was to extend the high speed rail service between the Heathrow and Gatwick this would also benefit the two airports and relieve congestion on the M25 and feeder transport systems. This high speed rail would hug the M25. This would also benefit freight traffic as currently more than half of all the UK’s air freight passes through Heathrow. The current travel time by road between the two airports is about an hour (45 miles). However as the crow flies, the distance is 25 miles. Once Crossrail is completed the journey time from Heathrow into Canary Wharf is projected to be 45 minutes.

## WEATHER / FLEXIBILITY

**AS HEATHROW** operates at almost maximum capacity, as soon as there are any difficulties such as bad weather, then the proportional decrease in operational capacity is seen immediately. Looking ahead to the Olympics, Heathrow has already said it will reduce its capacity in order to ensure smooth operating for this busy time. Having two major airports closely linked will give flexibility, resilience and opportunities.

## MAP SHOWING THE LOCATION OF THE AIRPORTS IN THE SOUTH EAST:



In addition to linking Gatwick and Heathrow as a virtual hub, the Government should encourage the development of the smaller regional airports so they are capable of serving the short haul continental market. Airports in highly populated counties, such as Manston Airport in Kent, could provide an increased number of short haul, freight, budget and specialist operations such as perishable goods, and thus lighten the burden substantially on the larger airports. Any expansion of these alternatives will need to be accompanied by infrastructure investment to improve their connectivity. The government in its overall review of aviation should look to maximize the use of all the available resources and should be site specific.

IN CONCLUSION, the Government should seriously investigate the following recommendations to facilitate the delivery of the world's first "virtual hub airport".

## RECOMMENDATIONS

### RECOMMENDATION 1:

**BUILD** a high speed airside rail link between Heathrow and Gatwick creating a virtual hub airport.

### RECOMMENDATION 2:

**SAFEGUARD** the land around Gatwick, so that a second runway at Gatwick can be built to facilitate extra capacity

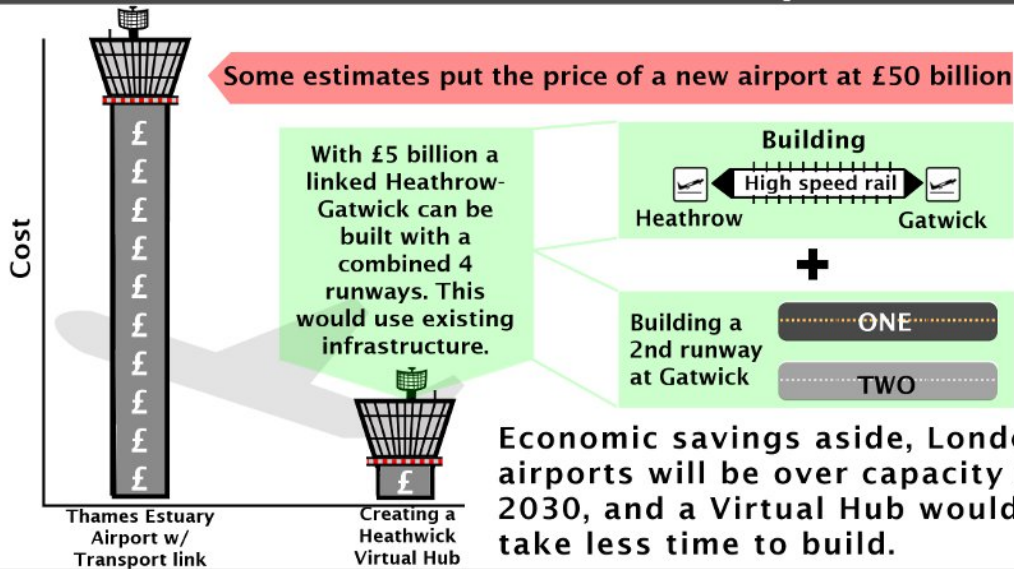
### RECOMMENDATION 3:

**ENCOURAGE** the expansion and development of currently smaller regional airports to take up short haul markets and further free up capacity at Gatwick and Heathrow, including investing in necessary transport infrastructure to ensure smaller airports can be used to their full potential.

# #VirtualHub

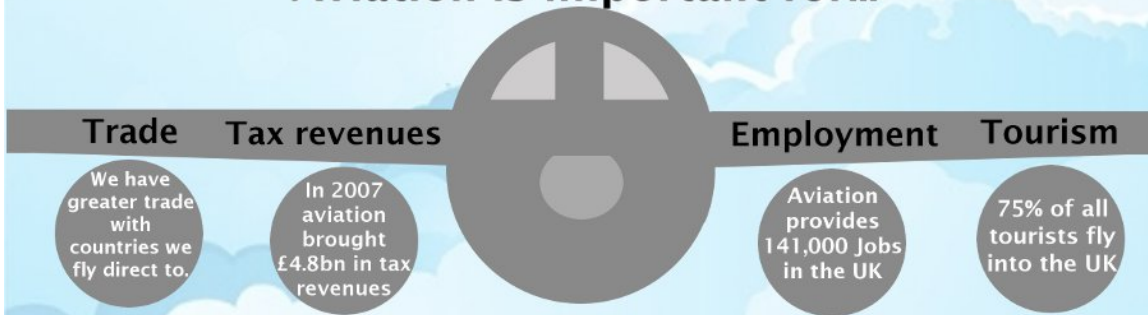
A solution for London's Airport capacity issues

Does London need a new airport now?



Meeting the capacity issues now should be the top priority  
As aviation keeps London and the whole UK economically strong

## Aviation is important for...



A new airport may not meet capacity in time  
and losses in these areas should not occur

A Heathrow-Gatwick Virtual Hub Airport would be more immediate and cost effective. This would keep expand London as a major player in international aviation.

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## BACKGROUND FACTS

(PPY: Passengers Per Year)

Location	Runways	Passengers per year (million)	Notes
Atlanta USA	5	88.03	
Heathrow UK	2	66.04	
Beijing Capital International Airport	3	65.37	Building new airport at Daxing with capacity for 135 million ppy, up to 9 runways
Chicago USA	7	64.16	
Narita Tokyo, Japan	2	61.93	Two airports in the Tokyo metropolitan area in Japan: Narita International Airport, and Haneda Airport, used for domestic flights for a time, but now international flights again as it is closer to capital and more popular. The airports are connected by a high speed rail link which takes about 36 minutes.
Haneda airport	4		
Charles de Gaulle, France	2 pairs of runways	57.91	
Los Angeles	4	56.52	Other international airports nearby
Dallas, Texas, USA	7	56.03	
Frankfurt Airport, Germany	4	50.93	
Denver, USA	6	50.17	
Madrid, Spain	4	48.25	
JFK, USA (Newark) (La Guardia)	4 3 2	45.92	
Hong Kong*	2	45.56	Operates 24 hours a day
Schiphol, Amsterdam	5 main runways and 1 shorter runway	43.57	
Dubai International Airport, UAE	2	40.91	Second airport recently opened: Al Maktoum International with a further 3 runways

\*Guangzhou Baiyun International Airport, China, located north of Hong Kong, plans to increase its number of runways to five from two by the end of 2020.

## UK AIRPORTS

(From DfT 2011, UK aviation forecasts)

Location	Runways	Passengers per year (million)
Heathrow	2	69
Gatwick	1	33
Stansted	1	20
Manchester	2	20
Birmingham	1	9
Luton	1	9
Edinburgh	1	9
Glasgow	1	7
Bristol	1	6
Newcastle	1	6
Belfast	2 airports: BIA - 1 BHD - 1	5
London City	1	3

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The views expressed in this proposal are those of Victoria Borwick AM and may not be shared by all London Assembly Members.

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