

Background information for the Transport Committee's investigation into airport capacity in London including written submissions and note of site visit to NATS centre at Swanwick

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ABTA response to the London Assembly Transport Committee's investigation into airport capacity in London

Introduction

This response is submitted on behalf of the membership of ABTA – The Travel Association. ABTA was founded in 1950 and is the largest travel trade association in the UK, with around 1,200 members and over 5,100 retail outlets and offices. Our Members range from small, specialist tour operators and independent travel agencies specialising in business and leisure travel, through to publicly listed companies and household names.

The success of ABTA Members' businesses is directly reliant on the UK's aviation infrastructure; many of ABTA's larger Members are themselves part of groups that own airlines. ABTA Members provide 90% of the package holidays sold in the UK, with Members also selling millions of independent travel arrangements. The provision of quality, efficient and competitively priced passenger air travel is vital to the business interests of Members.

Executive Summary

- ABTA has responded to the Department for Transport's Draft Aviation Policy Framework. Although there are some welcome commitments within the consultation document, particularly involving improved surface access to airports, the Government fails to address the most fundamental challenge facing the aviation industry, namely the pressing need for increased airport capacity notably in the South-East. Capacity constraints are not only hurting the UK's aviation industry, but are also damaging the many industries reliant upon it, and the recovery of the UK economy as a result. If the Government is serious about driving growth, it must not delay the publication of a proper aviation policy any further.
- ABTA believes it is essential that any aviation policy framework agreed is robust and has cross-party support so that it continues beyond a single Parliament. Further, that there is cross-Government departmental cooperation in order to deliver agreed infrastructure quickly and without delay.
- The maintenance of a hub airport in the South-East will ensure that the UK remains a significant player in the international aviation industry and will ensure future connectivity and global awareness of the UK as a business destination.
- ABTA strongly believes that the aviation and tourism markets (domestic, outbound and inbound) could together help rebalance, strengthen, and stabilise the UK economy in this economically difficult time. There is a vast potential for tourism to generate many jobs within the sector, particularly amongst young people.

- Aviation policy must recognise the mix of aviation models that contribute to the UK's economy: scheduled, charter, no-frills, leisure, business and cargo. A strategy that promotes one type of flying over another or seeks to downgrade the relative importance of leisure aviation, for instance, would not carry our confidence and would, indeed, be a bad move for the UK.
- ABTA acknowledges aviation's impact on the environment and accept it is vitally important that aviation plays its part in making every effort to reduce noise and other environmental impacts. However, it is necessary to strike a balance between the economic benefits of aviation with the impact this has on local communities and the environment. We support the work of Sustainable Aviation in working towards more sustainable flying and believe that aviation can grow within the agreed carbon limits.
- The real issue is not overall capacity but where that capacity is located. The DfT forecasts show that the South-East will need new runway capacity by 2030.
- ABTA supports a third short runway at Heathrow and a second runway at Gatwick. We also support a runway extension at Birmingham and other regional airports seeking to expand but not as a substitute for additional capacity in the South-East. The South-East already suffers from a fragmented aviation network with a number of large airports and many smaller airports which are not connected.
- ABTA supports High Speed 2 (HS2) although believes that high speed rail is not a substitute for effective and affordable domestic aviation. We believe that it is important that any HS2 route includes connectivity to our major airports.
- ABTA has long supported airports in their aim to increase the number of passengers using public transport and believe any future aviation policy must develop better surface access.
- Other than the points mentioned above, ABTA believes that other issues which need to be taken into account when assessing each option for addressing airport capacity include passengers wanting to fly from their local airport; the impact of any new airport on existing airports; and the time taken for any new airport to become operational measured against the time taken to expand existing airports.

Investigation Questions

**1. What are the arguments for and against changing existing airport capacity in London?
What is the evidence in support of these arguments?**

The need for greater aviation connectivity and capacity in the UK

ABTA is pleased that the Government acknowledges aviation's contribution to the economy and that one of the main objectives is to ensure that the UK's air links continue to make it one of the best connected countries in the world. The aviation sector offers a wide range of benefits to the UK: it facilitates business and leisure travel of British citizens across the world; it brings business and visitors into the UK; it enables the import and export of goods; all of which contribute to a successful and growing UK economy. ABTA believes that aviation is a key plank of the UK's growth strategy and that we need an aviation policy from Government that recognises its pivotal role in the UK's recovery. Aviation currently contributes £49.6 billion to

the UK economy and we believe has the potential to contribute more as a sector and as a catalyst for the wider economy too¹.

Aviation is an important part of the UK's and London's transport strategy. Many parts of the UK are dependent upon aviation as a lifeline, not just for communication purposes but economically e.g. the Scottish Highlands and Islands, Northern Ireland. UK plc benefits from the excellent air connections with cities worldwide, which has until now made the UK an easily accessible country in which to set up businesses. Investors particularly view London as one of the most attractive cities in Europe in which to do business and the quality of its international connections and domestic networks is viewed as key.

One clear economic benefit which aviation underpins is UK tourism. ABTA strongly believes that the aviation and tourism markets (domestic, outbound and inbound) could together help rebalance, strengthen, and stabilise the UK economy in this economically difficult time. There is a vast potential for tourism to generate many jobs within the sector, particularly amongst young people.

Crucially, in 2011, 52.7% (£9,411 million) of inbound tourism visitors' spend (total £17,873 million) was in London with 49.6% (15,289 million) staying visits (total 30,798 million).²

Outbound travel alone has great potential to generate growth and jobs, however it is being held back by capacity constraints and disproportionately high taxation. Research recently published by ABTA paints a picture of outbound travel's growth potential. The research finds that outbound travel directly accounts for 1.6% of UK GDP (£22 billion), with a total economic impact through the supply chain of 3.8% of GDP (£55 billion)³; the London share of outbound travel is nearly £13 billion. The research also found that the sector underpins more than 1.2 million jobs across the UK economy (279,000 in London) and brings in over £6 billion in tax revenue to HM Treasury. Crucially, the report underlines the critical mass of other industries across the UK economy that outbound travel touches, and supports, such as retail, financial services and construction. The longstanding myth that outbound travel results in a 'tourism deficit' is proven to be without a footing.

It is important to recognise the value of all parts of aviation on the UK economy. Just as ABTA suggests the Government's tourism policy should value all parts of the sector: domestic, inbound and outbound, so too must aviation recognise the mix of aviation models that contribute to the UK's economy: scheduled, charter, no-frills, leisure, business and cargo. A strategy that promotes one type of flying over another or seeks to downgrade the relative importance of leisure aviation, for instance, would not carry our confidence and would, indeed, be a bad move for the UK and for the London economy in particular.

London airports do experience problems with resilience and will continue to suffer unless and until capacity issues are addressed. The UK's two largest airports are capacity constrained: Heathrow is currently operating at around 98%. Gatwick is the busiest single runway commercial airport in the world and is operating at around 78% with unused capacity only in

¹ Oxford Economics, Economic benefits from air transport in the UK, 2011

² ONS International Passenger Survey

³ *Driving Growth - The economic value of outbound travel* (2012)

the off-peak periods. We welcome recent improvements in resilience at the London airports but we remain concerned that without further increased resilience measures – including additional capacity - what should be a minor disruption as a result of adverse weather or other incidents can result in a severe delay. Spare capacity is not only essential for jobs and growth but also for efficient management of incidents and delays, however they are caused.

Contrast this with the continental airports at Paris Charles de Gaulle, Amsterdam Schiphol, Frankfurt and Madrid all of which have substantially more runways with the capacity to recover quickly. This gives our continental competition a speedier recovery time in European wide issues meaning fewer flights are delayed or cancelled and fewer passengers disrupted. In essence, their capacity reduced the impact on the airport and the wider economy as a result.

Timescales

If the Government is serious about driving growth, it must not delay the publication of a proper aviation policy any further. Our continental competitors have continued to invest in their future aviation infrastructure, and the UK is falling further behind in the absence of an effective policy framework. We are concerned that the Government's timetable will lead to a policy vacuum which will make business investment decisions challenging, and risk delaying much needed investment. A point often raised by our Members is that the Government's lack of a credible aviation policy, hence a lack of continuity and certainty in recent years, is influencing their willingness to invest.

ABTA supports the calls for the Airports Commission, led by Sir Howard Davies, to report before the next General Election so that the next Government has a mandate to act on capacity.

ABTA believes it is essential that any aviation policy framework agreed is robust and has cross-party support so that it continues beyond a single Parliament. Aviation policy cuts across Government and any future policy must sit alongside a raft of measures that address other policy concerns such as planning, connectivity and taxation. Further, that UK Government processes, such as planning and regulation, do not create excessive costs for business and, moreover, have cross-Government departmental cooperation. We welcome the commitment in the Government's Mid-Term Review to press ahead with a series of changes to planning rules and other bureaucratic requirements, to allow faster implementation of infrastructure projects. The travel and tourism sectors do not want to see a repeat of the Heathrow Terminal 5 planning process, which took 15 years before finally becoming operational. The UK planning process stands in remarkable contrast to processes in other countries, where it has been demonstrated that new airport infrastructure can be planned, constructed and made operational within a few years, enabling countries to reap the economic benefits of enhanced capacity and infrastructure.

The implications of failing to provide additional capacity

The maintenance of a hub airport in the South-East will ensure that the UK remains a significant player in the international aviation industry and will ensure future connectivity and global awareness of the UK as a business destination.

If additional capacity is not provided where it is needed, we strongly believe that passengers cannot and should not be cajoled into using airports outside the South-East; rather, they will begin to use competitor airports in Europe to hub through to reach their preferred destination. The governments of these countries have all demonstrated a much more tangible commitment to future growth and a hub airport. London's air travellers are not a monolithic group of travellers for whom direction on which airport to use can be given. Neither are the airlines and travel companies who use certain airports.

The inability to grow connections to the new and burgeoning economies of the Brazil, Russia, India and China (BRIC) countries is a direct consequence of the lack of capacity at Heathrow and Gatwick and where the UK compares unfavourably with its main EU competitors. China (with the exception of Hong Kong) is poorly served. For example, Chengdu and Chongqing are just two Chinese cities that are experiencing dramatic growth rates, but are not currently served by a UK airport (BA has recently announced it will commence flights to Chengdu in September 2013), severely reducing the ability of the UK's businesses to expand into those markets and for Chinese from those cities to invest in the UK. Heathrow's market share of leading European airports serving mainland China (i.e. excluding Hong Kong) is 11%, compared with 18% for Paris, 17% for Frankfurt and 14% for Amsterdam. Any new routes to these cities should not be at the price of existing established profitable routes which all support the economy. At a time when direct market access to these economies is essential, having our main airports virtually full and only being able to offer second choice airports is unsustainable. This is no time for the UK's and London's aviation infrastructure to fall behind that of the developed world.

Being an island nation on the periphery of Europe, a strong and comprehensive network of air services is an absolutely vital component of a competitive UK economy and particularly so for London. UK plc benefits from the excellent air connections with cities worldwide, which has until now made London an easily accessible city in which to set up business. Investors view London as one of the most attractive cities in Europe in which to do business and the quality of its international connections and domestic networks is viewed as key. This historic connectivity advantage cannot be taken for granted. To maintain London's leading status in aviation connectivity, the Government must recognise that the necessary growth in capacity, improvements in surface connectivity, and the quality of the passenger experience are vital conditions for a successful economy. Failure to do so will be damaging to the long-term prospects of British businesses and also the UK's, and London's, ability to attract new international companies and visitors.

Environmental issues

We acknowledge aviation's impact and accept it is vitally important that aviation plays its part in making every effort to reduce noise and other environmental impacts. However, it is necessary to strike a balance between the economic benefits of meeting demand and the needs of the industry, with the impact this has on local communities and the environment. It is essential that airports work in harmony with the local communities around them and airlines move towards more sustainable aviation.

Aviation's climate change impact, although growing, is relatively small at about 6% of the UK's total CO₂ emissions⁴. The aviation sector accounts for 1.6% of global greenhouse gas emissions and this will rise by just 0.5% by 2050. We acknowledge that aviation has an impact on the environment and accept it is vitally important that aviation plays its full part in reducing its level of CO₂ emissions to meet global emission targets.

We support the work of Sustainable Aviation⁵ which is entirely focused on finding collaborative ways of improving the aviation industry's environmental performance and ensuring sustainable growth. Sustainable Aviation's recent CO₂ roadmap shows that UK aviation can accommodate significant growth to 2050 without a substantial increase in absolute CO₂ emissions, through a combination of operational efficiencies, new technology and sustainable biofuels.

Aviation has a demonstrable and well-documented track record in improving its environmental performance and in delivering quieter planes and continues to invest heavily in the future. Aircraft today are 70% more fuel efficient than 40 years ago and the industry will work hard to ensure that this trend continues. Although the perception is that noise around airports has increased substantially with a growing number of aircraft movements, aircraft have in fact become significantly quieter over the past few decades due to increasingly stringent certification and improvements in technology and the noise footprints have shrunk. For example, the number of people within the 57dBA contour around Heathrow has shrunk from 944,000 in 1980 to 228,700 in 2010 despite a substantial increase in movements⁶. Other airports have reported similar reductions in the number of people affected with a continually shrinking noise footprint.

ABTA agrees with the Government's assessment that it is necessary to strike a balance between the economic benefits of meeting demand and the needs of the industry, with the impact this has on local communities and the environment. It is essential that airports work in harmony with the communities around them.

2. What are the current levels of airport capacity and the current and future estimates of demand for aviation travel? What is the basis for the estimates?

The Department for Transport's (DfT) aviation forecasts for 2011⁷ show that overall, the UK has plenty of capacity:

- Currently, UK airports have the capacity to handle 372 million passengers per annum (mppa). In 2010, 211 mppa passed through UK airports.
- Using the current set of runways to the maximum, which may include constructing new or extended terminal buildings, lifting planning restrictions and making other improvements, UK airports will have the capacity to handle 540 mppa. By 2050, 520 mppa will be using UK airports.

⁴ UN's Intergovernmental Panel on Climate Change

⁵ Sustainable Aviation, Third Progress Report, 2011 www.sustainableaviation.co.uk

⁶ Heathrow Airport submission - *Developing a sustainable framework for UK aviation*, October 2011

⁷ Department for Transport UK aviation forecasts 2011 <https://www.gov.uk/government/publications/uk-aviation-forecasts-2011>

We acknowledge that the DfT forecasts could be inaccurate – the DfT’s 2000 forecasts overestimated demand growth – but they do nevertheless provide a useful insight. It should be noted that one of the first tasks of the Airports Commission in 2013 will be to look at aviation demand forecasting.

The real issue is not overall capacity but where that capacity is located. The DfT forecasts show that the South-East will need new runway capacity by 2030, but no airports outside the South-East will need new runways before 2040:

- The five London airports – Heathrow, Gatwick, Stansted, Luton and City – are currently able to handle 181 mppa. In 2010, 126 mppa used these five airports.
- Using the current set of runways at these five airports to the maximum, 188 mppa could pass through them. By 2030, the DfT forecasts that 204 mppa will want to fly from these airports. By 2050, demand is set to grow to 294 mppa.
- In the South-East, Heathrow is currently operating at around 98%. Gatwick is the busiest single runway commercial airport in the world and is operating at around 78% with unused capacity only in the off-peak periods.
- By contrast, the other UK airports currently have the capacity to handle 191 mppa, a figure that could rise to 352 mppa if all runways were used to the maximum. But demand is far lower. In 2010, demand was 85 mppa, a figure which is forecast to rise to 141 mppa in 2030 and 226 mppa in 2050.
- All of the individual airports outside of the South-East have plenty of spare capacity; no airport outside of London will need a new runway before 2040.

This comes back to new capacity being provided where it is needed to meet demand, i.e. in the South-East.

3. What are the options in the short, medium and long-term for addressing the issue of airport capacity?

ABTA believes strongly that constraining capacity in the South-East will increasingly fail to meet the needs of customers whether they are businessmen or leisure travellers flying into, out of or within the UK. The question of airport capacity - both hub and point-to-point - in the South-East must be addressed and planned for in the medium to long term.

ABTA supports a third short runway at Heathrow and a second runway at Gatwick. We also support a runway extension at Birmingham and other regional airports seeking to expand but not as a substitute for additional capacity in the South-East. The South-East already suffers from a fragmented aviation network with a number of large airports and many smaller airports which are not connected. We believe that aviation can grow within the agreed carbon limits and support the move towards sustainable aviation.

Short term strategy

In addition to calling for more capacity, we believe that better use should be made of existing runways. We support the Operational Freedoms trials at Heathrow with runways being used

simultaneously for either arrivals or departures in a bid to cut delays and cancellations and get punctuality back on track.

ABTA does not believe that the 'Heathwick' proposal, involving the construction of a high-speed rail line between Heathrow and Gatwick in order to create a new 'virtual hub' allowing passengers to connect between the two, is a viable solution. Whatever Heathwick's superficial appeal, we do not believe it will provide the seamless transfers between airports/terminals that are necessary for a successful international hub nor will it create any additional capacity at London's two largest airports.

We are deeply concerned that there appears to be inherent thinking within Government that business traffic is more valuable than leisure traffic and that any expansion should be for the benefit of business traffic. One of the arguments behind the Heathwick proposals is that leisure traffic might be moved to Stansted to accommodate more business traffic at the better linked Heathrow and Gatwick. ABTA disagrees with this assertion and has not seen any evidence to dissuade us from this view. Furthermore it should be noted that many air routes that clearly cater to business traffic are also dependent on leisure travellers for their financial viability. Most flights departing UK airports are 'composite' i.e. aircraft flying with leisure and business passengers.

We are in agreement with the view expressed by the International Airline Group⁸ that requiring leisure airlines to move their operations to other airports, to free up capacity at Gatwick, is not the answer. It is worth remembering that Gatwick has a large catchment area and serves a large local population where passengers want to be able to fly from their local airport. Heathrow and Gatwick are not just major airports but they are also the local airports for many Londoners and people living in the South-East.

High Speed Rail

We believe that High Speed Rail should complement and not be a substitute for additional airport capacity. It should be noted that additional runway infrastructure would be paid for by private funding whereas HS2 will have to be paid for from the public purse.

Our greatest concern with plans for HS2 is the Government's stated aim to link Heathrow, the UK's international hub via a spur and not as an integral point on the London to Birmingham route. We have urged the Government to think again.

In parallel, the development of a high-speed rail network has been a key factor in the Government's decision to not provide additional runways at London's airports. It has further stated that HS2 will provide a viable alternative to many short-haul flights and will relieve congestion at airports. We do not believe this to be the case. Much of the domestic traffic is not point to point traffic but connecting to other flights which HS2 would not help, particularly if it is not directly connected to Heathrow.

⁸ 'Heathwick' rail link won't solve our airport crisis, Willie Walsh, CEO IAG, London Evening Standard, 11 October 2011

Compare the UK situation with, for example, major continental competitors Amsterdam Schiphol and Paris Charles de Gaulle which are both on express rail networks or, on a smaller scale, with Geneva and Zurich airports which have offered air/rail connections throughout Switzerland for many years.

Medium term strategy

In supporting a third runway at Heathrow, we would emphasise the good rail connectivity it enjoys. Apart from HS2 mentioned above, rail infrastructure improvements underway or planned include Crossrail, western link access from the Great Western Mainline, the Piccadilly line upgrade. A southern link (probably via Staines) providing direct access to South-West London, based on the previous Airtrack proposal is being reconsidered.

Heathrow is the airport of choice for airlines. Previous attempts to constrain traffic under the Traffic Distribution Rules failed with Heathrow attracting traffic from Gatwick once the restrictions were lifted.

A second runway at Gatwick would complement expansion of Heathrow, as well as being important in its own right. Gatwick has improved remarkably since it was acquired by new owners, and will continue to grow its traffic. It is already the busiest single runway airport in the world. The airport is well located for rail access, and its rail services will improve after the Thameslink upgrade is completed in 2018.

Gatwick is unlikely to be able to expand beyond a second runway. But expansion of Heathrow and a second runway at Gatwick would be likely to offer sufficient extra capacity, at least until 2040.

Regarding proposals for a second runway, or more, at Stansted, it must be noted that over the last few years the airport has stagnated, with passenger numbers falling steadily from 23.8 million in 2007 to 18 million in 2011⁹. New owners will undoubtedly improve the airport and grow traffic. But Stansted currently has about 50% spare capacity and is less well located for surface access than Heathrow or Gatwick.

We also support a runway extension at Birmingham but not as a substitute for additional capacity where the demand is in the South-East.

Long term strategy

We believe there can be only one international hub airport in the UK with a comprehensive route network serving destinations that other airports cannot, supplementing local demand with domestic and international transfer traffic and cargo, and that hub is currently Heathrow. In the long-term, we believe that the UK's hub airport needs to be able to grow to reflect market demand and ensure continued international importance. If that additional capacity cannot be realised at Heathrow then it needs to be found elsewhere.

⁹ Civil Aviation Authority, UK Airport Statistics 2011

Much has been said about a completely new hub airport with, in recent years, proposed sites in the Thames Estuary and North Kent. Whilst these locations undoubtedly have their merits, they would come at a significant cost and would require substantial infrastructure development. Opponents have cited the risk of bird strikes and the damage to areas of natural beauty. There is also an argument about both being further away, and therefore less convenient to get to, for most people, especially those living north and west of London.

Any completely new airport would take a significant amount of time to build, making the need for short-term measures all the more important.

4. What issues need to be taken into account when assessing each option for addressing airport capacity?

ABTA believes that the following should be taken into account:

- Passengers want to be able to fly from the airport of their choice, which will likely be that closest to their home or business. The 2012 ABTA Consumer Survey¹⁰ showed that 62% of passengers strongly favoured flying from their local airport, showing the importance of local airports and that the Government should not seek to manipulate demand to suit their ends. Equally, passengers flying into the UK will wish to use the airport closest to their destination. This, in turn, helps prevent unnecessary road journeys at a cost to the environment.
- The availability of good public transport to access airports is very important particularly the speed of journeys into Central London and to other towns. ABTA has long supported airports in their aim to increase the number of passengers using public transport and was pleased to see this included in the Government's consultation. Businesses looking to locate to London closely examine the surface access from London airports before deciding whether to locate in London or a competitor European city. Improving these links is essential to remaining competitive. Coordinated action and investment by the Government is needed so as to encourage a greater number of passengers and airport workers to access airports by public transport. Local residents benefit from these services which also help to manage airports' overall environmental impact.
- Any new airport must be located so as to allow quick and easy access by rail and road and have a substantial catchment area.
- Airlines will take many issues into consideration when contemplating whether to start services. As well as surface access transport, this includes accessibility to the airport in terms of feeder traffic from other domestic airports.
- The impact of any new airport on existing airports. For example, it has been suggested that Heathrow would have to close if a new hub airport were to be built which would bring significant detriment to the people working on the airport and in companies dependent upon the airport. Businesses having chosen to locate in the Heathrow vicinity would also be severely disadvantaged. If Heathrow were not closed, any new airport could be under-used, with airlines not moving.
- The time taken for any new airport to become operational must be measured against the time taken to expand existing airports.

¹⁰ ABTA Consumer Trends Survey conducted by Arkenford Ltd (September 2012)

- The impact on local communities in terms of noise and air pollution.
- It is essential that the chosen option has cross party support so that it continues beyond a single Parliament. Further, that there is cross-Government departmental cooperation.

Thank you for taking our comments into consideration. We would welcome the opportunity to discuss any points raised in our response further with the Transport Committee.

Further information

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9 January 2013

London Assembly investigation into London's airport capacity



UTILISATION OF CURRENT CAPACITY AT LONDON HEATHROW

Written evidence to the Transport Committee from AvGen Limited
28 February 2013

Introduction

This submission examines in detail how the constrained capacity at London Heathrow Airport is currently being used, and looks at various ways of segmenting current activity in order to understand better the potential scope for balancing supply and demand.

Background

This report has been prepared from AvGen Limited's statistical databases which cover many years' activity at Heathrow. AvGen is an independent consultancy providing air transport data and analysis to clients on an ongoing basis, including a number of the local authority stakeholders on Heathrow Airport's Consultative Committee.

All of the data in this report, except where indicated, is derived from AvGen's in-house ATM database, DARTS, which provides 100% coverage of air transport and other aircraft movements at Heathrow, both current and historical.

Heathrow Annual Statistics

During the 12-month period from January to December 2012 inclusive, there were 475,029 fixed-wing movements (237,519 arrivals and 237,510 departures) at Heathrow, excluding a small number of ILS calibration flights. For the same period, Heathrow Airport Ltd reported 471,341 ATMs (Air Transport Movements), where this figure excludes non-revenue, government and military flights and those with 10 or fewer passenger seats.

A Typical Heathrow Day in Detail

The statistics and charts in the following sections relate to activity at Heathrow on Monday 4 February, 2013. This was chosen as a typical day, with no significant disruptions having been reported by the airport operator. There were 1,284 flights on that day, with 641 of the 647 scheduled arrivals and 643 of the 646 scheduled departures operating as planned.

For the purpose of this analysis, 4 of the 1,284 flights were excluded: 3 were corporate/VIP aircraft movements and one was a British Airways Boeing 747 returning from maintenance at Cardiff.

A total of 73 different airlines operated revenue flights on the day, to/from 150 non-stop destinations (including 5 freight flights by 3 operators and 2 freight-only routes, which are also excluded from the following analyses).

Segmentation by Airline Alliance

Passenger flights at Heathrow represent all 3 of the principal airline alliances - Oneworld, Star Alliance and Skyteam - in the proportions shown below:

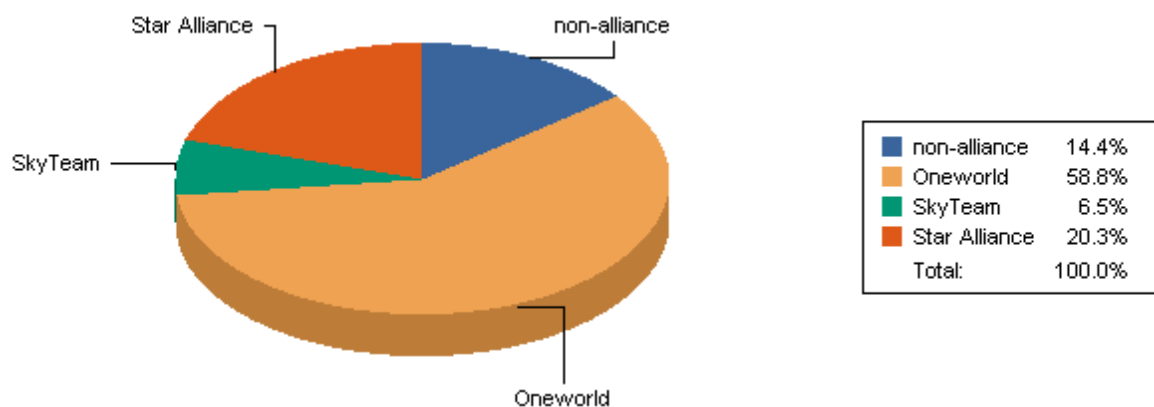


Figure 1: Flights by Airline alliance

As can be seen, Oneworld accounts for nearly 60% of flights from Heathrow, reflecting the dominance of British Airways and its alliance partners, particularly American Airlines.

Segmentation by World Region

The 150 non-stop destinations served from Heathrow, when segmented by IATA world region, look like this:

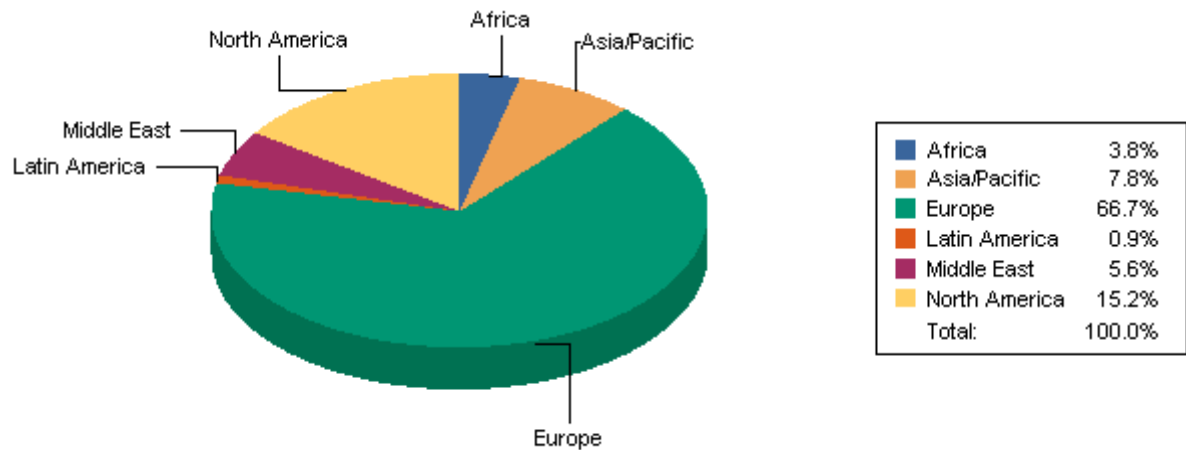


Figure 2: Flights by IATA world region

Unsurprisingly, two-thirds of all flights from Heathrow are to European destinations, with North America representing the next most frequently-served region.

When destinations served are weighted by aircraft size (i.e. the number of seats flown on each route), the picture changes somewhat:

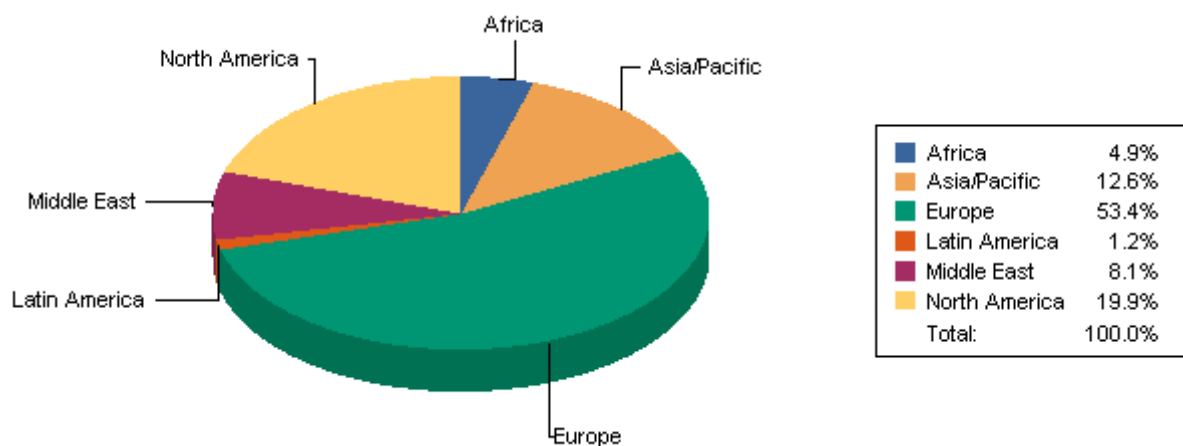


Figure 3: Seats by IATA region

The almost equal split between Europe and the rest of the world reflects the fact that aircraft used on long-haul routes tend to be larger types with more seats, with the smaller aircraft types being used mainly on intra-European routes.

Segmentation by Route Distance

A more detailed picture of the short/long-haul split is obtained by looking at individual flight legs, segmented by distance (great circle, statute miles).

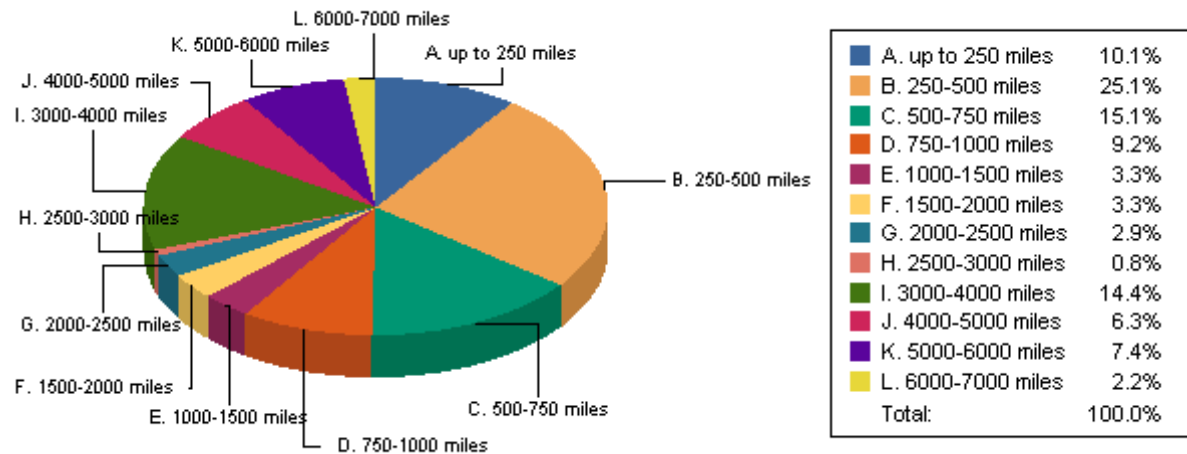


Figure 4: Flights by route distance

One in 10 flights from Heathrow are on routes of less than 250 miles (Manchester, Leeds, Paris, Brussels, Rotterdam and Amsterdam). Half of all flights are under 750 miles (i.e. around 2 hours duration). The longest non-stop routes served from Heathrow are to Singapore (6750 miles) and Buenos Aires (6900 miles), at around 13-14 hours.

Segmentation by Aircraft Category

Another convenient way of segmenting activity is by differentiating between narrow-body (single-aisle) and wide-body aircraft, and between the different manufacturers (principally Airbus and Boeing).

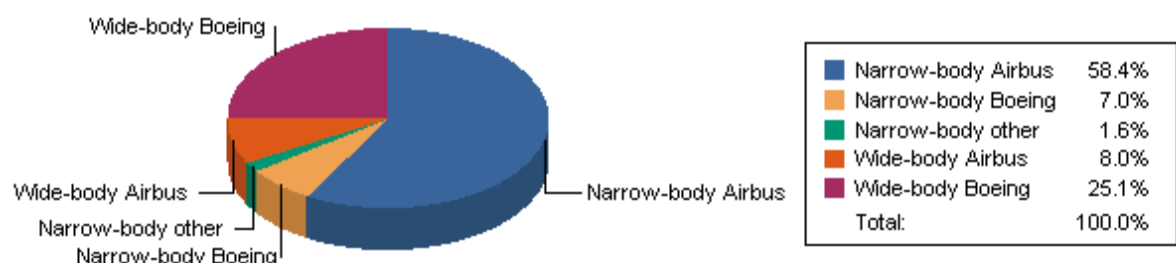


Figure 5: Flights by aircraft category

Two-thirds of flights are operated by narrow-body aircraft, with the Airbus A319/A320/A321 dominating this sector. The remaining one-third of flights flown with wide-body types are mostly accounted for by the Boeing 747 and 777.

Segmentation by Aircraft Seat Size

A more detailed picture of the different types of aircraft used at Heathrow is obtained by looking at seating capacity per flight. Aircraft sizes in use for flights at Heathrow range from the 80-seat Fokker 70 used by KLM to the Airbus A380 aircraft used by Emirates and Malaysia Airlines with more than 500 seats.

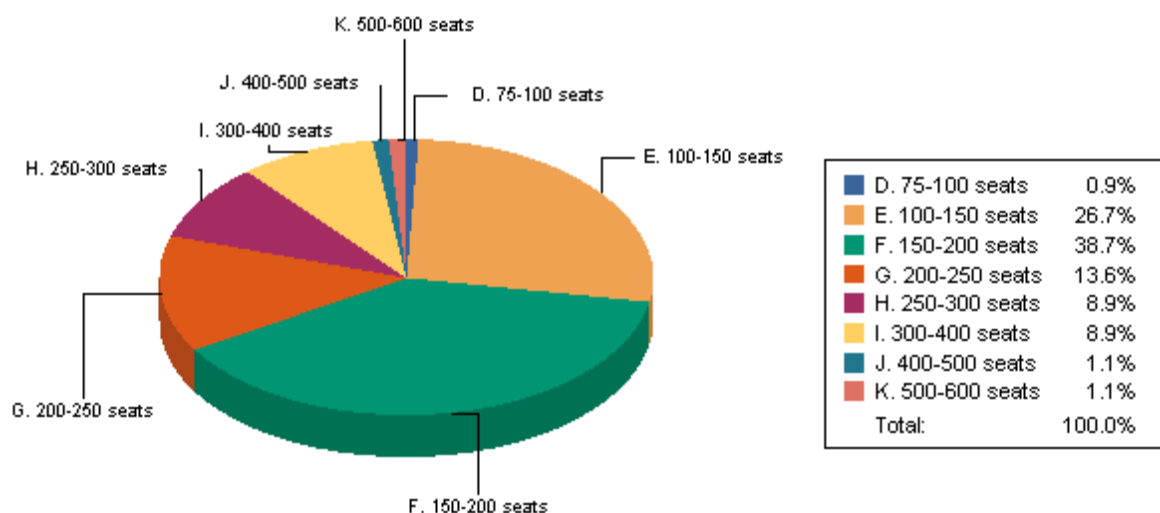


Figure 6: Flights by aircraft seating capacity

It can be seen that two-thirds of passenger flights to/from Heathrow are operated by aircraft with 200 or fewer seats.

Segmentation by Route Competition

Many of the routes served from Heathrow have more than one carrier operating on them, in competition with each other. This is distinct from a "codesharing" arrangement where a flight operated by Airline X may also be sold by Airline Y under its own flight number (for example British Airways flight BA1511 to New York is actually American Airlines flight AA100).

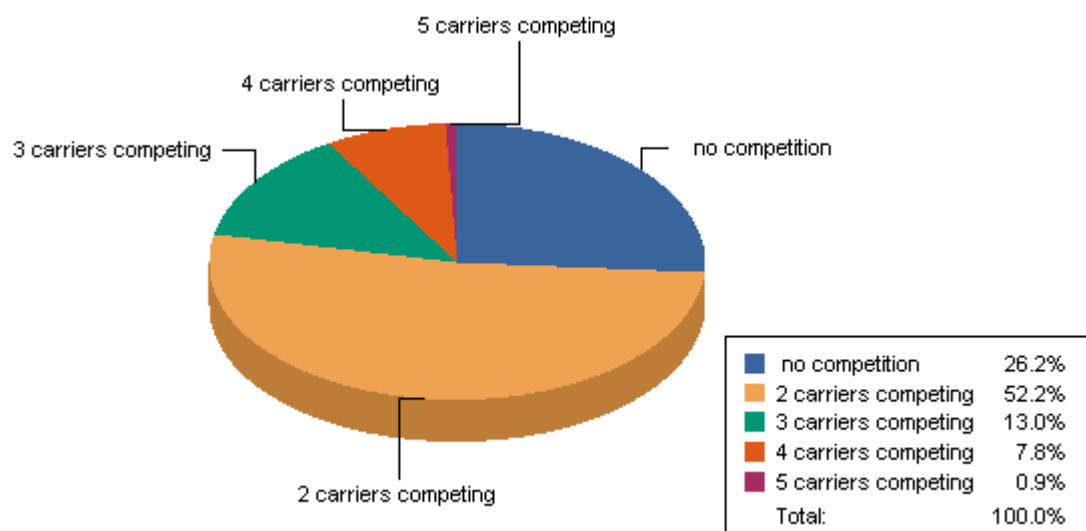


Figure 7: Flights by competition on route

More than a quarter of arrivals and departures at Heathrow are on routes operated by only one carrier, with no competition (for example Aer Lingus to Cork). Over half of Heathrow's flights are on routes where two carriers compete, typically British Airways in competition with a foreign carrier (e.g. BA and SAS to Copenhagen). One route (Los Angeles) is flown by 5 airlines (BA, Virgin Atlantic, American, United and Air New Zealand) with 5-7 flights daily in each direction.

Segmentation by Time of Day

The final segmentation in this report looks at numbers of arriving and departing flights, hourly, on the sample day.

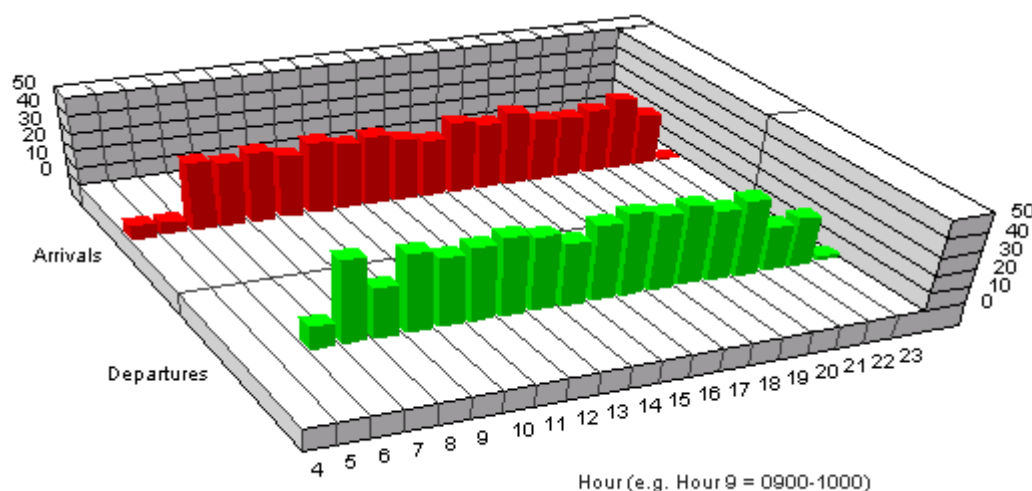


Figure 8: Arriving and departing flights by time of day (runway times)

The extent to which capacity is used during the course of the day can be readily seen. Arriving flights started at 04:32 on the day in question (Virgin Atlantic from Hong Kong), with the 15 flights that landed in Hours 4 and 5 (i.e. before 06:00) being subject to Heathrow's Night Quota. Departures commenced at 06:07 (Austrian Airlines to Vienna).

The day's last arriving flight was at 23:01 (Alitalia from Rome) and the final departure (a delayed El Al flight to Tel Aviv) was at 23:28.



London Assembly investigation into airport capacity in London

Written evidence to the Transport Committee from the Aviation Environment Federation, 9th January 2013

The Aviation Environment Federation (AEF) is the principal UK NGO concerned exclusively with the environmental impacts of aviation. Supported by individuals and community groups affected by the UK's airports and airfields or concerned about aviation and climate change, we promote a sustainable future for aviation which fully recognises and takes account of all its environmental and amenity affects. As well as supporting our members with local issues, we have regular input into international, EU and UK policy discussions. At the UN we are the lead representative of the environmental umbrella organisation ICASA, which is actively engaged in the current talks aimed at agreeing global climate measures for aviation.

AEF does not oppose all airport expansion as a matter of principle. However, we consider that provision of new South East airport capacity cannot be justified on either environmental or economic grounds. Below we set out our reasons on both counts.

Both the Assembly and the Mayor are clearly very familiar with the extent of the noise problem at South East airports, and with the shortcomings both of the Leq metric and of existing noise measures; our evidence therefore does not address these issues. While it is clear that the Heathrow noise situation is uniquely bad in terms of numbers of people affected, it should also be noted that there are no feasible airport locations in the South East at which noise would not be a very significant concern for local people. In particular, Kent and Medway councils as well as surrounding borough and district councils are firmly opposed to the building of a Thames Estuary airport on the basis of noise and conservation concerns, while campaigners at Stansted – specifically mentioned in the Assembly's scoping document as a possible site for expansion – fought a longstanding campaign through the courts, the press and other channels to oppose the building of a second runway at the airport until finally BAA dropped its plans for expansion there. Any proposal for a new hub at Stansted would doubtless be fiercely opposed, as would plans at either Gatwick or Luton.

Section 1: South East airport expansion would be incompatible with climate change targets

The Mayor of London argued in his response to the Draft Aviation Policy Framework that building a major new hub airport at which demand would be unconstrained could be compatible with meeting climate change commitments. The following sets out why we disagree.

Background: the Climate Act, and the ongoing importance of pursuing effective climate policy

In 2004 the Government's Chief Scientific Adviser said that climate change posed a greater risk to the world than terrorism. Two years later, in 2006, economist Sir Nicholas Stern published his analysis of the potential costs of failing to tackle this threat, concluding that while taking effective action to mitigate climate risks presented some costs, the cost of unabated climate change (including costs for developed countries such as the UK) would be much greater. Two years after that, the UK, with very strong political support across all major parties, passed the Climate Act 2008, committing us to cutting emissions by 80% of 1990 levels by 2050. Such a cut was deemed to represent the UK's share of global action necessary to limit the risk of global warming exceeding 2 degrees to no more than 50%, though many environmental organisations and others thought the Act should have set tougher emissions targets to increase the probability of successfully limiting warming¹.

Climate change may not currently be at the forefront of political or media discussion, but the scientific evidence on the need to act has never been stronger, and it is essential that the UK continues its leading role in relation to developing effective climate change policy. The need to shape our future economy around our climate ambition is now widely accepted across industry as well as politics. In July 2012, for example, CBI Director-General John Cridland wrote in the foreword to the organisation's 2012 report *The Colour of Growth* "With the current levels of economic uncertainty, and prospects of only modest growth in the UK, it is easy to understand why some people are fearful that 'going green' might further dent the economic recovery. For me, this is a false debate. In this report, the CBI makes clear the case for tackling head-on the critical challenges of energy security, affordability and climate change. It isn't a lofty ideal to aspire to – there is a hard-nosed economic argument that moving to a low-carbon economy can drive significant business investment and create many new jobs across the country."²

Aviation emissions – the current UK policy situation

Like the Kyoto Protocol and successor global climate agreements, the Climate Act omitted emissions from aviation and shipping on the basis of difficulty in attributing them appropriately to nation states. Nevertheless, the Act required these emissions to be taken into account when setting budgets for other sectors, and made clear that they should be part of the long-term 2050 target. The latest Government statement on aviation and the Climate Act, in December 2012, says that international aviation and shipping should be treated in the same way as other sectors, that their emissions form part of the 160 million tonnes allowable by 2050, and that the question of whether they should be formally included in carbon budgets will be reviewed in the process of setting the fifth carbon budget in 2016³.

In the same year that the UK passed the Climate Act – 2008 – the EU agreed that from 2012 emissions from all flights entering or departing from the EU would be included in its Emissions Trading System. In December 2012, however, under intense pressure both from countries outside the EU who objected in

¹ In a policy paper published in December 2012 academics at the Tyndall Centre for Climate Change research write: "...the science already demonstrates that the *global* carbon budget underpinning the UK's *national* budget equates to a 63% chance of exceeding 2°C. Moreover, the UK's *national* budget is based on a very unfair proportion of the *global* budget - again in contradiction to UK commitments on climate change and equity." (Briefing note 47 *Aviation and shipping privileged – again? UK delays decision to act on emissions* <http://tyndall.ac.uk/sites/default/files/tyndbn47.pdf>)

² http://www.cbi.org.uk/media/1552876/energy_climatechangerpt_web.pdf

³ International aviation and shipping emissions and the UK's carbon budgets and 2050 target http://www.decc.gov.uk/en/content/cms/emissions/carbon_budgets/carbon_budgets.aspx

principle to the EU regulating emissions taking place outside EU airspace, and in turn from EU aerospace manufacturers who feared a loss of trade from such states as a result of this dispute, the EU announced that it would be suspending the inclusion of all but intra-EU flights in the EU ETS for one year. During this period the EU hopes that ICAO, the UN body charged with working on aviation's environmental impacts, will make progress on agreeing a global measure for aviation emissions, and it seems likely that the terms of the EU ETS may be reviewed subject to these discussions. At present, therefore, while both the UK and (for example in its recent *Roadmap for moving to a competitive low carbon economy in 2050*⁴) the EU are committed to emissions reductions of at least 80% by 2050, including emissions from international aviation, no effective policy measures are in place to ensure that this level is not breached. It would seem to us, therefore, to be the responsibility of individual member states to take appropriate action to pursue this collective goal.

Latest CCC recommendations to Government in relation to aviation emissions

In April 2012, the Committee on Climate Change, created under the 2008 Climate Act and charged with advising Government on whether aviation and shipping should be included in the UK's carbon budgets from 2012, recommended that there were no longer good reasons to exclude either sector, arguing that data generated as a result of aviation's inclusion in EU ETS, together with the IMO shipping efficiency targets and projections, made inclusion possible. In December the Government announced that given the delayed inclusion of aviation in the EU ETS, it would postpone a decision about whether the sector should be included in carbon budgets until the setting of the fifth budget in 2016, and CCC issued a statement supporting this decision.

CCC also advised, however (in April 2012), that the Government should assume for planning purposes that (actual, untraded) international aviation emissions in the UK are no higher in 2050 than they were in 2005, in other words no higher than 35 MtCO₂e (million tonnes CO₂ equivalent)⁵. A detailed consideration of this advice is provided in an AEF briefing paper⁶ published in May last year. It is important to note that while CCC is a strong supporter of aviation's inclusion in the EU ETS, it argues that gross as well as net emissions should be considered for policy purposes⁷. Trading should, in other words, be considered only as a short to medium term solution and, even if re-introduced for aviation, will not mean that unfettered growth in the sector's emissions is permissible.

The CCC's 2012 recommendations in relation to gross emissions in fact tie in closely with analysis produced by Committee in 2009⁸ in response to the then Government target for UK aviation emissions to be no higher in 2050 than in 2005. CCC concluded that under such a target, growth in the sector was possible, but not at the level that was then forecast. Taking into account likely technological improvements, more efficient air traffic management, carbon pricing up to £200/tonne of CO₂ and the introduction of some aviation biofuels, passenger numbers could grow by around 60% of 2005 levels by 2050, said the Committee, but not by the 115% that could arise without additional policy measures

⁴ http://ec.europa.eu/clima/policies/roadmap/index_en.htm

⁵ Total UK emissions including from domestic aviation were 37.5 Mt CO₂.

⁶ <http://www.aef.org.uk/?p=1430>

⁷ The EU low-carbon roadmap (see note 4) similarly, states that "The transition towards a competitive low carbon economy means that the EU should prepare for reductions in its *domestic* emissions by 80% by 2050 compared to 1990".

⁸ <http://downloads.theccc.org.uk/Aviation%20Report%2009/21667B%20CCC%20Aviation%20AW%20COMP%20v8.pdf>

beyond aviation's inclusion in EU ETS. CCC concluded that alongside aviation's inclusion in the EU ETS: "The combination of different policies (e.g. tax and capacity plans) should... be designed to limit total demand increase to a maximum of around 60%, until and unless technological developments suggest that any higher figure would be compatible with the emissions target."

At the time, CCC were basing their airport capacity assumptions on the 2003 White Paper and therefore assumed new runways at Edinburgh, Heathrow and Stansted. The DfT's 2011 forecasts for passenger demand and CO₂ emissions, being published after the Coalition Government announced effective suspension of the 2003 White Paper for national policy purposes, assumed no new runways. Nevertheless, as a result of alternative assumptions about how readily demand transfers from one airport to another (as well as slightly different assumptions in relation to fuel efficiency and biofuels), the DfT forecasts for both passenger numbers and CO₂ emissions were remarkably similar to CCC's. Even assuming (i) no new runways anywhere in the UK, (ii) growth in passenger numbers of just 2% per year, and (iii) full coverage of aviation emissions in the EU ETS (a policy that has now been delayed) DfT forecast an increase in passenger numbers of 123% over 2005 levels (as against CCC's target-compatible 60%), with emissions increasing to 49 MtCO₂ rather than then target of 37.5 Mt.

AEF considers that, for several reasons, the CCC's assumption that UK aviation emissions will in gross (non-traded) terms be no higher in 2050 than in 2005, and the previous government's aviation emissions target of 37.5 MtCO₂, are unjustifiably lenient toward the sector.

- (a) The CCC's reference level for international (excluding domestic) aviation emissions of 35 Mt is 4 Mt per year higher than its estimate of UK's share of the EU ETS cap for aviation – 31 Mt CO₂e. We see no justification for this.
- (b) 35 MtCO₂e by 2050 represents 120% growth compared with 1990 levels, as against the 85-90% cuts expected from most other sectors of the economy, many of which are far less discretionary than air travel. Propensity to fly correlates closely with income, so it is primarily higher earners who benefit from its lenient treatment compared with other sectors. Neither CCC nor the Government has ever produced analysis demonstrating improved environmental or economic efficiency or social benefit arising from allowing aviation more generous terms than other sectors of the UK economy.
- (c) Neither the former emissions cap nor the CCC's planning assumption include a safety net for aviation's non-CO₂ impacts. While work is still progressing to develop a metric for aviation's non-CO₂ impacts that scientists regard as completely robust, a considerable body of research strongly indicates that aviation emissions are around twice as harmful in terms of global warming as CO₂ alone. AEF believes that use of a 2x multiplier for aviation is very likely to generate less distortion than the current situation which foresees no account being taken of aviation's non-CO₂ impacts between now and 2050.

Implications for airport capacity considerations

To better understand the implications for airport capacity of compliance with the UK aviation emissions target (on which the current Government has yet to state a view), WWF-UK asked AEF to assess the maximum terminal and runway capacity at UK airports, including both existing capacity and that for

which planning permission (or permitted development rights) had already been granted⁹. Based on an airport-by-airport review of all the airports identified in the 2003 Air Transport White Paper as requiring a master plan, and a national aggregation of these figures, AEF's work suggested that sufficient airport runway capacity exists today to accommodate the maximum level of growth considered possible by the Committee on Climate Change at both a national and regional level. The DfT has since published its own estimates of the maximum existing capacity of UK airports¹⁰; their view is that current capacity in fact allows for up to 6.6 million ATMs as against the 3.4 million per year in 2050 that CCC indicated in 2009 would be compatible with stabilising emissions at 2005 levels.

This suggests that to ensure that air traffic does not grow to levels that would be incommensurate with our climate change commitments available airport capacity options are:

- (i) No change to current capacity (and probably some additional constraints on demand)
- (ii) Development of new capacity being accompanied by the imposition of retrospective limits on the use of existing airport capacity (an expensive and difficult approach)
- (iii) Development of new capacity being accompanied by the withdrawal of existing capacity, for example by closing runways

The Liberal Democrats have adopted policy reflecting this third option, namely that there should be no net increase in runways in the UK: any new runway capacity that is built should be accompanied by the closing of a runway elsewhere.

It is sometimes argued that the introduction of EU ETS or a comparable global market-based measure for aviation would obviate the need for any restraint on runway capacity as market forces alone would then regulate aviation supply and demand within carbon constraints. But with much of the aviation industry, operating on very slim margins, focussed on maximising profit for shareholders in the short term, we consider that an approach to aviation capacity that relied too heavily on carbon markets to deliver climate change goals would be a very poor policy approach.

If significant expansion were to take place among airports all seeking to win market share for themselves during a period of low carbon prices (such as is currently the case), but carbon prices then rose rapidly as emissions permits became increasingly scarce (as is currently forecast for the period after 2030) then if EU ETS was allowed to run its course, infrastructure would be left idle, job hopes dashed, and businesses crushed. It seems inevitable that a future Government, faced with such economic and social impacts, would be very tempted to look for ways of abandoning or watering down the environmental limits on the basis that they had become too expensive to uphold: a classic case of "carbon lock-in", the dangers of which have long been recognised by scientists and noted by Lord Stern. It could be argued that the Government's approach to EU air quality laws, which the UK continues to breach, illustrates the danger of relying too heavily on high-level environmental policy together with market forces to deliver environmental targets.

CCC itself is reluctant to be drawn into any of the political debate about runways. Nevertheless, when asked recently about his view of the statement by Tim Yeo MP that as a result of aviation's inclusion in the EU ETS "We could cover the whole of Surrey with runways and not increase emissions by a single

⁹ <http://www.aef.org.uk/?p=1393>

¹⁰ UK Aviation Forecasts, August 2011, Table 2.6

kilogramme”, CCC’s Professor Sir Brian Hoskins said “If the European trading scheme worked in this sector and one built huge airports, those airports would not be used.”¹¹

Climate change and the Mayor’s proposal for a new hub airport

In his response to the Government’s Draft Aviation Policy Framework (dated October 2012), the Mayor of London argues that:

The CCC has demonstrated that substantial growth in the UK aviation industry is permissible within global climate change targets, if the industry continues to make improvements in aircraft design and performance.

The central case put forward by the committee was that UK-wide our airports can accommodate in the region of 150 million more passengers per annum by 2050 over current levels – while still adhering to our emissions commitments. This is compatible with development of a new hub airport.

There are two significant problems with this argument however:

- (i) It implies that there will be no increase in passenger numbers from current levels at any UK airports other than at a new designated hub. For such an outcome to be guaranteed, retrospective planning limits would need to be imposed on regional airports around the country, many of which currently have significant unused capacity which they have planning permission to use. As the UK currently has more than sufficient capacity to cater for the 60% growth in passenger numbers and 55% growth in ATMs that CCC estimates to be compatible with climate change obligations, it is clear that provision of a new 4-runway airport could be accommodated only if capacity was withdrawn elsewhere. And as Heathrow has only two runways, even the closure of Heathrow airport would not provide sufficient CO2 compensation.
- (ii) The CCC’s estimates for possible growth in passenger numbers and air transport movements were averages for the UK as a whole. Hub airports, however, by definition have far more long haul traffic than other airports. As it is these long haul flights that generate the majority of the sector’s emissions, while Heathrow carries only about a quarter of the UK’s air traffic¹², it is responsible for around half of UK emissions¹³. A 4-runway hub airport could reasonably be assumed to operate a similar mix of long-haul, short-haul and domestic flights as is currently operated at Heathrow, and thus from one airport to generate double the emissions of a 2-runway Heathrow – equivalent to sum of the emissions from all UK airports today. It is thus impossible to imagine a plausible scenario in which such an airport could be compatible with stabilising the sector’s emissions at 2005 levels.

The Mayor also argues in his response to the Draft Aviation Policy Framework that a hub airport operating without capacity constraints could achieve emissions reductions through its removal of aircraft ‘stacks’. The response states:

¹¹ GLA Health and Environment Committee meeting 16th October 2012

<http://www.london.gov.uk/moderngov/ieListDocuments.aspx?CId=256&MId=4617&Ver=4>

¹² CAA statistics <http://www.caa.co.uk/default.aspx?catid=80&pagetype=88&pageid=3&sglid=3>

¹³ DfT Aviation Forecasts August 2011 . <http://assets.dft.gov.uk/publications/uk-aviation-forecasts-2011/uk-aviation-forecasts.pdf>

One could also achieve a valuable reduction in emissions with an operationally optimised hub airport – specifically, one with minimal capacity constraints. Heathrow is operating at up to 99% capacity and this has significant environmental consequences. At busy times, incoming aircraft can spend 30-40 minutes in stacks circling London. The CO₂ emissions of aircraft stacking at Heathrow represent an amount equivalent to around 10% of the total CO₂ emitted during the landing and take-off cycle (LTO) of aircraft arriving and departing at Heathrow.

Literature from Heathrow Airport¹⁴ indicates that its total Landing and Take-Off emissions (including those from aircraft turning on the ground as well as coming into or leaving the airport) are around 1.31 Mt CO₂; 10% of this is 0.131Mt CO₂. Including emissions from aircraft departing the airport, meanwhile, the Heathrow total is given as 18.9 by the DfT for 2010 (the most recent year for which data is available). 0.131Mt CO₂ of this figure is 0.69%.

Emissions arising from aircraft stacking at Heathrow airport are therefore 0.69% of those from the airport when flight emissions are also counted. There can be no valid argument, we conclude, for building a new airport with unconstrained flight numbers in order to tackle emissions from stacking. In fact, while it is right for efforts to be made to reduce air traffic inefficiencies, the existence of constraints at Heathrow appears to be prompting an increasing proportion of larger aircraft, thus generating lower emissions per passenger than would otherwise be the case, as passenger numbers at the airport have grown significantly faster than Air Transport Movements in recent years.

Section 2: Expansion of South East airports cannot be justified on economic grounds

It is often assumed that a Government decision on airport capacity necessarily involves balancing economic benefits of expansion against environmental disbenefits. Yet the economic benefits of aviation, while frequently referred to, are rarely demonstrated with convincing evidence. Meanwhile, the idea that the UK is facing an urgent capacity crisis is a myth. Each time the Government has revised its passenger demand forecasts since 2003, they have gone down.

The myth of capacity crisis

The latest forecasts of passenger demand were published by the Government in August 2011 and show a significant reduction in expected future levels of demand compared with the previous forecasts, produced as recently as 2009. In fact, this should come as no surprise. The aviation forecasts have been revised four times since 2003 and each time downwards.

In the heady days of the Air Transport White Paper, the Government's belief, based on its passenger forecasts, was that even though it would be wrong (for environmental reasons) to adopt a 'predict and provide' policy to airports in which all demand was met, new runways were nevertheless needed at Heathrow, Stansted, the Midlands and Scotland in order to cope with expected growth. The latest forecasts, by contrast, indicate that despite no new runways having in fact been built, there would be

¹⁴ <http://www.heathrowairport.com/about-us/community-and-environment/sustainability/environment/climate-change>

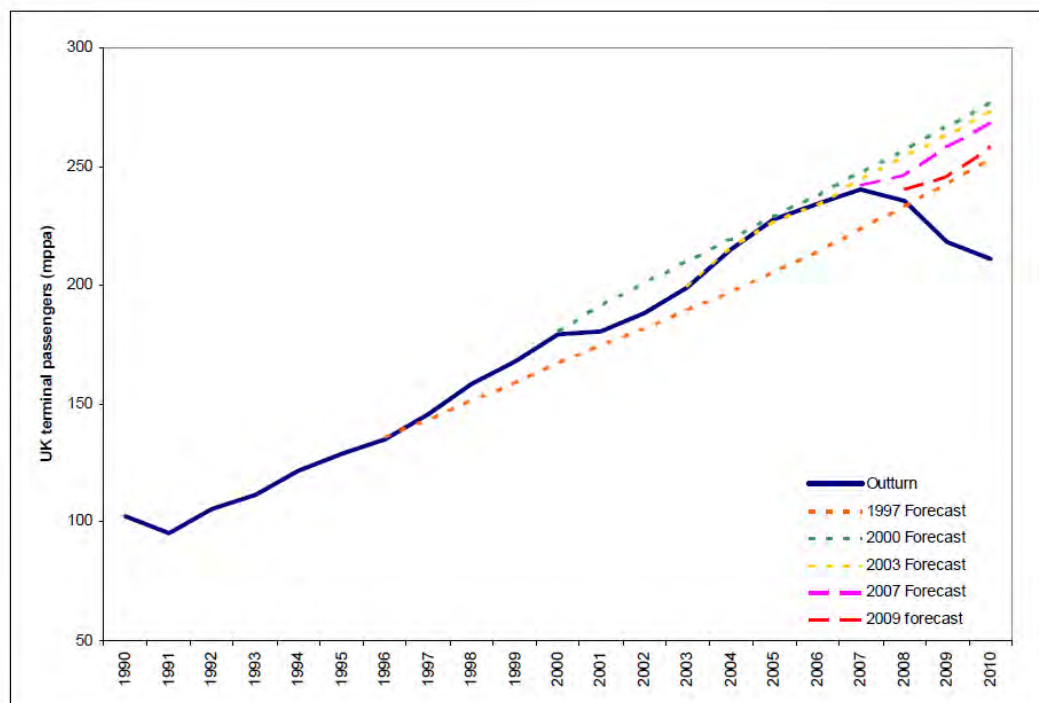
sufficient airport capacity, even in the South East, to cater for all passenger demand until nearly 2030. Even if no new runways were built anywhere in the UK, less than 3% of potential air traffic would be squeezed out by 2030. ('Constrained demand' at 2030 is 335mppa, compared with unconstrained demand of 345mppa.)

AEF has produced an extensive critique¹⁵ in relation to the DfT's passenger forecasts from which the emissions forecasts are derived which concludes that the forecasts up to 2030 may still be too high, as they assume:

- A resumption in economic growth at around 2% pa or above and continuing indefinitely, which AEF considers very uncertain
- No increase in oil prices (despite evidence of increasing demand and increasingly difficult and expensive approaches to extraction), and
- A continuation of aviation's tax exemptions (including no fuel tax and no VAT)

In fact there is a considerable history of passenger demand being overestimated: every time that the Government has revised its forecasts, the numbers have been downgraded. In the latest set of figures, which reflect to some extent the impact of recession, demand is down from 500 million passengers per year (mppa) at 2030 in the 2007 forecasts to 343 mppa in the 2011 forecast. This is illustrated in the DfT's own forecasts document from August 2011:

DfT Aviation Forecasts 2011 Figure 2.13: 1997, 2000, 2003 and 2007/9 demand forecasts versus outturn



¹⁵ <http://www.aef.org.uk/?p=1423>

A further revision of the figures is expected to be published early this year to inform the Airports Commission.

Passenger forecasts are directly relevant to considerations of the economic benefits of expansion. The figure once used by the Government, that a third runway would generate £5 billion for UK economy relied heavily on forecasts of economic growth and carbon prices that are no longer up-to-date. When the New Economics Foundation reran the Government's model in 2010 using updated figures, and adding in modest costs for environmental and community impacts, they concluded that building the runway would in fact result in a £5 billion loss to the UK.¹⁶

Aviation's value to the economy has been exaggerated and employment is falling

In the past, industry lobbying has focussed on the overall 'value' of aviation to the UK economy (both directly and indirectly) or the number of jobs it supports. However, in many cases these figures have been (i) hotly disputed and (ii) falling. Academic assessment in 2009, for example, of the analysis that has been undertaken concludes that claims about economic and job creation benefits have very often been overstated¹⁷, mirroring findings both of work by consultants CE Delft for HACAN¹⁸ and of GACC, which has estimated that in terms of Gross Value Added the aviation sector – a medium-sized industry – is of less economic important than water, sewerage and waste management¹⁹. The numbers of jobs generated by the aviation industry, meanwhile, have been falling as check-in becomes increasingly mechanised and low-cost travel, within minimal staffing, has grown²⁰. In the Draft Aviation Policy Framework the Government's estimate of the number of jobs directly supported by aviation was significantly lower than the figure quoted just a year earlier in the scoping study.

More recently, the expansionist argument has therefore shifted towards a focus on aviation's role in providing 'connectivity' to facilitate growth of the UK economy more generally, with much of the debate taking as read the central importance of a hub airport in delivering this.

The economic impacts of a hub airport have not yet been analysed by Government

The assumption in Government policy that a hub airport is somehow central to the UK's economy is in fact fairly new.

As recently as June 2008, David Cameron wrote the following in the Evening Standard²¹:

¹⁶ NEF 2010 *Grounded: a new approach to evaluating Runway 3*

<http://www.neweconomics.org/publications/grounded>

¹⁷ D Gillingwater et al, January 2009, *Omega study 40 – Economic benefits of aviation technical report*, Loughborough University, <http://www.omega.mmu.ac.uk/economic-benefits-of-aviation.htm>

¹⁸ CE Delft 2008 *The Economics of Heathrow Expansion*
<http://www.hacan.org.uk/resources/reports/4504.final.report.pdf>

¹⁹ GACC September 2011, *The economic importance of aviation*
www.gacc.org.uk/resources/2.%20Economic%20benefit.doc

²⁰ Sewill B, 2009 *Airport jobs: false hopes, cruel hoax*, AEF
http://www.aef.org.uk/uploads/Airport_jobs_false_hopes_cruel_hoax.pdf

²¹ <http://www.standard.co.uk/news/comment-i-wont-back-gordons-great-heathrow-con-6928482.html>

[Gordon Brown's] economic case for Heathrow expansion is unravelling day by day. It's based on making Heathrow an even bigger "hub" airport, with a massive increase in the number of transfer passengers. As Bob Ayling, former chief executive of British Airways, has said: "This is a classic exercise in misguided central planning." Forget for a minute that the economic value of transfer passengers is hotly disputed - after all, they often spend only the price of a cup of coffee in the UK. The real issue is the "hub" model itself, which contributed to the bankruptcy of almost every US airline and Sabena in Europe too. Why? Because passengers are people, not statistics. They react to airport delays, missed connections and lost luggage with their feet and don't come back. And after the recent fiasco of Terminal 5, there must be severe doubt about whether the Government and BAA are even capable of managing the expansion of Heathrow to cope with more than 700,000 flights a year by 2030.

In November 2012, however, the Government set out the terms of reference for the Airports Commission specifically requiring it to 'identify and recommend to government options for maintaining the UK's status as a global aviation hub'. There has been no explanation given of how the Government reached the apparent conclusion that in fact the UK's economic wellbeing rests on our maintaining our hub 'status'. Research into the economics of the hub model was due to have been sought and examined as part of a Government 'call for evidence' following publication of the Draft Aviation Policy Framework but this work was abandoned with the setting up of the Airports Commission.

The direct economic benefit of transfer passengers, as noted by Cameron, is minimal, not least as they pay no APD.

Questions about hub airport expansion should not be conflated with questions about good connectivity

Many airports are keen to challenge the BAA line that business connectivity requires additional hub capacity. The Chief Executive of Birmingham Airport, which has now begun work on its runway extension and needs to fill it with aircraft, has publicly described Heathrow's implication that new routes to China will only be possible through Heathrow expansion as a 'con'²², while Gatwick is arguing that London will be best served through the development of competing airports, facilitated by keeping Heathrow at its current size but building second runways at both Gatwick and Stansted.

For those passengers flying to or from an airport in South East England, the fact that it operates as a hub as well as a terminating airport is of little relevance. Meanwhile, for those who do not live or work in South East England but want to do business abroad, having a hub airport in the UK is unimportant. There is no generalised advantage for someone flying from, say, Aberdeen to change plane at Heathrow or a Thames estuary airport compared with changing at Helsinki or Hong Kong. The need for passengers and for the UK economy is adequate *terminating* capacity.

'Connectivity' need not mean 'direct travel by air'

Even when disentangled from hub airports issues, the concept of business connectivity merits interrogation, as it has been presented by some as necessarily involving (a) travel by air and (b) direct travel. In fact, connectivity can take many forms, including other transport modes such as rail, or transport replacement such as videoconferencing.

²² <http://www.guardian.co.uk/world/2012/apr/22/heathrow-claims-con-birmingham-airport>

A recent report for Heathrow by Frontier Economics, *One hub or none*²³, generated a widely reported claim that the UK is losing out on £14 billion per annum in trade due to airport capacity constraints. The figure was derived by identifying countries to which other European hub airports have direct connections but Heathrow does not, and then comparing the amount of UK GDP generated through trade with that country as against trade between the country and other European 'rivals'.

In previous analyses, Frontier Economics, on behalf of Heathrow, has shown that the UK does more trade with countries to which there are direct flights. Yet it has never been able to show the direction of causality in this relationship. The £14 billion claim rests on an assumption that laying on flights to a given destination generates trade with that country, but this has never been shown to be true. The fact that the correlation exists between trade and direct flights could easily be explained by the fact that airlines will respond to demand – when enough people want to fly somewhere to do business, flights will be provided.

Business travel in London has been *falling* as a proportion of total demand

Evidence from WWF-UK suggests that while flying has traditionally carried prestige among business travellers, many UK businesses are finding that alternatives can be more efficient in terms of time and cost as well as environmental impact, causing what seems to be a genuine shift in travel behaviour²⁴.

This may help to explain why both the number of trips taken from the UK abroad for business, and the proportion of flights taken by business, has in fact fallen in recent years. This is true both in terms of national averages²⁵ and in London in particular, where the percentage of business trips has fallen at Heathrow, Gatwick and Stansted over the past decade.²⁶

There will never be more than a very small proportion of city-to-city or airport-to-airport pairs that have direct connections. Yet as it is already possible to travel from any UK airport to any other airport in the world, in this sense, we have full connectivity. Last year Virgin Atlantic announced a new service from Delhi to New York's JFK via Heathrow, following the success of its Delhi-Newark route which also connected at Heathrow. In direct contradiction of the concept that direct routes are always preferable, Stephen King, Virgin's general manager in India said: "Our increasing share to Newark shows that passengers prefer breaking the journey in half, stretching their legs and indulging in some duty-free shopping. We're looking forward to making this new service to JFK a success."²⁷

²³ <http://mediacentre.heathrowairport.com/Press-releases/One-hub-or-none-390.aspx>

²⁴ 2008 WWF-UK *Travelling Light: why the UK's biggest companies are seeking alternatives to flying* http://www.wwf.org.uk/what_we_do/campaigning/one_planet_mobility/new_report__travelling_light/, and 2011 WWF-UK, 2011 *Moving on: why flying less means more for business* http://www.wwf.org.uk/how_you_can_help/get_your_business_involved/one_in_five_challenge/

²⁵ February 2012 Health Protection Agency *Global and UK Travel Trends 2010* http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1317132797054

²⁶ Based on CAA survey data; full figures available on request

²⁷ <http://www.rediff.com/business/report/new-daily-delhi-new-york-flights-from-october/20120808.htm>

If routes to emerging economies are not being provided it's because demand isn't strong enough

The idea that the UK needs more direct flights to emerging economies such as the BRIC countries is often used as an argument for expansion. Yet airports operate whichever flights are most profitable to operate.

Heathrow is the only airport at which capacity is currently constrained, and its CEO Colin Matthews recently told the Transport Committee of the House of Commons²⁸ “we need a third runway at Heathrow, or some other hub solution, wherever that is, in order to continue to connect UK business to ... long-haul emerging markets.” Yet at Heathrow:

- 2012 saw the allocation of scarce new slots to Palma, Barcelona and Scotland
- Top ten destinations by passenger number in 2011 included Paris, Edinburgh, Frankfurt and Dublin
- The proportion of travel for business fell from 37.6% in 2001 to 31.3% in 2011, a pattern mirrored at other South East airports (see below)
- In 2009 (the latest year for which we have data) average seat occupancy on some routes fell below 60%²⁹
- Historical increases in passenger numbers (which are forecast to continue to grow despite capacity constraints) have not resulted in corresponding increases in the numbers of destinations served

Gatwick, meanwhile, which has considerable unused capacity, in 2012 laid on new routes to Russia, China, Vietnam and Korea, indicating that long-haul flights are not exclusively the preserve of Heathrow.

The economic interest of airport operators may not be the same as the economic interest of the UK

It is in the personal interest of many businesses to seek or promote aviation growth. Individual airports both want to secure as much as possible of any future demand for themselves and to convince shareholders and investors of their value. Consultants have found plenty of work in coming up with an array of schemes for new airports. Yet as former Aviation Minister Theresa Villiers said while in office “The commercial interest of BAA is one thing – it’s not necessarily the same as the economic needs of the overall economy.”³⁰ In the past, AEF has criticised the Government’s demand forecasts as being unrealistically high. Indeed, even the latest set of figures, the lowest ever since 2003, is expected to revised downwards very shortly. But improvements have been made over time, and a national picture provides an important counterbalance to arguments that are necessarily self-interested.

²⁸ <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmtran/uc765-ii/uc76501.htm>

²⁹ For 2009 (the latest year for which we have data): Heathrow – Jersey 46%, Heathrow – Sheremetyevo 57%, Heathrow – Milan 58%, and Heathrow – Brussels 59%

³⁰ 21 May 2012 Financial Times

Section 3: Conclusions and recommendations

Airport capacity questions must be addressed within an effective climate framework

AEF's environmental concerns go wider than climate change alone. Our response to the Draft Aviation Policy Framework, for example, called for a number of changes to the way in which noise is measured and managed, including recommending a plan for bringing aviation noise to within the levels recommended by the World Health Organisation. In relation to short-term questions about airport capacity in the South East, however, arguments can be made for and against various airports options in terms of noise impacts.

A consideration of climate change impacts is less equivocal. The Climate Change Act commits the UK to making cuts of at least 80% in 1990 levels of emissions by 2050. This is at the bottom end of the 80-95% range to which the EU as a whole has committed³¹. In December 2012 the Government confirmed that aviation should be treated in the same way as others in that its emissions should be counted towards the UK's 2050 emissions target even while they are not formally included in carbon budgets. This mirrors the approach that the Committee on Climate Change has taken so far. This statement was made subsequent to the publication of the Draft Aviation Policy Framework and we hope that the final version of the framework will clarify:

- (i) That aviation policy must be determined within the carbon constraints imposed by the Climate Act
- (ii) That aviation is counted as part of the EU's commitment to cut emissions by 80-95% of 1990 levels by 2050
- (iii) What UK policies will ensure that aviation emissions are kept to manageable levels given these two commitments

The postponement of aviation's entry in the EU ETS for all but intra-EU travel means that there is now no policy mechanism for controlling UK aviation emissions. Meanwhile the Airports Commission is to consider questions about possible airport expansion to meet the UK's economic needs, and indications are that the Government currently has already assumed that this will require more infrastructure³². In fact, we believe that if a full account is taken of both environmental and economic factors extra airport capacity will be out of the question.

2. An independent review should be conducted of what kind of aviation model will best serve the UK's needs

The extent to which this can be undertaken by the Airports Commission appears constrained given that its terms of reference predetermine that priority be given to hub operations. Yet this work is an essential part of any discussion about airports infrastructure and policy. Appropriate account should be

³¹ See note 4

³² The Coalition's Mid-Term Review, *The Coalition: together in the national interest* (7th January 2013) includes a commitment to invest infrastructure, partly by "supporting the Airports Commission, led by Sir Howard Davies, in its work of identifying the best way of maintaining the UK's global aviation hub status."
<http://www.number10.gov.uk/the-coalition/mid-term-review/>

taken of the falling air passenger forecasts, and fundamental questions about the role of hub operations should be addressed.

3. *Consideration should be given to whether existing infrastructure could be more effectively used, though effectiveness should be defined in environmental as well as economic terms*

In particular, the question of how to manage Heathrow demand may warrant further attention. In 2010 AEF participated as the sole environmental representative on the South East Airports Taskforce, set up specifically to look at ways of improving the passenger experience at Heathrow, Gatwick and Stansted and the final report made a number of operational recommendations. Though capacity issues fell outside the remit of the report's advice, it is worth noting that delays at the airport are partly caused by the fact that 98% of slots are in use; the creation of some slack in the system, for example by withholding 5% of the maximum slot capacity would be one way for Heathrow itself to improve the airport's resilience.

If there is to be a policy goal of providing more direct flights to emerging economies, it appears that not all airport slots are being most effectively used. Yet it is hard to imagine how Government or regulators could legally set aside slots for particular routes. A move towards slot auctioning would help to incentivise efficient use but requires EU assent and is currently opposed by many EU states. The Airports Package currently being debated in Brussels does not contain any proposals to move to a system of slot auctioning, but does propose to sanction the trading of slot rights which already takes place between airlines, particularly in the UK.

Changes to aviation taxation could be made unilaterally. When the Coalition Government first formed it promised to replace Air Passenger Duty with a duty per plane, which would have helped to incentivise higher load factors. But the idea was swiftly dismissed as likely to raise legal problems. AEF considers that the topic is worth revisiting. Some airports, meanwhile, are campaigning for differential rates of Air Passenger Duty to help drive traffic to regional airports, and, as highlighted in the press over Christmas³³, HMRC has conducted analysis indicating that a cost increase equivalent to a 5% increase in APD would be sufficient to shift some demand away from Heathrow to Birmingham, Luton or Stansted. AEF regards UK aviation as a whole to be undertaxed, and would consider supporting changes to the structure of Air Passenger Duty only on the basis that there was no reduction in the overall tax take. Any interventions to try to influence passenger demand at different airports should be undertaken only in the context of the climate constraints set out earlier in this document.

³³ 29th December, The Observer, *Tax Rise at Heathrow and Gatwick 'will force flyers to use provincial airports'* <http://www.guardian.co.uk/world/2012/dec/29/tax-rise-heathrow-gatwick-airports?INTCMP=SRCH>

Airport capacity crisis? What crisis?



Aviation Environment Federation, 12th October 2012

Since the Government announced its policy of opposition to new runways at Heathrow, Gatwick and Stansted, the aviation industry has been working hard to put out the message that there is a crisis in airport capacity in the South East.

Perhaps as a result, much of the recent reporting and political discussion about airports has started from the assumption that we need new runways, asking “if not at Heathrow, then where?”

In fact, there is no evidence of a crisis in capacity and no urgent need for new runways.

New forecasts of passenger demand were published by the Government in August 2011. These forecasts show a massive reduction in expected future levels of demand compared with the heady forecasts produced in 2003. Those forecasts led to the Government’s ‘white paper’ which supported new runways at Heathrow and Stansted as well as a new runway in the Midlands and one in Scotland. Even in 2007 demand was predicted to be 495 million passengers per year (mppa) at 2030, but by 2011 the forecast had fallen to 343 mppa.

Even the latest forecasts are probably still too high because they assume:

- A resumption in economic growth at around 2% pa or above and continuing indefinitely, which is very uncertain
- No increase in oil prices (despite evidence of increasing demand and increasingly difficult and expensive approaches to extraction), and
- A continuation of aviation’s tax exemptions (including no fuel tax and no VAT)

More detail on the forecasts is given on our website

(http://www.aef.org.uk/uploads/AEF_Passenger_Forecasts_analysis_1.pdf , where there is a link to a detailed report by AEF of 24pp).

The only airport in the entire country where there is a gap between demand and supply in terms of runway capacity, either now or any time soon, is Heathrow. And despite the recent hysteria about constraints at Heathrow, there is sufficient runway capacity serving London and SE England to continue to meet demand.

The Government forecasts show that passenger demand could be almost entirely met with existing infrastructure until 2030. Even if no new runways were built anywhere in the UK, less than 3% of potential air traffic would be squeezed out. (‘Constrained demand at 2030 is 335mppa, compared with unconstrained demand of 345mppa.)

Do we need to cater for more business travellers?

A key question is whether business travel would be squeezed out. The answer is almost certainly no.

CAA statistics indicate that only about 23% of air travel is for business. The great majority of the growth in demand is for leisure.

Business travel is very 'inelastic'. This is entirely explicable – a highly paid business person wanting to travel to China to negotiate a multi-million pound deal is not going to be put off because he or she has to take a flight from one airport rather than another or because it is slightly more expensive.

Leisure travel is, by contrast, widely accepted as discretionary and highly 'elastic'. If a particular trip is not convenient or becomes more expensive, people may choose to spend their money on something else.

For these reasons, the 3% of traffic that would be squeezed out by 2030 if no runways were built would be almost entirely leisure. **There would be virtually no loss of business travel and therefore no loss of trade or loss to the UK economy.**

There may well be benefit to certain airlines or airport operators if certain airports were expanded (eg Heathrow) or a new airport was built (eg Thames estuary). However, this is a completely different matter to benefits for UK passengers or economic benefits arising from business travel.

Can Government forecasts be trusted?

Government forecasts have recently come in for something of a battering. The aviation forecasts are certainly fallible and have been revised 4 times since 2003 – each time downwards. But they are rigorously produced and improvements to the assumptions have been made over time so the official figures can serve as a useful check against the often wildly exaggerated forecasts by airports, produced to support business plans and please shareholders.

AEF considers that ultimately airports policy should not be determined solely by individuals' demand for travel but also by society's demands both for protection from unacceptable noise and air pollution, and for political action to tackle climate change. But even if the Government imposed no new constraints on aviation for environmental reasons, there would be **sufficient airport capacity to cater for all aviation demand until nearly 2030.**

For more information, please contact:

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Cait Hewitt, Deputy Director: cait@aef.org.uk

Aviation Environment Federation, Broken Wharf House, 2 Broken Wharf, London EC4V 3DT

The Great Connectivity Myth



Aviation Environment Federation, 24th October 2012

Since the Government announced its policy of opposition to new runways at Heathrow, Gatwick and Stansted, the aviation industry has been working hard to put out the message that there is a crisis in airport capacity in the South East. In particular it has been arguing for an increase in hub capacity, either by expanding Heathrow or by building a new airport in the Thames estuary.

As a result, much of the recent reporting and political discussion about airports has started from the assumption that we need new hub capacity and the debate has been narrowed down to whether it should be provided by expanding Heathrow or building a new airport in the Thames estuary.

Meaning of connectivity

In the debate on airport capacity there is a total lack of clarity on what “connectivity” means. Connectivity actually is about how well connected the UK is to other parts of the world, and the ease with which businesses can access foreign markets and vice versa. Connectivity can take many forms, including transport modes such as rail (in Europe) in addition to air transport. Yet in the current debate, lobbyists take a very narrow, misleading, definition, to mean only direct flights between two destinations.

There will never be more than a very small proportion of city-to-city or airport-to-airport pairs that have direct connections. To travel between the great majority of pairs will always involve a change of plane.

Changing planes is not necessarily a disadvantage. It can lead to a more frequent and cheaper service between cities than a direct low-volume service would. (Because, when a journey involves a change, the individual legs of the journey are typically high frequency, competitive routes.)

It is already possible to travel from any UK airport to any other airport in the world. **Fundamentally, therefore, we have full connectivity.** The trip may involve a change of plane but, for most city pairs, this will always be the case and is not, in any case, necessarily a bad thing.

Comments such as *“to ensure that 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.”* (Government consultation) mislead because there is no evidence (or even a suggestion) that the UK cannot compete if a business person has to change plane.

Hub airports

The debate on airports confuses and conflates connectivity and hub airport issues.

Passengers flying to or from an airport in SE England will not be changing plane in the SE. As far as they are concerned, any airport in the SE that they use is a terminating airport and not a hub.

For the majority of the population, who do not live or work in SE England, having a hub airport in the SE is unimportant. There is no generalised advantage for a person flying from, say, Aberdeen to change plane at Heathrow or a Thames estuary airport compared with changing at, say, Helsinki or Hong Kong.

As a hub airport in SE England confers no particular benefit for passengers travelling to/from SE England and confers no particular benefit for passengers travelling to/from other parts of UK, it can be safely concluded **there are no significant benefits of larger or expanded hub airports or hub capacity for UK passengers. The need for passengers and for the UK economy is adequate terminating capacity.**

There are no doubt benefits for certain airlines or airport operators if passengers change plane at a particular (South East England) airport. However, this is a completely different matter to benefits for passengers or general UK economic benefits arising from business travel.

Heathrow's hub operations may help improve connectivity for people flying between other countries. Virgin Atlantic, for example, recently announced a new service from Delhi to New York's JFK via Heathrow, following the success of its Delhi-Newark route which also connected at Heathrow. In direct contradiction of the concept that direct routes are always preferable, Stephen King, Virgin's general manager in India said: "Our increasing share to Newark shows that passengers prefer breaking the journey in half, stretching their legs and indulging in some duty-free shopping."¹ However, providing more hub capacity should not be a primary aim of UK aviation policy, because it does not help UK terminating passengers or the UK economy.

Attracting foreign passengers to change planes at a hub airport in South East England justifies use of more and larger aircraft, which subjects communities to more noise and pollution. There is no offsetting gain to the UK economy because, as noted previously, the extra passengers are not actually travelling to or from the UK and therefore do not contribute to the UK economy.

Foreign passengers changing at a UK hub do not even make a contribution to the Treasury because interchange flights are exempted from Air Passenger Duty (APD).

The additional routes argument

The argument made by lobbyists for hub airports is that, by attracting foreign passengers who are not terminating in the UK, they make the demand for potential (direct) routes larger. They can therefore make a route viable which it would otherwise not be. However, this will only be the case for routes 'at the margin', ie routes where there is so little demand from London and the SE that it is not possible to fill planes without bringing in passengers from elsewhere.

The economic argument for attracting traffic from elsewhere is very slender. And when the extra noise, pollution and congestion are taken into account, together with the fact that that interchange passengers do not even compensate by paying APD, it is hard to believe there is a net benefit.

Contact

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¹ <http://www.southalltravel.co.uk/news/India/90402225/Virgin-Atlantic-to-Start-Flight-from-Delhi-India-to-JFK.html>

BA, easyjet and Virgin Atlantic's comments on Air Passenger Duty, 4 February 2013

Our airlines have long raised concerns about the economic harm caused by Air Passenger Duty and called on HM Treasury to carry out a full economic assessment of the tax. In light of the reluctance to do this and the continuing increases in APD rates, we commissioned PricewaterhouseCoopers to carry out a detailed assessment of APD as well as modelling the impact of an abolition of the tax on growth, employment and the public finances. This report has been published today. This report has been published today, and can be viewed here: http://corporate.easyjet.com/media/latest-news/news-year-2013/04-02-2013-en.aspx?sc_lang=en

PwC's assessment has been carried out within a framework laid out by the Treasury Select Committee in its 2010 review of the fundamental principles of tax policy making. Underpinning our approach consistent with this framework is a dynamic economic model of the UK economy.

The key findings from PwC's analysis are:

- **Abolishing APD would result in an immediate boost to the level of UK GDP** of 0.46 per cent in the first year, followed by continuing GDP benefits to 2020. In the first three years following abolition, the economy would grow by around 1 per cent. This result is driven by an increase in investment by aviation businesses, and by increased business productivity resulting from more affordable business travel and increased international business relationships.
- **Abolishing APD would pay for itself by increasing revenues from other taxes** such as Income Tax, VAT, and Corporation Tax. This benefit would amount to almost £0.5bn in the first year. The impact from National Insurance and Income tax is particularly strong due to the positive employment effects.
- **APD is among the most distortive major taxes in the UK economy** – more distortive than VAT, Income Tax, or Corporation Tax, and second only to Fuel Duty.
- While it is often argued that APD is progressive because it taxes those who can afford to travel by air, **APD is in fact regressive**, comprising a much higher proportion of average weekly expenditure for poorer families than for families with above average incomes. Indeed, for a family of four travelling to take a European holiday, the APD costs alone account for some 28 per cent of average weekly expenditure for a family in the bottom income decile.

We believe this report makes a compelling case for reform, and in planning for the 2013 Budget, we will be urging the Chancellor to consider seriously the analysis in this valuable report and reconsider the Government's position.

We would welcome your support in ensuring that the Westminster Government gives due weight to this important new evidence: if you would like to discuss the research, or any other aspect of APD, please do not hesitate to contact any of the airlines

London Assembly

Investigation into airport capacity in London



Submission by Beckett Rankine - 9 January 2013

Introduction

This submission is made by Beckett Rankine Ltd a firm of marine consulting engineers based in Westminster and working worldwide.

In making this submission we are addressing only the third of the four questions set out in the terms of reference that the Committee has published on its website namely: *What are the options in the short, medium and long term for addressing the issue of airport capacity?*

We do not consider in this submission the issue of demand forecasting; instead we have made the following assumptions:

- That Heathrow is virtually at capacity
- That Gatwick is approaching capacity
- That demand for air travel in the medium to long term will continue to grow
- That it is important for the UK to retain a hub airport





A Long Term Solution

We believe that in addressing the Committee's question *What are the options in the short, medium and long term for addressing the issue of airport capacity?* It is necessary to consider the question the other way round and first decide a long term solution before deciding the medium and short term solutions. To embark upon any substantive short term measures before deciding what the long term solution is compromises the selection of the best long term plan. However once a long term plan is determined any short term measures can be chosen as stepping stones toward that long term plan.

This submission is therefore to propose a long term solution to south-east England's airport capacity needs. By long term we mean the next 30-50 years and beyond. Bearing in mind that The UK's existing hub airport at Heathrow has two runways and wishes to build a third just to cope with its short term needs we believe that it is necessary to allow for provision of at least four runways in this 30-50 year timescale. For the even longer term, or in case demand rises more quickly, there should be the ability to add further runways in due course.

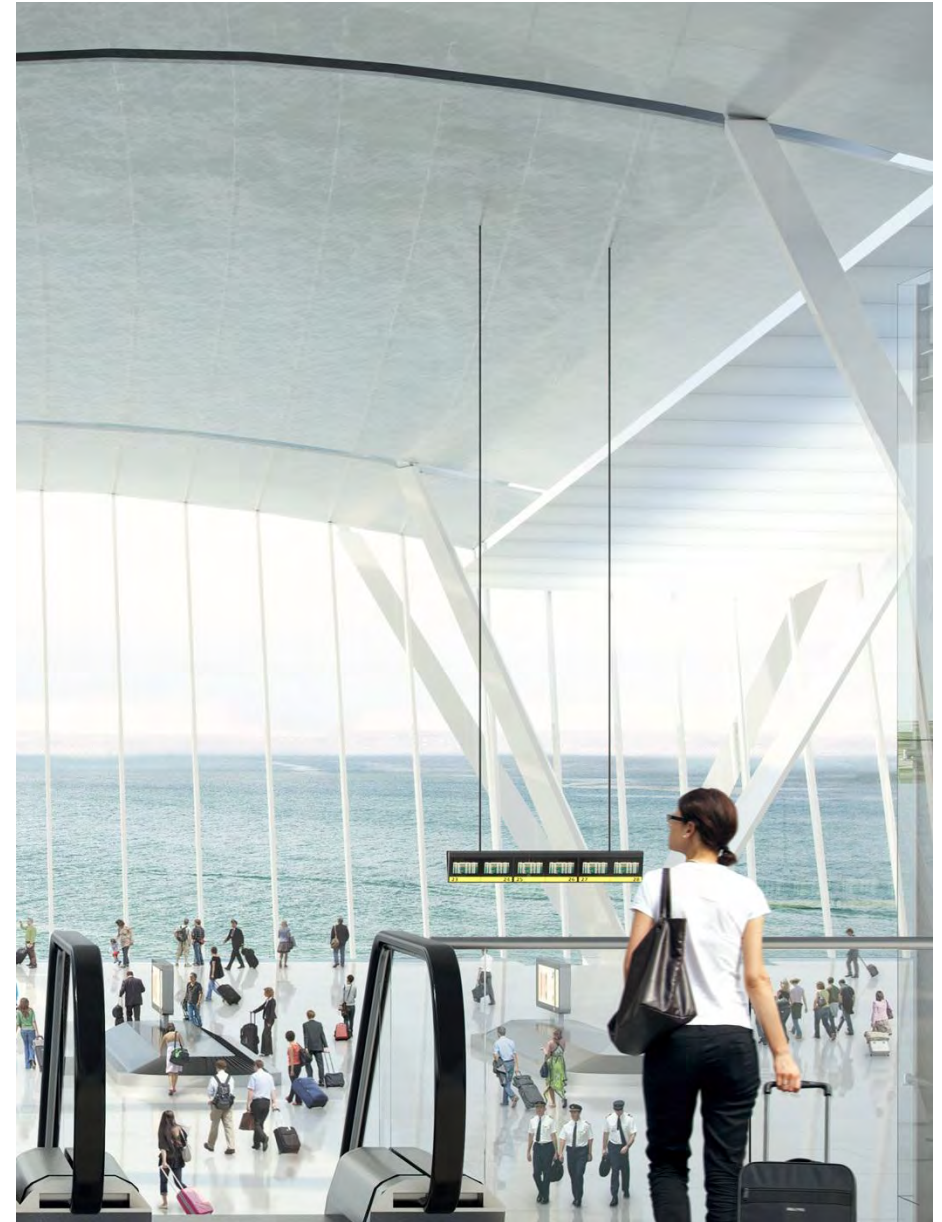
Functional Requirements

To get the maximum capacity out of a runway it needs to be able to operate for 24 hours a day which, in essence, means that it has to be sited well away from centres of population. This is something of a conundrum because over time residential development has tended to be attracted toward large airports such as Heathrow on account of the large numbers of jobs that the airport provides.

Maximising runway capacity also requires runways to be sufficiently separated to enable the runways to be operated independently, as they are at Heathrow. The CAA stipulates a runway separation of 1.5km for independent operation.

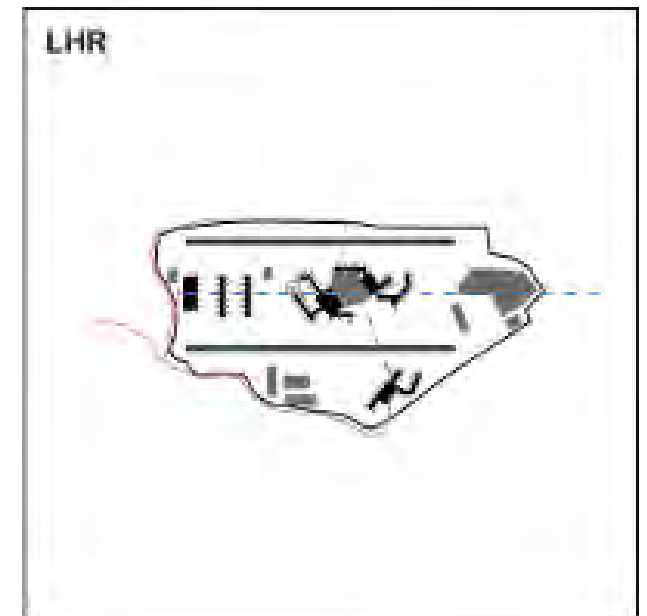
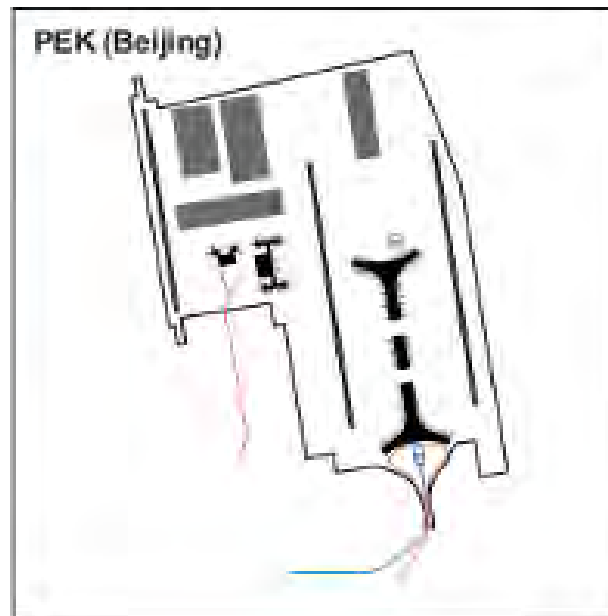
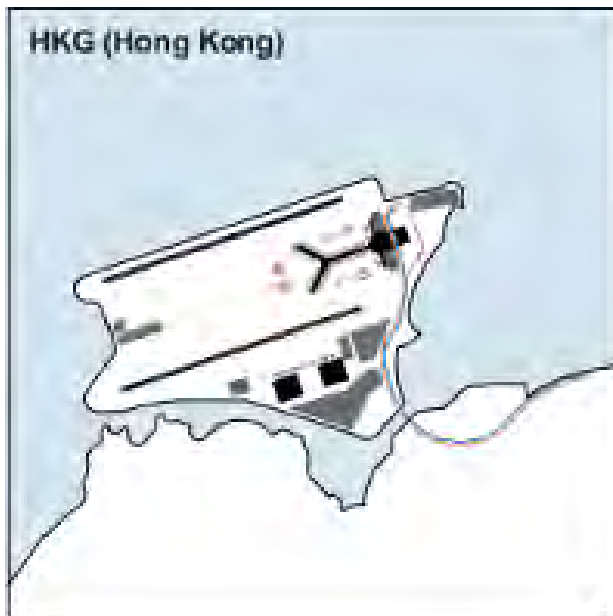
A four runway airport with 1.5km between runways is a very large item of infrastructure occupying some 25km² just for the runway area alone; the noise footprint of the airport will be very much larger at around 100km².

Possible sites for such an airport in south-east England are clearly limited since the expansion of Heathrow to four runways it is unlikely to be politically deliverable. The Mayor of London, amongst others, has argued persuasively the noise, pollution and risk which the airport brings to its densely populated neighbours is barely tolerable at present and major expansion would only increase these adverse social and environmental impacts.



Alternative options for relocating the UK's hub airport function to Gatwick, Stansted or Luton face similar problems in that being inland airports, close to centres of population, there is considerable resistance to any expansion. The communities surrounding both Gatwick and Stansted have successfully fought off previous proposals for second runways and any plan for three or four runways at one of these sites would undoubtedly be vigorously resisted.

Options for a dual, or even triple, hub airports have been suggested by linking Heathrow to Gatwick and/or Stansted. However such linked airports cannot provide rapid transfer between flights and are consequently not a solution favoured by the airlines. A Heathrow-Gatwick link would, in addition, need to run through some of the most valuable residential areas in Britain.

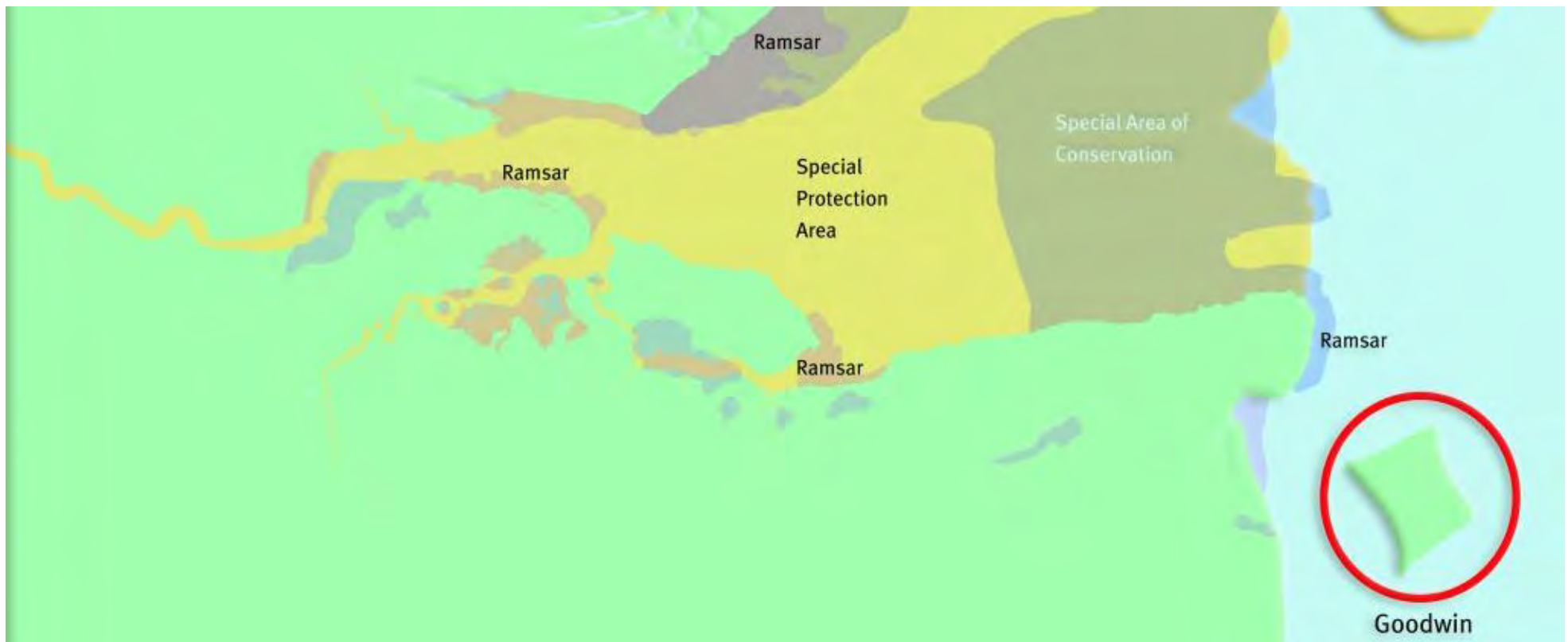


Comparison of major airport layouts (to the same scale)

Thames Estuary

The problem of London's airport capacity is not new and over the last 40 years or so there have been various proposals for new airports to be constructed in the Thames estuary. Some of these proposals have been little more than publicity exercises although there are two current proposals which have been worked up with sufficient detail for them to be assessed, they are:

- The Thames Hub proposal proposed by Foster and Partners for the Isle of Grain:
www.fosterandpartners.com/ThamesHub
- The TESTRAD proposal for the Kentish Flats:
www.testrad.co.uk



Environmental Protection in the Thames Estuary



Northern Europe rail links

The purpose of this submission is not to critique proposals submitted by others but it is reasonable to say that both these proposals for the Thames estuary have been severely constrained in their design by their locations. Both schemes are located within environmentally protected areas with the Isle of Grain scheme facing multiple habitat protections. The Isle of Grain airport is also squeezed between one of Europe's largest gas storage plants and the main Thames shipping channel. The TESTRAD scheme is located on the site of a newly constructed offshore windfarm close to a shipping lane; there is inadequate space on the reclamation for the airport terminal which is proposed to be located on shore at Ebbsfleet. As a result of these constraints neither scheme can offer runways with sufficient separation for independent operation, at the Isle of Grain the runways are paired and only 500m apart while TESTRAD has the runways in line with each other.

These constraints on the runway separation mean that maximum runway capacity cannot be achieved and a four runway airport may have the capacity little greater than three fully separated runways. With reduced capacity the need for a further runway will arise earlier but in the case of the Isle of Grain proposal there would not appear to be anywhere that an additional runway can be located. Testrad show an eventual sixth runway sited to the north although this would appear to have a significant impact on the adjacent shipping lane.

Goodwin Airport

If a new hub airport cannot be reasonably located on shore or in the Thames estuary the question is where it could be located? The answer we believe is on the Goodwin sands which lie around 3km offshore to the east of Deal.

The Goodwin sands are an extensive area of sandbanks that are a notorious hazard to shipping claiming numerous shipwrecks. Large areas of the sands dry at low tide but are fully submerged at high tide, the sands are therefore not a bird breeding area and are not within any designated environmental protected area. There are no offshore windfarms on the sands nor is there any consent granted for a windfarm.

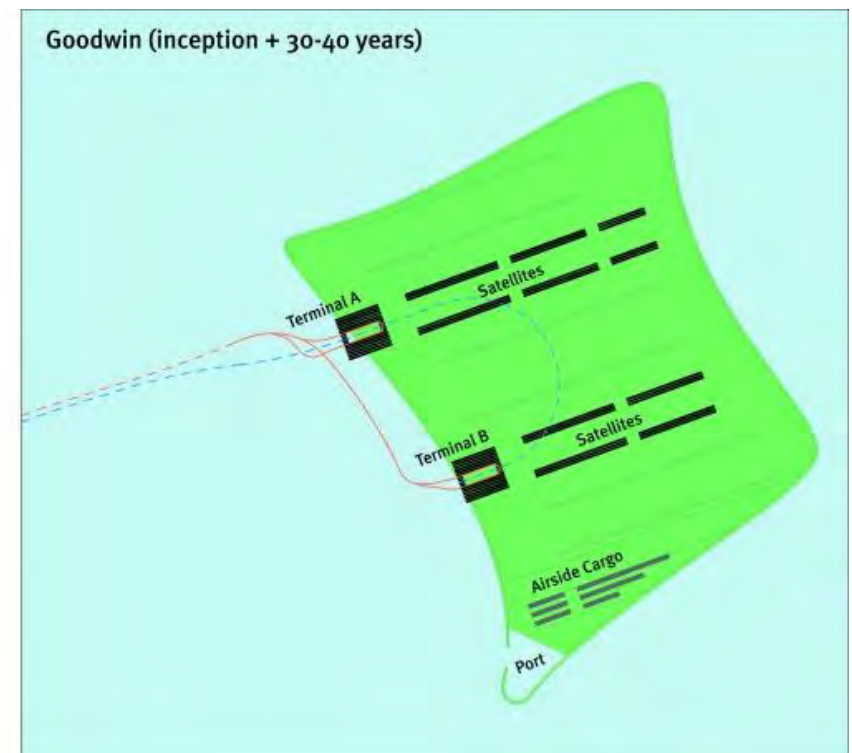
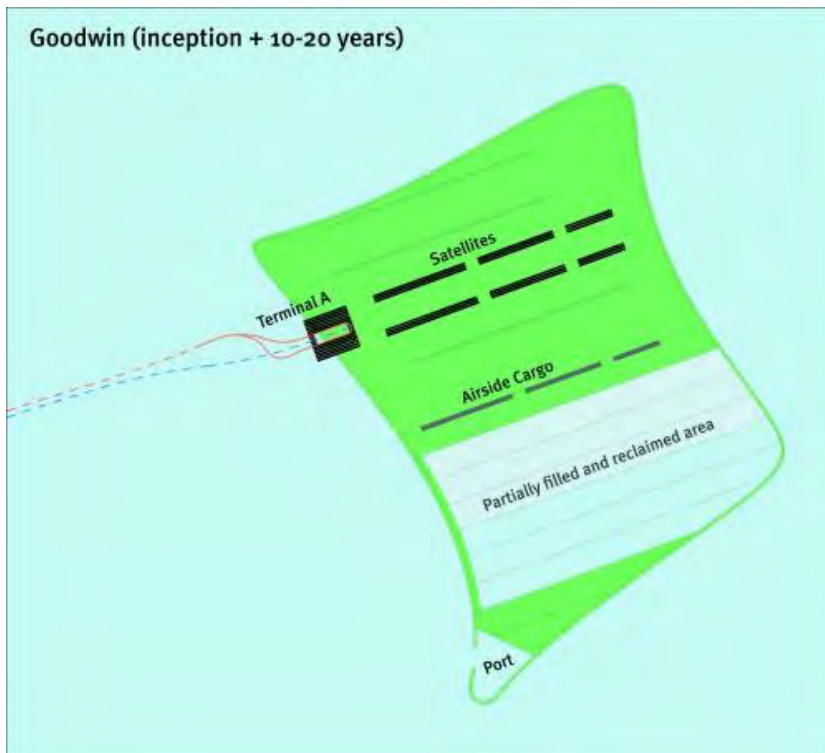
The sands present a site which is ultimately large enough for the development of six runways (if that number were ever required) each 1.5km apart together with a small port. All take-off and landing would be over the sea and the development would not interfere with any designated environmental protection or shipping lane.



Goodwin Airport location on the Goodwin Sands

To connect the new airport island to the shore would require a road and rail link which we propose would be by tunnels, although a bridge could be a cheaper option. The rail tunnel would connect to the existing HS1 line west of the Folkestone Shuttle terminal with a tunnelled section beneath the Kent Downs AONB. With the existing speed of the Eurostar trains the Goodwin to London journey would take under 40 minutes. The road link is proposed to connect into the A2 which will need to be upgraded back to the M2 at Faversham. A second road link would be provided to the M20.

While the full details of the road and rail links are still to be worked up we plan to include for a separate check-in facility at Ebbsfleet so that passengers will have the option of being dropped off or leaving their cars there, check in their luggage and then travel by high speed train direct to the airport terminal. We have worked up this proposal for Goodwin Airport with further detail which can be found on the project website www.goodwinairport.com.



The Thames: room for a hub airport?



The purpose of the scheme drawings presented on the website is principally to demonstrate that an airport with in excess of four runways, separated sufficiently to operate independently, can easily fit on the site. Furthermore with the runways being at least 7km from any residential building noise nuisance will be minimised enabling 24 hour operations. This maximising of the airport's capacity has a number of advantages.

It means that the airport will have the capacity to act as the hub not just for the UK but also for northern Europe. Currently Schipol airport serves more UK destinations than Heathrow, simply because Heathrow is constrained in its capacity. Goodwin airport will face no such constraint.

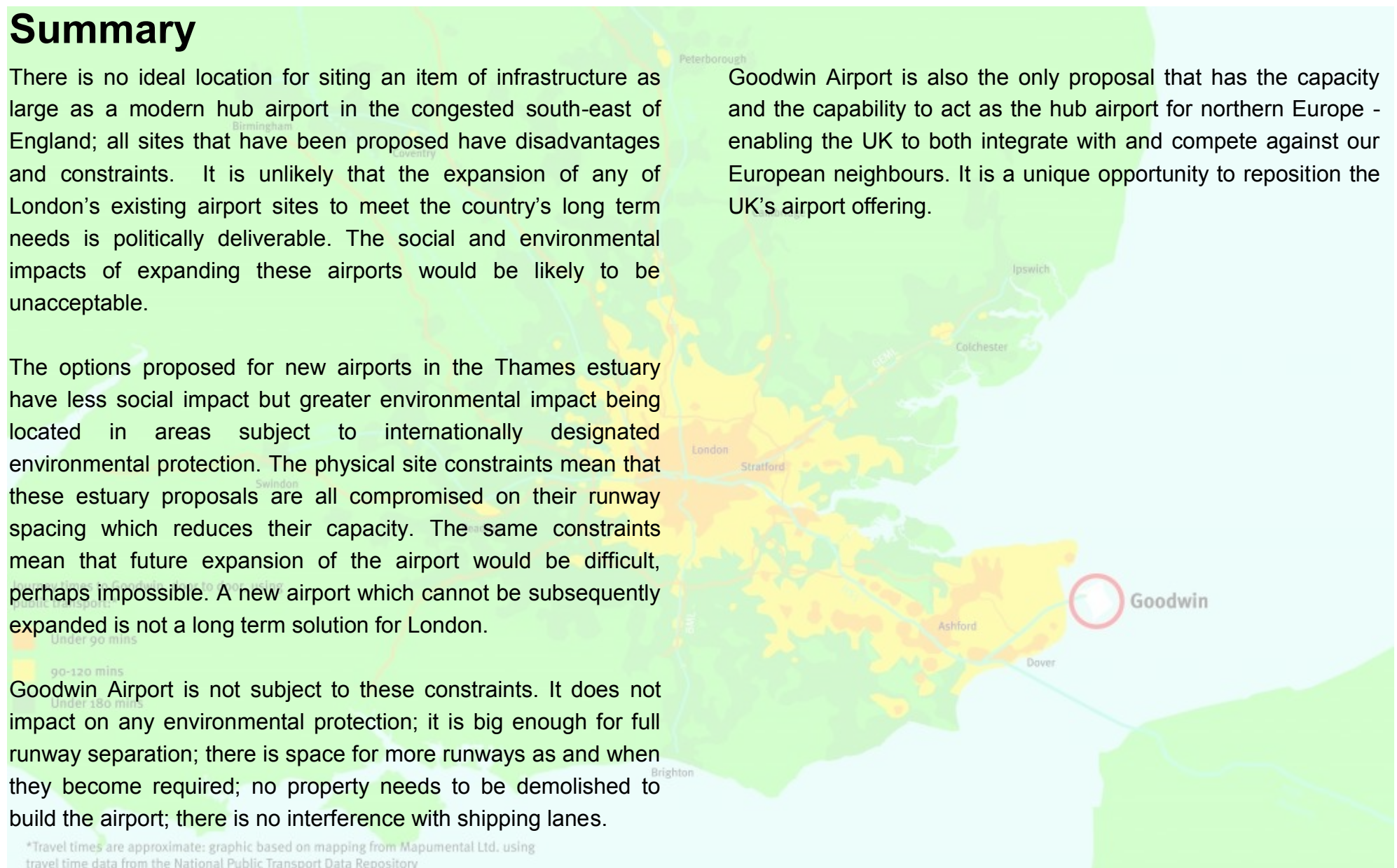
Summary

There is no ideal location for siting an item of infrastructure as large as a modern hub airport in the congested south-east of England; all sites that have been proposed have disadvantages and constraints. It is unlikely that the expansion of any of London's existing airport sites to meet the country's long term needs is politically deliverable. The social and environmental impacts of expanding these airports would be likely to be unacceptable.

The options proposed for new airports in the Thames estuary have less social impact but greater environmental impact being located in areas subject to internationally designated environmental protection. The physical site constraints mean that these estuary proposals are all compromised on their runway spacing which reduces their capacity. The same constraints mean that future expansion of the airport would be difficult, perhaps impossible. A new airport which cannot be subsequently expanded is not a long term solution for London.

Goodwin Airport is not subject to these constraints. It does not impact on any environmental protection; it is big enough for full runway separation; there is space for more runways as and when they become required; no property needs to be demolished to build the airport; there is no interference with shipping lanes.

Goodwin Airport is also the only proposal that has the capacity and the capability to act as the hub airport for northern Europe - enabling the UK to both integrate with and compete against our European neighbours. It is a unique opportunity to reposition the UK's airport offering.





BECKETT RANKINE

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London Assembly Transport Committee investigation into airport capacity in London

A response from Birmingham Airport



1 Executive Summary

1.1 Birmingham Airport believes that existing aviation policies have led to sub-optimal use of London Heathrow and London Gatwick.

1.2 Birmingham Airport does not believe that a third runway at Heathrow is a national aviation strategy.

1.3 Birmingham Airport has the spare capacity now, and will have the long-haul connectivity from 2014, to help take the pressure off London's congested airports and the wider London transport network.

1.4 Birmingham Airport believes that making the best use of existing capacity at all UK airports should be the Government's number one short-term policy priority.

1.5 Policies that improve surface access between London and Birmingham and encourage passengers from the regions to use their local airports would allow London airports to redirect non-essential traffic, reduce congestion and pollution across London, foster more competition in the sector, reduce prices and create more choice for passengers.

2 Formal response to terms of reference of the London Assembly Transport Committee's investigation into airport capacity in London

2.1 The 2010 Coalition Agreement ruled out the construction of any new runways in the South East. This decision reflected the need to address the fact that the UK's aviation connectivity is disproportionately concentrated in the South East where high population density generates large negative externalities, particularly noise and air pollution.

2.2 Opponents of the Coalition's position argue that policy-makers cannot meet the future needs of UK customers and businesses without increasing capacity in the South East. Arguments for this position point to evidence in reports by organisations such as the British Chamber of Commerce, Frontier Economics and Oxford Economics.^{1,2,3}

2.3 The two most commonly cited ways of ameliorating Heathrow's reported capacity constraints are:

i) Make the best use of existing airport capacity in London (including introducing mixed-mode operations at Heathrow)

2.3.1 Birmingham Airport believes that strong incentives already exist to ensure that London airports maximise the utilisation of existing infrastructure. Department for Transport (DfT) figures show that Heathrow is operating at 99% capacity during peak times and is the busiest two-runway airport in the world. Gatwick operates at 96% capacity during peak times and is the busiest single runway airport in the world.⁴ The intensity of their operations is a testament

to the world-class demand management mechanisms implemented at these airports by National Air Traffic Services Ltd (NATS).

2.3.2 However, this process has come at a cost. The Civil Aviation Authority (CAA) found that the structure of demand management at regulated airports in the South East incentivises those airports to maximise through-put at the expense of punctuality and resilience. This trade-off encourages individual airlines to benefit from a marginal additional flight, because it generates revenue from operating this service. This results in sub-optimal capacity usage, overcrowding and large disbenefits.

2.3.3 Evidence for this can be found in the average delay time experienced by passengers at these airports including long taxiing times, large quantities of CO₂ emitted over London due to stacking, the reduced performance of pre-existing services, a lack of resilience during bad weather and the poor standing in which these airports are held by international passengers.⁵

2.3.4 This question of how to make the best use of capacity at London should be recast to ask how we can make optimal use of airport capacity in the South East, taking into account market failures such as environmental externalities, airspace constraint, a lack of resilience and congested surface access for transport infrastructure.

2.3.5 Birmingham Airport believes that delivering an airport which is at optimal capacity could be achieved via market-based, fiscal and surface access policies that would address the externalities detailed above.

2.3.6 A tax-based policy lever, such as a congestion charge, would discourage airlines and airports from rent-seeking by making them pay the full marginal cost of their actions. A complementary set of demand-side measures would prevent this traffic from moving to foreign hubs and ensure that UK Plc. remains the net benefactor.

2.3.7 One example of a policy would be to deregulate the CAA's landing fee charges at Heathrow, Gatwick and Stansted. BAA has either sold, or is in the process of selling, the latter two airports and divested the associated market power. This would promote competition for services between all airports that could service the South East, including Birmingham Airport, and prevent airlines from overusing Heathrow at the expense of airports with spare capacity.

2.3.8 For a full explanation of Birmingham Airport's policy suggestions, please refer to the attached report *Wider Growth, Wider Connectivity*.

2.3.9 For a full explanation of why mixed mode should not be employed at Heathrow, please refer to the Mayor for London's submission to the Transport Select Committee.⁶

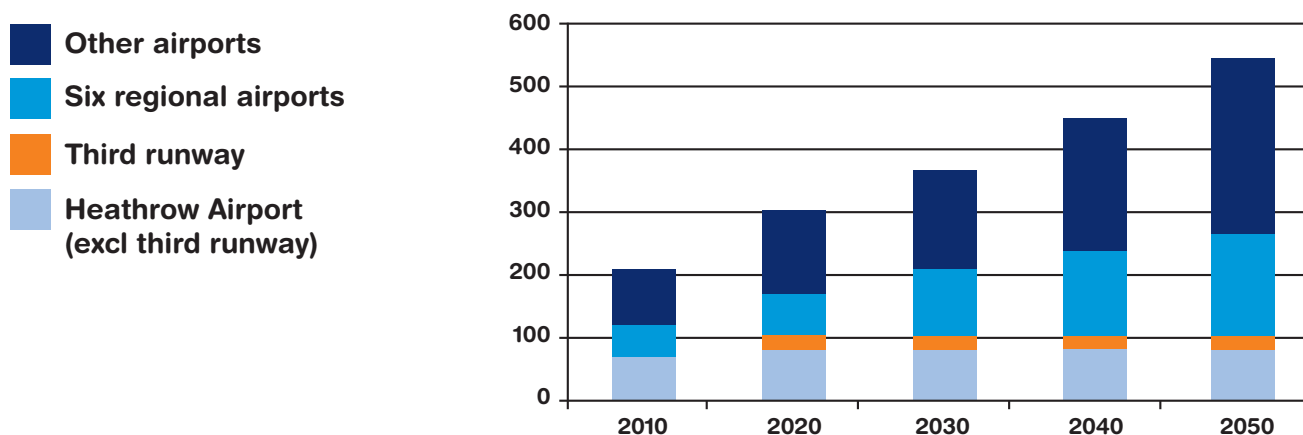
ii) Build a third runway at Heathrow

2.3.10 Birmingham Airport welcomes the Government's decision to establish the independent Airports Commission to review all long-term options for UK aviation. Airports have up to three years to develop fresh ideas, undertake meaningful research and present original proposals for the UK's national aviation policy. Birmingham Airport has begun this process and we look forward to contributing to the Airports Commission.

2.3.11 Our report, *Don't put all your Eggs in one basket – a challenge to aviation orthodoxy*, challenges policy-makers to look beyond a single hub model. It examines forecasts of how the aviation industry will develop over the next two decades and concludes that passenger, freight and air traffic movement growth is coming from new city trading pairs. Hub-to-hub traffic will continue to be strong but the future is in long-haul point-to-point, which is why Boeing created the 787 Dreamliner. The report also analyses the effects of operating airports as a hub, when they are not designed for that function. The results are rising costs, delays and a deteriorating passenger experience.

2.3.12 Heathrow is an excellent airport but is also the archetype of this phenomenon. Although it was not designed as a hub, like purpose built airports in Hong Kong and Dubai, airlines, such as British Airways and Virgin Atlantic, use it as a base for operating hub-and-spoke business models. This hubbing activity could occur at other UK airports. It is not confined to Heathrow.

Table 1 – The impact of a third runway – built, operational and at capacity by 2050



2.3.13 Analysis of the DfT's passenger forecasts demonstrates that handling the growth of the UK aviation sector is a critical issue. Based on conservative projections of an annual growth rate of 2%, UK airports will have to cater for an average of 345 million passengers per annum (mppa) in 2030 and 520 mppa in 2050.

2.3.14 Table 1 shows the DfT's future terminal passenger forecasts. The red segment shows what a third runway at Heathrow could deliver by 2050. In 2030, Heathrow is expected to handle 85 million passengers. By 2050 this figure could increase to 90 million. It reveals that a third runway at Heathrow will only satisfy 16% of additional capacity requirements by 2030, falling to 7% by 2050. Heathrow's relative contribution to UK aviation capacity will drop from 33% in 2010 to 17% in 2050.⁷ A third runway at Heathrow is not a national aviation strategy and would leave policy-makers stuck in the middle.

2.3.15 Table 1 also reveals that with the right backing and clear leadership, the six largest airports outside the South East could add 116 million of passenger capacity to the network by 2050 (without any additional runways, but including Birmingham Airport's extended runway). That amounts to nearly 50% of future demand. This challenges the assumption that a third runway at Heathrow would deliver enough capacity to represent a viable step-change for UK aviation.

2.3.16 The case for a third runway at Heathrow has three additional drawbacks.

- a) **Capacity** – the fact that Heathrow is situated on a cramped site in the West London suburbs means that it could never expand into a four or five runway airport like a Schiphol or a Frankfurt. Spatial restrictions mean that even if a third runway were built, Heathrow would have to start buying up whole sections of residential areas if it wanted to expand. This would be politically toxic.
- b) **Timing** – if a third runway was given the go-ahead, it would take 10–12 years to be operational and it would not solve the existing aviation connectivity gap.
- c) **Noise and air emissions** – existing restrictions would prevent the airport from operating at its full potential. A recent study by the Massachusetts Institute of Technology found that a third runway at Heathrow would mean deaths resulting from airport emission at the Airport would increase from 50 deaths per year in 2012 to 150 in 2030.⁸

3 How can Birmingham Airport help London address the issue of airport capacity?

3.1 Until now, the question of how to make the best use of existing capacity has received insufficient attention. Many groups lobbying for a long-term solution to the aviation question skirt around the issue because any discussion of the short-term dilutes the clarity of their core message. It draws attention away from the fact that Heathrow is full now and will not be able to expand until sometime around 2027, and a Thames Estuary solution remains a twinkle in the Mayor's eye.

3.2 Birmingham Airport does not have these short-term constraints. The Airport currently handles around nine million passengers a year, and this could double to 18 million today, without needing any new infrastructure. We are also the only airport to be adding to our capacity. Our runway extension will be complete in 2013 and fully operational for the start of the 2014 season.

3.3 Aircraft like the Boeing 787 and Airbus A350 will be able to fly very long-haul services from the airport, and this capability will enable Birmingham Airport to grow to 36 million passengers.

3.4 This places Birmingham Airport in a unique position with regards to London. We could add up to 27 million passenger capacity with long-haul capability to the UK aviation network before the Airport Commission has published its final report.

3.5 That is why Birmingham Airport believes that making the best use of airports with existing capacity should be the Government's number one short-term policy priority.

3.6 Opponents of this position point out that airlines will not use airports outside the South East because of two issues:

- a) With most company headquarters in London, there is limited scope to absorb demand from the South East because these airports have smaller catchment areas and passengers currently use airports in the South East.
- b) South East passengers will not use other airports, especially high-value business passengers which help route viability.

3.7 According to this logic, the combination of these two points creates a demand deficiency for potential long-haul services from Birmingham Airport.

3.8 Our report, *Wider Growth, Wider Connectivity*, outlines the type of demand management, surface access and marketing policies needed to increase the attractiveness of airports that can help support London. The report, and the recent evidence at the Transport Select Committee from regional business leaders, also demonstrates that counter to airline lobbying, there is untapped demand from businesses for new services from airports outside the South East.⁹

3.9 Further, the current aviation system encourages travellers from all over the country to make their way to Heathrow for even the simplest journeys. This leads to a bizarre situation whereby 3.3 million passengers from Birmingham Airport's core catchment travel to a crowded London airport based in one of Europe's worst traffic bottlenecks mostly for the simplest journeys to well-served, short-haul holiday destinations such as Mediterranean resorts.¹⁰ Holiday-makers from Birmingham flying to Malta or Lisbon from London is another example of how the present aviation system prevents London airports from make the optimal

use of their existing capacity. These non-essential passengers are clogging up London's surface access infrastructure without adding any unique value to the London economy.

3.10 Policies that encourage low value, leisure traffic to use their local airports, not Heathrow, would help ameliorate the capacity issues facing London over the next ten to fifteen years. It would reduce congestion, free up slots for high-value routes to high-growth economies, create more resilience at London airports and reduce congestion on London's busy surface access transport network.

3.11 Congested surface access to airports is one of the most pressing areas for London. Improved surface access to airports increases an airport's catchment area, facilitating the provision of additional routes from these airports. An additional benefit of overlapping catchment areas is that it stimulates competition between airports, lowering prices and increasing choice for consumers while improving route viability for airlines. Our report, *Wider Growth, Wider Connectivity*,

outlines short-term improvements to the West Coast Mainline that could improve competition between airports in the South East and take the pressure off Heathrow.

3.12 Equally, Birmingham Airport encourages the London Assembly to support HS2 because it will reduce journey times between London and Birmingham Airport to 31 or 38 minutes (Old Oak Common, London Euston). Faster air-rail connectivity between Birmingham Airport and London will make airports in the South East more competitive, improve customer choice and help make the most efficient use of existing airport assets whilst a long-term solution is being developed.

3.13 Birmingham Airport believes that London airports and the wider London transport network would benefit from making the best use of existing capacity at all UK airports. This would allow London airports to redirect non-essential traffic, reduce congestion and pollution across London, foster more competition in the sector, reduce prices and create more choice for passengers.

Endnotes

1. British Chamber of Commerce, "The Economic Impact of Hub Airports", 2009.
2. Frontier Economics, "Connecting for growth: the role of Britain's hub airport in economic recovery", 2011.
3. Oxford Economics, "The value of aviation connectivity to the UK", 2012.
4. www.dft.gov.uk/publications/uk-aviation-forecasts-2011.
5. www.caa.co.uk/docs/589/CAA_InsightNote3_Aviation_Policy_For_The_Future.pdf
6. The Mayor for London's evidence to the Transport Select Committee – www.publications.parliament.uk/pa/cm201213/cmselect/cmtran/writev/aviation/m104.htm
7. Department for Transport – www.dft.gov.uk/publications/uk-aviation-forecasts-2011
8. Massachusetts Institute of Technology – <http://lae.mit.edu/wordpress2/wp-content/uploads/2012/10/LAE-2012-010-R-v1.pdf>
9. Birmingham Chamber of Commerce Group (BCCG) evidence to Transport Select Committee – www.publications.parliament.uk/pa/cm201213/cmselect/cmtran/writev/aviation/m57.htm. To watch Jerry Blackett, Chief Executive of BCCG, give evidence in front of the committee, click here.
10. UK Civil Aviation Authority 2011 statistics

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‘Airport Capacity in London’

Investigation by the London Assembly Transport Committee

Written evidence from the British Air Transport Association (BATA)

February 2013

The British Air Transport Association (BATA) welcomes the opportunity to submit evidence to the investigation conducted by the London Assembly’s Transport Committee into aviation capacity in London.

BATA is the trade body for UK registered airlines. Our ten members cover all sectors of the airline industry – including freight, charter, low fare, regional operations and full service. In 2011, BATA members employed 73,000 people, operated four-fifths of the UK commercial aircraft fleet and were responsible for some 96% of UK airline output, carrying 129 million passengers and 1.1 million tonnes of cargo. The eleven BATA member airlines are: British Airways, DHL, easyJet, Flybe, Jet2.com, Monarch, RVL Group, Thomas Cook, Thomson Airways, Titan Airways and Virgin Atlantic.

Our position regarding aviation policy and capacity is that it is vital for the UK’s economic prosperity that we have a policy that addresses the needs of all the UK, without continuing delay.

As the Coalition Government recognises, the UK’s economy needs to compete in both established and emerging markets. This requires excellent aviation connectivity right across the country, ensuring the UK has both vibrant point to point airports and sufficient world class hub capacity. This means prioritising a favourable planning and regulatory regime and developing a bold aviation policy, where new airport capacity is required. To ensure there is no further erosion of the UK’s competitive position, the Government must set a clear timetable for these measures to be put in place and this requires cross-party support in order to prevent the continuation of the ‘see-saw’ of aviation policy the UK has experienced over recent decades.

We have also attached with this submission our response of October 2012 to the Department for Transport’s consultation entitled ‘A Draft Aviation Policy Framework’, which addresses many of the issues raised by the Committee’s investigation.

British Air Transport Association
February 2013

Draft Aviation Policy Framework

A consultation by the Department for Transport

Response from the British Air Transport Association (BATA) October 2012

Introduction

The British Air Transport Association (BATA) welcomes the opportunity to submit a response to the consultation being undertaken by the Department for Transport on its Draft Aviation Policy Framework.

BATA is the trade body for UK-registered airlines, with members representing all sectors of the industry. In 2011, BATA members employed 73,000 people, operated four-fifths of the UK commercial aircraft fleet and were responsible for some 96% of UK airline output, carrying 129 million passengers and 1.1 million tonnes of cargo. The ten BATA member airlines are: British Airways, DHL, easyJet, Flybe, Jet2.com, Monarch, Titan Airways, Thomas Cook, Thomson Airways and Virgin Atlantic.

Summary

It is vital for the UK's economic prosperity that we have an aviation policy that addresses the needs of all the UK, without continuing delay. BATA calls on the Government to ensure that the composition and terms of reference of the Davies Commission attract cross party support to prevent the continuation of the see-saw of aviation policy we have experienced over recent decades.

UK business is increasingly strident in its calls for the UK to develop its international connectivity in order to attract inward investment thus boosting economic prosperity and creating new jobs. If we are to capitalise on our emergence from recession, the Government must show willingness to unlock and encourage private investment in infrastructure at airports to allow capacity expansion where it is most urgently needed.

As the Government recognises, the UK's economy needs to compete in both established and emerging markets. This requires excellent aviation connectivity right across the country, ensuring the UK has both vibrant point to point airports and sufficient world class hub capacity that meets the needs of the entire aviation sector. This means prioritising a favourable planning and regulatory regime and developing a bold aviation policy. To ensure there is no further erosion of the UK's competitive position, the Government must set a clear timetable for action and this needs cross-party support.

We are glad that the Draft Framework recognises the importance of economic growth and the role aviation can play in achieving this.

As an island nation, the UK possesses limited options for facilitating international connectivity compared with our competitors and this fact must be at the core of government aviation policy.

Aviation responds to and meets the demands of the globalised ‘just in time’ economy and the expectations of customers. The reliance on aviation by business and the public was clearly demonstrated during the disruption to services caused by the Icelandic ash cloud and the knock-on effects to the wider economy and people’s travel arrangements.

Aviation and the services our member airlines provide are crucial in delivering and sustaining links to emerging markets, inward tourism and foreign direct investment to UK.

The work of Sustainable Aviation and efforts of individual organisations across the aviation sector illustrate how very seriously aviation takes its responsibilities in regard to climate change and noise.

Given the global nature of aviation, international action is required and is most effective. Unilateral, UK only action, will impact on UK jobs, businesses and economic growth. Reducing aviation’s impact on the environment has to be viewed and dealt with in a global context. Reducing emissions in the UK by restricting aviation growth while the rest of the world continues to build more airports and add new runways will serve only to damage the UK’s economic interests and do nothing for the environment.

Unlike other modes of transport or indeed other industries, aviation does not receive a subsidy from the UK taxpayer. The industry pays for its own infrastructure, creates and supports high skilled jobs, contributes to the Treasury and enables the UK to trade with the rest of the world.

- **Aviation is a significant contributor to the UK economy: a driver of the wider economy; and a benefit to society**
- **We recognise that while aviation can have an adverse impact on the lives of the those living around airports and under flight paths, it can also bring many benefits to local and regional economies in terms of inward investment and jobs**
- **The aviation industry is committed to reducing its local and global environmental impact. Substantial progress has already been made and more is in the pipeline.**
- **Airport expansion is, where required, vital for the UK.**

Chapter 2: The benefits of aviation

Connectivity:

1. *Do you agree with our analysis of the meaning and value of connectivity, set out in Chapter 2?*

We agree with the following statement contained in the document:

“aviation connectivity is a combination of destinations served and frequency of flights: the broader the range of destinations served and the higher the frequency of flights to and from those destinations, the better connected an airport, city or country is. The value of connectivity is affected by other characteristics, such as the relative importance of the destinations served, the cost of accessing them, which is the end-to-end journey time and cost including the price of air travel, and the reliability of the services”.

We also note the recognition that the “UK must be able to connect with the countries and locations that are of most benefit to our economy”.

Fifth freedoms:

2. *Do you support the proposal to extend the UK's fifth freedom policy to Gatwick, Stansted & Luton? Please provide reasons if possible.*

No, we do not support this proposal. Although UK airlines have supported and welcomed the liberalisation of air services per se, we feel this specific proposal does not reflect the realities and experience of the market or current practice and fails to include comprehensive safeguards to ensure that our members could compete on equal and fair terms with foreign airlines.

3. *Are there any other conditions that ought to be applied to any extension of the UK's fifth freedom policy to Gatwick, Stansted and Luton?*

See above – answer to 2.

Airports outside the South East:

4. *Do you agree that the Government should offer bilateral partners unilateral open access to UK airports outside the South East on a case-by-case basis?*

No. The UK should not unilaterally offer open access to foreign airlines as this will put UK airlines at a competitive disadvantage, which in turn will place UK jobs and businesses at risk. For obvious reasons, UK based airlines directly employ significantly more people in the UK than foreign airlines do and many of these are highly skilled roles such as pilots and engineers. Throwing open airports to all comers on a unilateral basis with no reciprocal or multilateral agreements will endanger UK jobs, businesses and economic growth – threatening the long term health and viability of the UK air transport industry.

Any other comments:

5. *Do you have any other comments on the approach and evidence set out in Chapter 2?*

No.

Chapter 3: Climate change impacts

6. *Do you have any further ideas on how the Government could incentivise the aviation and aerospace sectors to improve the performance of aircraft with the aim of reducing emissions?*

UK airlines have made enormous strides in reducing both fuel burn and emissions as well as improving their environmental impact. A vigorous, competitive industry will continue to seek out new technology and procedures in order to help reduce fuel burn. Government can assist by ensuring a level playing field and the removal of barriers - demonstrating support for the industry rather than by holding it back.

The cost of fuel is one of the biggest overheads an airline faces. This financial burden creates a strong economic incentive to invest in cleaner technology as soon as it becomes available. The inclusion of aviation in the EU ETS from the beginning of 2012 has added a further financial incentive for airlines to reduce emissions.

Competition and the market will increase the optimal conditions and environment for the development and adoption of technologies and procedures to improve the performance of aircraft and reduce emissions.

We do not subscribe to the view that yet more regulation or legislation is required.

As a member of 'Sustainable Aviation', BATA believes that the aviation industry will reduce its actual carbon emissions through a combination of:

- Technology
- Sustainable alternative fuels; and
- Operational improvements

In its recent CO₂ Road Map, SA concludes that UK aviation is able to accommodate significant growth to 2050 without a substantial increase in absolute CO₂ emissions. SA supports the reduction of net CO₂ emissions to 50% of 2005 levels through internationally agreed carbon trading.

The Government will play a key role 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 working with other countries to establish a global sectoral approach. We do not support unilateral UK targets and measures, as they would be unnecessary and counter-productive. Such measures would deliver no environmental benefit, but would result in carbon leakage, market distortion, and the loss of economic benefits to our international competitors.

Recent and future developments in aircraft and engine technology will play a major role in reducing the UK's carbon intensity. We anticipate absolute CO₂ emissions will continue to fall post-2050 due to the ongoing penetration into the fleet of new wide-body aircraft types entering service from around 2035 onwards. The same technologies will also be deployed on a world-wide basis, with a correspondingly greater CO₂ mitigation impact.

Overall, BATA and SA believe that the Government should:

- support the development of more efficient aircraft and engine technologies which will be deployed on a worldwide basis;
- support the development and large-scale deployment of sustainable aviation fuels offering very significant life-cycle CO₂ savings relative to conventional fossil-based fuels;
- work with international partners to enable more efficient air traffic on non-domestic routes, within the context of increased capacity requirements;
- press for agreement on and support implementation of a global carbon-trading solution, encompassing all of aviation and ensuring a level playing field for all participants.

Any other comments:

7. *Do you have any other comments on the approach and evidence set out in Chapter 3?*

No.

Chapter 4: Noise and other local environmental impacts

8. *Do you agree that the Government should continue to designate the three largest London airports for noise management purposes? If not, please provide reasons.*

Yes. But the restrictions must be tailored to local needs and not further tightened simply as a means of demonstrating HMG's environmental credentials.

9. *Do you agree with the Government's overall objective on aviation noise?*

We agree with the aims and context set out in paragraph 4.20 of the document:

"The Government's policy on noise is set out in the Noise Policy Statement for England (NPSE). This contains a long term vision of promoting good health and good quality of life through the effective management of noise in the context of Government policy on sustainable development. It is supported by three aims relating to health and quality of life; avoiding significant adverse impacts where possible; mitigating and minimising adverse impacts that do occur; and where possible, contributing to an improvement in health and quality of life".

We also agree with the high-level policy objective, as stated in paragraph 4.22:

"The existing high-level policy objective in aircraft noise, set out in paragraph 3.11 of the previous administration's 2003 white paper, 'The Future of Air Transport', is an objective to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise."

10. *Do you agree that the Government should retain the 57 dB LAeq, 16h contour as the average level of daytime aircraft noise marking the approximate onset of significant community annoyance?*

We agree it should be retained, but would like to take this opportunity to stress the need to ensure effective planning controls to manage the development of land around airports (and the role of government in that process) in order to restrict noise sensitive development within noise contours.

11. *Do you think that the Government should map noise exposure around the noise designated airports to a lower level than 57 dbA? If so, which level would be appropriate?*

No. 57 dbA remains the recognised threshold for noise disturbance. It is not clear why aviation should be subject to any such additional mapping to lower noise levels when there is no similar requirement for roads, rail and maritime infrastructure. There must be equitable treatment of transport or other industrial infrastructure to preclude aviation being unfairly vilified as the sole or principal source of extraneous background noise in an industrialised society.

12. Do you agree with the proposed principles to which the Government would have regard when setting a noise envelope at any new national hub airport or any other airport development which is a nationally significant infrastructure project?

In general, yes – but industry should be involved in working with Government and CAA in the process of developing any metrics used and establishing and measuring such envelopes. A ‘one size fits all’ approach is not appropriate as different airports will have different noise impacts depending upon the types of flights operated, density of housing nearby and local awareness and perceptions of noise. There must be flexibility in the design of any scheme.

13. Do you agree that noise should be given particular weight when balanced against other environmental factors affecting communities living near airports?

It is important that economic benefit (especially at a local level in terms of jobs etc) should also be taken into account. It is also essential to take into account that there is freewill in the decision by rational individuals as to whether or not to reside near an airport or any other source of noise. There is also little evidence of property blight except in extreme circumstances. Airlines and airports take seriously their responsibility to be “good neighbours” and have a proven record of taking action to minimise and reduce over time noise from aircraft operations. However, many individuals who choose to live near airports do so because they gain employment from the airport or the airlines that operate from them. It is erroneous to assume therefore that all local residents oppose airport expansion and there is no evidence that localised noise action groups are representative of the majority.

14. What factors should the Government consider when deciding how to balance the benefits of respite with other environmental benefits?

We recognise that there are diverse views on this issue and would ask Government to carefully consider and evaluate any decisions on the matter, in conjunction with stakeholders. Sustainable Aviation is currently developing a ‘Noise Roadmap’ which will include a policy tool-kit setting out a range of actions which airports and airlines can take to limit and reduce noise. We would urge the Government to support this collaborative and proactive approach.

When considering the need for respite, consideration should also be given to the social and economic benefits of aviation. As with other questions in this consultation, we believe that an appropriate balance needs to be struck between the needs of local communities and those of the wider UK economy and wider public.

15. Do you agree with the Government’s proposals in paragraph 4.68 on noise limits, monitoring and penalties?

No. We believe the current voluntary measures are effective and that the introduction of further regulation is unnecessary. However, if the Government is determined to pursue this policy, we urge close consultation with the industry and other stakeholders.

16. In what circumstances would it be appropriate for the Government to direct noise designated airports to establish and maintain a penalty scheme?

We do not believe that additional government intervention to direct noise designated airports to establish a penalty scheme is necessary and that individual airports should be allowed to adopt whatever approach is most appropriate for them and their local community –something that should be developed through a collaborative process.

17. In what circumstances would it be appropriate for the Government to make an order requiring designated airports to maintain and operate noise monitors and produce noise measurement reports?

We do not believe a formal order is necessary. The designated airports already voluntarily operate noise monitors and the ACCs are engaged with this process and share the noise measurement reports.

18. How could differential landing fees be better utilised to improve the noise environment around airports, particularly at night?

Airlines, including BATA members, have a strong track record in investing in and delivering quieter aircraft over many decades. Proposals to ‘better utilise ’differential landing fees run the risk of severely impacting upon operations at some airports – especially those which are capacity constrained and possess insufficient slots in relation to demand.

19. Do you think airport compensation schemes are reasonable and proportionate?

Yes, we believe current schemes are reasonable and proportionate. Airports could also be allowed to purchase properties in the very noisiest areas to establish a ‘buffer zone’. Designated airports operating in near monopolistic conditions should not be able to increase airline charges simply to institute extravagant compensation schemes.

20. Do you agree with the approach to the management of noise from general aviation and helicopters, in particular to the use of the section 5 power?

No opinion.

21. What other measures might be considered that would improve the management of noise from these sources?

No opinion.

22. Do you have any further ideas on how the Government could incentivise the aviation and aerospace sector to deliver quieter planes?

Competition and the market will create the optimal conditions and environment for the development and adoption of such technology.

We do not believe that yet more unilateral regulation or legislation from the UK Government is required.

Government support for research and development (through the allocation of taxation from aviation) could also further incentivise new technologies. Supporting the development of quieter and cleaner aircraft technology is a real economic opportunity for the UK.

We would also encourage the Government to continue to work with Sustainable Aviation to explore and understand the trade-offs and interdependencies that exist between noise, NOx and carbon improvements and help develop new initiatives and best practice.

23. Do you believe that the regime for the regulation of other local environmental impacts at airports is effective?

Yes.

Air quality is not an issue at most UK airports with the exception of Heathrow. Studies show that the influence of oxides of nitrogen (NOx) emissions from airport activities falls rapidly with distance from the airport boundary. Road traffic remains the main the problem with regard to NOx in the UK. The industry is committed to playing its role in reducing emissions from airport-related sources of nitrogen dioxide (NO2). Government should continue to focus its efforts on reducing emissions from road traffic.

24. Do you think that noise regulation should be integrated into a broader regulatory framework which tackles the local environmental impacts from airports?

We do not believe that it should be integrated.

Chapter 5: Working together

25. Do you think Airport Consultative Committees should play a stronger role and if so, how could this be achieved?

Yes, they should play a stronger role, by developing their involvement in work to improve the passenger experience at airports. As indicated in the draft Framework, this could be achieved by closer links with the CAA and its new Consumer Panel. We look forward to the forthcoming consultation on ACCs where we expect to confirm our support for the proposals for appointment of an independent chairman for a fixed term, but would also recommend that any committee requires effective support from the airport in question and an independent secretary. We repeat the point we made our response to the Scoping Document consultation regarding the membership of ACCs in that it should be balanced and restricted to local stakeholders and those who have a commercial interest in the operation of the airport.

26. Is there a case for changing the list of airports currently designated to provide consultative facilities?

No. The current list is sufficient.

27. Do you agree that the Civil Aviation Authority should have a role in providing independent oversight of airports' noise management?

This would appear to be a sensible approach, as long as noise management issues are considered in the round and do not take precedence over the interests of passengers, business and the aviation community.

28. Do you agree with the Government's overall objective on working together?

Yes. We agree with the objective contained within paragraph 5.3:

"Our objective is to encourage the aviation industry and local stakeholders to strengthen and streamline the way in which they work together." We also welcome the recognition that a "one size fits all" approach for local engagement is not appropriate as well as the desire to avoid the duplication of activity and to see a reduction of the consultation burden.

29. Is the high-level guidance provided in Annex E sufficient to allow airports to develop local solutions with local partners?

Yes.

30. Do you agree that master plans should incorporate airport surface access strategies?

Yes, where feasible, practical and sensible to do so.

31. Do you agree that, where appropriate, the periods covered by master plans and noise action plans should be aligned?

Yes, where applicable, but the element of flexibility should be retained.

**British Air Transport Association
October 2012**

To: London Assembly, Transport Committee

Airport expansion

Submission by the British Airline Pilots' Association (BALPA)

About BALPA

1. Over 80% of the UK's commercial pilots are members of BALPA and we are recognised as the main partner in 26 airlines covering all major UK operations. In addition over 1,000 commercial pilots have joined us even though their airline has no partnership agreement with BALPA.
2. BALPA was formed in 1937 when an airline was forcing professional pilots to operate when it was not, in the professional judgement of those pilots, safe to do so. This led to the Cadman report. Those origins remain a key feature of our DNA today and which is why, 75 years later, our vision as an association is still "to make every flight a safe flight". It is also perhaps why a recent public poll by YouGov found that airline pilots belonged to one of the most trusted professions. It is a responsibility we take seriously.

Executive Summary

3. The British Airline Pilots' Association (BALPA) believes a strong, vibrant and successful aviation industry is vital to the UK economy, but that it must be underpinned by strong safety standards and robust regulation.
4. British pilots are proud of their industry and their profession. They want to see it compete globally without having one hand tied behind its back.
5. BALPA is proud to represent pilots based at all of the UK's major airports including all of London's five major airports. Many of our members are based at Heathrow but many of our members also fly for point-to-point low-fares airlines, regional carriers and charter airlines. These pilots rarely if ever operate into Heathrow, and many never fly into any of London's airports.
6. Like the aviation industry itself, our members have diverse opinions about the future of airport capacity. Given that, BALPA has not so far expressed support for any particular proposal or scheme for alleviating capacity pressure in the South East and we do not intend to do so.
7. BALPA's position can be summarised as follows:
 - UK aviation supports a huge number of jobs and is vital to the UK economy and growth. But it is currently struggling.
 - The UK needs a strong international hub airport, able to compete with similar airports in Europe. We cannot see how splitting hub capacity across more than one airport would work.

- Heathrow is currently struggling to keep up with its competitors in Europe and becomes something of a national disgrace during times of mild inclement weather when lack of spare capacity results in huge disruption.
- With any expansion of Heathrow or the alternatives thought must be given to ensuring that UK aviation is not undercut with a sudden and rapid expansion of non-UK airline operations, such as Middle-East carriers, who, for a variety of reasons, may be able to undercut our own British companies.
- If there is no viable alternative put forward, Heathrow will remain the UK's sole international hub airport and will need to be given the room to grow in order to compete internationally
- Any suggestions put forward for an alternative hub must be operationally safe as well as economically viable.
- We see the value in strong regional and point-to-point airports. Regional airports play a huge role in UK aviation and support regional and the national economy. They must not be left out of the equation.
- London's other airports also have an important role to play in the future of UK aviation, even if not as an international hub airport. There may well be an argument in favour of expanding capacity at these airports too.
- Regardless what decision is made as to the future of airport capacity in the South East, operational and safety issues must remain paramount and must be strongly taken into consideration.

What are the benefits of aviation to the UK economy?

8. The importance of aviation to the UK economy is not in question. According to Oxford Economics the sector supports 921,000 jobs and contributes 3.6% to GDP or a total of £49.6bn. ¹
9. Beyond these raw economic data, aviation is a social good which enables people to contact with friends and family across the UK and globally. It is also a driver of our economic connectivity to new emerging markets across the world.
10. The benefits of aviation are not seen just by business. The Trades Union Congress this year passed a motion proposed by BALPA to support the 'great Great British aviation industry'.
11. Aviation should be an industry that supports the growth of the UK economy. As the Chancellor said in his budget statement in March 2012, we need strong links to the emerging economies of Brazil, Russia, India and China. In this respect we are already lagging behind many of our European competitors.

Do we need a step change in UK aviation capacity? Should there be a new hub airport? Where?

12. BALPA has polled its members about views on where additional airport capacity should be. Our members are split on that issue, but there is overwhelming agreement that we need additional capacity somewhere.

¹ Oxford Economics 2011, 'Economic Benefits from Air Transport in the UK

13. The UK's international hub at Heathrow is over 99% full. The result is that UK businesses are losing out to their competition elsewhere in the world, especially in Europe. Amsterdam, Paris Charles de Gaulle and Frankfurt are major European hubs which have had the ability to expand in terms of the number of destinations served. Amsterdam Schiphol has five runways and serves 264 destinations. Paris Charles de Gaulle has four runways and serves 259 destinations. A similar state of affairs is the case in Dubai and other long-haul hub airports in the Middle East. In contrast London Heathrow has just two runways and has seen the number of destinations served reduced to 183.
14. The very limited "spare" capacity at Heathrow during good weather means that, when adverse weather (e.g. snow, fog) or other operational constraints are applied (accidents, incidents, emergency traffic, airspace closures) the airport infrastructure and operation fails to cope. Delays become uncontrollable, inbound aircraft are forced to divert to other airports, and huge numbers of services are cancelled.
15. Over the last few years we have made a number of submissions regarding the lack of "winter resilience" of the UK's aviation infrastructure. UK aviation's – and in particular Heathrow's – inability to cope with, what are by normal northern European and North American standards, relatively minor and short-lived snow showers, is due to the extreme congestion which confronts Heathrow airport even on normal, benign weather days.
16. The lack of capacity at Heathrow is also having a detrimental effect on the environment as aircraft routinely have to hold over London, burning fuel needlessly, before being able to make an approach. An airport with greater capacity would mitigate this.
17. Therefore it is clear that if the decision is taken to continue Heathrow's position as our main international hub airport then it must be allowed to grow in order to cope with demand and with European competition.
18. We firmly believe in the importance of a strong, competitive, international hub able to compete against the rest of Europe. But we also recognise the importance of high quality regional and point-to-point airports. The vast majority of airlines our members fly for do not operate into Heathrow at all. We must not forget the contribution, both on a regional and national level which regional connectivity provides.
19. Decisions about future airport capacity have been delayed for far too long. The industry needs a definite future, not years -- creeping into decades -- of uncertainty. An agreed political settlement would enable long-term planning and give the industry the confidence to invest in the future.
20. Making more efficient use of the existing capacity is desirable but may have negative knock-on effects. For instance, enabling aircraft to fly close to each other on approach to Heathrow may allow a few more slots to be scheduled, but the impact will only be greater at times of weather disruption when greater space between aircraft is required.
21. In any event, using methods such as more flexible use of runways and allowing aircraft on approach to fly closer together, will only bring small percentage increases in capacity which will, in our view, be nowhere near enough to deal with the capacity problem.

22. It has been suggested by some² that allowing steeper approaches into Heathrow would reduce noise and therefore allow the airport to operate longer hours. BALPA resists this move which we believe would present operational and safety problems. We would be happy to provide more information on this area if that is something that would be of interest to the Committee.

Where should future capacity be?

23. At this stage BALPA will not be drawn on making specific location recommendations.
24. BALPA supported the Government's decision to establish the Airports Commission to make recommendations on future airport capacity as we believe at this point the decision needs to be taken out of the political realm.³ But we do note that such commissions, committees and studies have come and gone many times. We've been here before.
25. However, BALPA was disappointed by the Government's decision to ask the Commission to report only after the planned 2015 UK General Election. We believe the Commission could and should report before then so as to bring forward the urgently needed final decision about this industry's future, especially given the very long lead-in times on such infrastructure projects. Decisions and actions need to be taken as soon as possible before more damage is done to British aviation.
26. We also believe that aviation capacity must not be allowed to become a zero-sum game. There may well be merit in the business case for expansion of other London airports even if Heathrow's proposed expansion goes ahead.
27. We would also like policy makers to bear in mind the thousands of jobs which are directly and indirectly currently linked to Heathrow. Geographically, any alternative to Heathrow must be capable to supplying those thousands of workers in the many sectors needed for a large international hub airport to function.

Other considerations

28. For a variety of reasons Middle East carriers are proving to be a strong competitor to British and other European airlines. Competition, on a level playing field, is good, but competition based on poor employment rights and subsidies is not something that can be welcomed.
29. It is a real fear that Middle East and other carriers with the competitive edge that these factors give it may capture any additional capacity that opens up unfairly undercutting British companies. We believe thought must be given as to how, within the law, this contingency may be mitigated.
30. Pilots flying into London airports fly into some of the most congested airspace in the world. There is no point growing runway or terminal capacity without ensuring the

² Mr Andrew Deakin of NATS gave evidence to the House of Commons Transport Select Committee on 12 December 2012 where he made this suggestion. BALPA's response, which was submitted to that Committee, can be viewed here

<http://www.publications.parliament.uk/pa/cm201213/cmselect/cmtran/writev/aviation/m58a.htm>

³ <http://www.dft.gov.uk/news/statements/mcloughlin-20120907a/>

airspace can cope with the resultant increase. We urge policymakers to keep these operational considerations in mind.

31. There are many supporters and detractors of the Mayor's Estuary Airport approach and there are legitimate concerns about transport links that others will comment on. Pilots are concerned about the potential flight safety implications with the marsh and wet land sanctuary for birds in the area. Bird strike is a serious problem and would need significant mitigation before we could consider endorsing the proposal.
32. We take the environmental impact of aviation seriously. We support the development of new, more efficient airframes and fuel technology as the best way of tackling aviation's small but growing contribution to carbon emissions. This is a more sensible and pragmatic approach than attempting to stifle our economic growth and international competitiveness by constraining airport capacity.



London Assembly Transport Committee

Investigation into Airport Expansion

Submission by British Airways

1. British Airways is grateful for the opportunity to submit evidence to the Transport Committee's investigation. The Committee joins several other distinguished bodies in recent months to consider the important issue of airports policy, including the Commission chaired by Sir Howard Davies, which should have the opportunity to undertake a thorough, evidence-based assessment of all the options for the future development of airports policy. British Airways believes that political consensus across the main political parties will be essential for the outcomes of the Commission's assessment to be implemented. The Transport Committee's investigation offers one potential route to developing such a consensus.
2. British Airways believes that the specific issues of airport capacity should be considered in the broader context of the economic importance of the aviation sector and the role that aviation plays in supporting economic growth, trade, and employment, and the environmental impacts of aviation. Therefore, in the interests of brevity and of consistency, we attach at Annex A our submission to the ongoing inquiry by the House of Commons Transport Select Committee, which provides an overview of the numerous issues that British Airways believes need to be considered in any future decision making process on the UK's aviation and airports strategy. While this evidence was submitted to the Select Committee in October 2012, and there have been some developments since then – principally on the application of the EU Emissions Trading System – this document continues to capture British Airways' views on the

main aviation policy issues. Please accept this submission as our contribution to the Committee's investigation.

*British Airways
January 2013*

October 2012



British Airways' Submission to the Transport Select Committee inquiry into Aviation Strategy

Introduction

British Airways welcomes the opportunity to contribute to the Transport Select Committee's inquiry into UK aviation strategy.

British Airways is one of the world's largest international airlines and the UK's largest international scheduled airline, carrying approximately 35 million passengers worldwide annually on around 800 daily flights. The airline employs around 40,000 people, the vast majority of these at its sites throughout the UK. British Airways flies to more than 170 destinations in over 80 countries. In addition to passengers, the airline also transports cargo – more than 750,000 tonnes of cargo are carried each year.

In 2010, the airline completed its merger with Iberia of Spain to create the International Airlines Group (IAG). Following the acquisition of BMI earlier this year, our combined business offers flights to 205 destinations throughout the world on a fleet of 415 aircraft. It also commenced a joint business agreement with American Airlines, which further extends benefits for its customers.

The Select Committee's inquiry is timely and important. British Airways, along with the rest of the aviation industry and much of the UK and international business community, has long argued that the existing policy vacuum surrounding the Government's approach to aviation is unsustainable and damaging to the UK economy, and to its future ability to compete with key established and emerging economies. Following the publication of the Government's Draft Aviation Policy Framework and the announcement of the appointment of Sir Howard Davies to chair an independent commission to consider the future direction of UK airports policy, it is imperative that Parliament scrutinises the Government's progress and proposals.

1 What should be the objectives of Government policy on aviation?

- 1.1 The UK aviation sector operates in an intensely competitive global market. The overarching principle which should inform Government's approach to developing such a policy should be to encourage the effective operation of free markets in aviation to meet passenger demand and customer needs in the UK, Europe, and beyond, and to intervene in that market only where merited by clear evidence of a market failure or overwhelming safety and security concerns. Government policy should also reflect the importance of aviation as a driver of the UK economy.

a. How important is international aviation connectivity to the UK aviation industry?

- 1.2 For all parts of the aviation industry, international connectivity is vital to making UK aviation-related businesses globally competitive and ensuring that the sector is able to meet UK passenger and freight demand growth. The nature of the aviation industry means that, even for those businesses which operate principally within the UK or the EU, good international connectivity to key established and emerging

markets, as well as domestic, regional, and European links are essential in attracting passengers, investment, and continued growth.

b. What are the benefits of aviation to the UK economy?

- 1.3 UK aviation supports approximately 920,000 jobs directly or indirectly through aviation companies and their supply chains, or through the spending by these direct or indirect employees through the economy. These are high-productivity jobs: the average air transport services employee generates £66,178 in Gross Value Added (GVA), more than twice the productivity of the average UK job.¹ The aerospace manufacturing sector in the UK, of which UK airlines such as British Airways are a key customer, support approximately 264,000 jobs in the UK. The UK aviation sector contributes approximately 3.6 per cent of UK GDP, with further, substantial benefits derived from aviation's role in facilitating and supporting the vital inbound tourism sector.²
- 1.4 The wider economic benefits which the aviation industry confers on the UK economy are both more substantial and more difficult to isolate, as they permeate the economy. Air transport services allow UK businesses to access established and emerging markets, maintaining UK competitiveness and increasing international trade in goods and services. One in five UK businesses believes the quality of international connections, such as availability of or absence of direct flights, is a barrier to exporting.³ Air freight, much of which is carried as belly-hold cargo by passenger aircraft, transports 37 per cent of goods exports by value.⁴

c. What is the impact of Air Passenger Duty on the aviation industry?

- 1.5 British Airways believes Air Passenger Duty (APD) is putting UK aviation at a unique and increasing disadvantage among European competitors. APD distorts international markets and undermines the UK's attractiveness as a destination for business and tourism. APD is the highest aviation tax of its type in the world, while several European countries – Belgium, the Netherlands, and Denmark - have in recent years abandoned their aviation taxes in recognition of the economic damage they had done.
- 1.6 Each seat sold by British Airways to a foreign customer constitutes an important export for the UK economy – yet these exports are taxed at a rate which makes the UK uncompetitive. Airlines are unable to develop new routes – and therefore to invest in accompanying new aircraft, jobs and skills, which they would otherwise be able to do, because APD creates artificial barriers to expansion and unnecessarily increases the cost of travel for consumers and businesses. British Airways believes that the Government should conduct a thorough economic analysis of the effects of this tax, and abolish it.

d. How should improving the passenger experience be reflected in the Government's aviation strategy?

- 1.7 UK airlines operate in an intensively competitive environment, where airlines operate with different business models with a clear emphasis on maintaining and

¹ Oxford Economics, May 2011: Economic Benefits from Air Transport in the UK

² Ibid.

³ British Chambers of Commerce, 2012: Exporting is Good for Britain, and Transport Connections Support Trade

⁴ HMRC, 2009: CHIEF Non-EU data.

improving the overall passenger experience. British Airways does not believe that there is a clear role for the Government to intervene in this market in the absence of clear evidence of a market failure. Moreover, the Civil Aviation Bill, as previously considered by the Select Committee, places the passenger's interests at the head of the Civil Aviation Authority's list of regulatory priorities.

- 1.8 There are two areas, however, where the Government can make a significant contribution to improving the passenger experience as part of its aviation strategy. First, in the area of immigration and border control, the Government currently has no clear incentive to ensure that passengers arriving in the UK receive efficient and prompt service from the UK Border Force. While airlines are subject to robust competition, and dominant airports are subject to economic regulation, the UK Border Force is subject only to ministerial oversight and the threat of parliamentary rebuke. A key plank of the Government's aviation strategy should be to subject the Home Office and the Border Force to a clear, binding accountability and performance management regime which at least matches that to which airport operators at designated airports are subject.
- 1.9 Second, perhaps the single biggest improvement to passengers' experience of UK aviation over the long term will come from the adoption of a clear, enduring aviation strategy which provides a robust roadmap for the provision of improved resilience of the UK's hub airport, permitting the development of links to new emerging market destinations, and certainty on the future location of hub airport capacity.

e. Where does aviation fit in the overall transport strategy?

- 1.10 Aviation should be seen as an integral element of the UK's transport infrastructure, offering direct connections to international destinations but also important domestic connections both between points in the UK and to onward destinations, principally from the UK's only hub airport at Heathrow. This connectivity is vital to businesses and individuals throughout the UK. The importance of aviation has been well recognised in many countries where sustained efforts have been made to ensure that aviation is fully integrated into the wider transport system
- 1.11 However, because aviation is a self-funding industry which does not receive public subsidies or rely on publicly funded infrastructure, UK Government policy on the integration of transport networks has historically paid scant regard to the role of aviation. This is perhaps best demonstrated by the weakness of planning for rail investment to integrate the UK's major airports into the rail network. For example, the Government's stated objective to align national strategies for aviation and high speed rail appears extremely challenging when the route for HS2 in the South East has been decided without any clear view on the future of the UK's hub airport, at Heathrow.

2 How should we make best use of existing aviation capacity?

a. How do we make the best use of existing London airport capacity? Are the Government's current measures sufficient? What more could be done to improve passenger experience and airport resilience?

- 2.1 British Airways believes that the best mechanism for optimising use of existing capacity is the current market-based system whereby airlines are subject to strong

- economic incentives to optimize the commercial returns from their use of airport capacity.
- 2.2 There is no clear, universal definition of the “best use” of airport capacity. “Best use” could be defined as: maximising the number of passengers; maximising the number of routes flown from a given airport; achieving an optimal balance between short-haul and long-haul routes, or specifying a given type of airline operation. Measures which seek to realise any one definition of “best use” are likely to carry unintended and perverse outcomes.
 - 2.3 British Airways believes that the focus of immediate action should be on improving resilience in the operation of Heathrow airport within the existing cap on air transport movements. Improvements in resilience have a direct, positive impact on passenger experience, productivity, economic efficiency, and environmental performance. British Airways welcomes the Operational Freedoms trials to increase resilience during disruption.
 - 2.4 British Airways is not in favour of the introduction of mixed mode runway operations to add more scheduled flights at Heathrow. We believe it will cause serious resilience problems at Heathrow which is already operating at 98.5 per cent capacity. This would mean there is no ability to recover from, for example, adverse weather and would lead to regular cancellations and disruption for passengers.
 - 2.5 Airspace is a finite resource and a critical national asset. British Airways believes that efficient airspace management and planning can improve the utilisation of London’s existing airport capacity. Key initiatives such as the UK’s Future Airspace strategy and the EU’s SESAR programme could improve punctuality and result in more efficient routings, less “stacking”, and improved passenger journeys and environmental performance.

b. Does the Government’s current strategy make the best use of existing capacity at airports outside the south east? How could this be improved?

- 2.6 Airports outside the South East play an important role in providing connectivity and feed for hub airports, and supporting point-to-point routes to international destinations. Many regional airports have direct international links, principally to hub airports in Europe, the Middle East, and North America. However, all airports outside the South East currently have spare capacity. There is no evidence that existing Government policy is leading to the under-utilisation of regional airports. Any action to increase the utilisation of regional airports would require intervention in the market which would distort competition. British Airways believes that any efforts to support the development of regional airports must not extend to distortive and unfair fiscal incentives, such as variable Air Passenger Duty or the subversion of the economic regulation system to deliver Government airport policy outcomes.
- 2.7 While regional airports fulfill an important role in the UK aviation economy, British Airways does not believe that regional airports can ever be an alternative to provision of effective hub airport capacity serving London and the South East. Anecdotal evidence from international air service agreement negotiations in recent years suggest that many foreign airlines have no interest in accessing regional airports as an alternative to access to Heathrow.

c. How can surface access to airports be improved?

- 2.8 While substantial progress has been made in recent years to increase the share of passengers reaching airports by public transport, British Airways believes there is significant scope to improve both the physical infrastructure and the policy development process supporting surface access to airports. We are encouraged by the Department for Transport's announcement of a review of rail access to airports, and that the focus of that review will be on the ability of rail to provide improved access to airports. However, for the avoidance of doubt, British Airways does not believe there is any merit in using rail to provide connections between airports as a solution to the current shortage of hub airport capacity.
- 2.9 British Airways believes that the Government should prioritise infrastructure projects which deliver sustainable surface access improvements, such as the proposal for western rail access to Heathrow which the Government currently supports. However, there is also a need for greater integration of policy making within the Department for Transport and other Government departments and, crucially, for other infrastructure providers, especially Network Rail, to make access to airports a strategic priority. In particular, British Airways is concerned that the proposed route for High Speed Two does not go via Heathrow, inclusion of which would deliver an integrated air-rail transport solution. British Airways believes this is an example of a lack of integrated thinking in policy making. In general consideration should also be given to measures which ensure that public transport providers serve airports during full airport opening hours, and encouraging cooperation between airport operators and public transport providers to develop appropriate fare structures and promotions to encourage sustainable journey patterns.

3 What constraints are there on increasing UK aviation capacity?

a. Are the Government's proposals to manage the impact of aviation on the local environment sufficient, particularly in terms of reducing the impact of noise on local residents?

- 3.1 British Airways recognises that aviation has localised environmental impacts, and that noise is the most immediate concern for many residents around airports. However, British Airways believes it is imperative that objectives to reduce aircraft noise are set in the context of the other environmental impacts of aviation, reflecting the trade-offs which exist between, for example, carbon and noise impacts. It is important to note that the noise performance of the aviation industry is continuously improving. The industry has delivered a 65 per cent reduction in perceived noise around airports since 1960s and is on target achieve a further 65 per cent reduction by 2050 (compared to 2000). Noise contours using the standard 57db measure of aircraft noise were reduced by 52 per cent around Heathrow airport between 1991 and 2009.
- 3.2 The Government's proposals as set out in its draft Aviation Policy Framework contain a number of suggestions to improve the management of the impact of aviation noise. While British Airways is broadly supportive of the Government's overall objective to "limit and where possible reduce the number of people in the UK significantly affected by aircraft noise", it is important that this objective is balanced against the objective to maximize the economic benefits of aviation. In balancing these sometimes competing objectives, it should be incumbent on the Government to ensure that the benefits of continued improvement in noise performance should be shared between local communities and growth in the aviation sector. Government should also prevent future population encroachment around airports where capacity growth is permitted,

reflecting the fact that government policy has seen central decisions overrule local planning restrictions, resulting in more than 13,000 additional homes being built within the 2009 57db noise contour between 1991 and 2009.

b. Will the Government's proposals help reduce carbon emissions and manage the impact of aviation on climate change? How can aviation be made more sustainable?

- 3.3 British Airways welcomes the Government's recognition that carbon emissions are best tackled through coordinated, global action. The aviation industry has adopted a global target to reduce net emissions from international aviation by 50 per cent by 2050, relative to 2005 levels. British Airways is playing a leading role, through industry groups such as Sustainable Aviation, in identifying a pathway towards the achievement of this goal. Carbon trading is by far the most effective economic instrument to reduce emissions in the aviation sector, reflecting the global nature of the industry. A well designed EU Emissions Trading System which does not distort air transport markets and avoids international disputes can be a first step towards the adoption of a global emissions trading system. However, the scope of the existing EU ETS should be amended from its current form in order to mitigate the risks of retaliatory measures, non-compliance, and competitive distortions, in advance of the adoption of a global system.
- 3.4 Unilateral, UK-level measures to address international aviation emissions are inappropriate and ineffective, and are likely to create competitive distortions which do not serve the interests of UK consumers or businesses. Therefore while British Airways accepts the recommendation of the Committee on Climate Change (CCC) to include emissions from international aviation and shipping in UK carbon budgets for accounting purposes, we also agree with the CCC that there is no place for national level targets for carbon emissions from UK aviation.
- 3.5 Recent and future developments in aircraft and engine technology, and the development of sustainable biofuels, and improvements in air traffic management, all have the potential to play a major role in enabling the sustainable growth of aviation. British Airways is a leading participant in efforts to develop sustainable biofuels for aviation through our partnership with Solena to produce biojet fuel from industrial, agricultural and domestic waste, with the potential to bring significant economic, as well as environmental, benefits to the UK. However, in order to fully exploit the potential of biofuel for aviation, there must be a level playing of incentives with ground transport fuels, which could be achieved through the Renewable Energy Directive, as other EU Member States have allowed aviation biofuels to become eligible for Renewable Transport Fuel Certificates.

c. What is the relationship between the Government's strategy and EU aviation policies

- 3.4 The Government's aviation policies are broadly consistent with the EU's aviation policies. The UK Government plays a leading role in the development of EU policy on the integration of airspace management and planning, and has been a leading force in the integration and liberalisation of European aviation. However, in the absence of a clearly articulated strategy for UK aviation, it is premature to judge the consistency of the UK's approach with the full range of EU aviation policies.

4 Do we need a step-change in UK aviation capacity? Why?

a. What should this step change be? Should there be a new hub airport? Where?

- 4.1 We need to adapt to a world in which the centre of gravity is moving from West to East. If we do not have a hub airport that links us directly to world growth we will suffer for it. The case for extra capacity is overwhelming. There are already 21 emerging market destinations that are served from European hubs but not from the UK. The government needs to create economic opportunity through the aviation industry, not stifle it.

b. What are the costs and benefits of these different ways to increase UK aviation capacity?

- 4.2 British Airways believes that the independent Commission to be chaired by Sir Howard Davies should undertake a thorough, objective assessment of all the various options, including thorough and reliable assessments of the financial and economic costs of such schemes. British Airways believes that the Commission should not be prevented from considering any options as a result of the adoption of environmental or other restrictions in the Government's Aviation Policy Framework.

Further Information

For further information on any aspect of this submission, please contact Carl Pheasey, Manager Political Affairs, on 07789 613998, or carl.pheasey@ba.com

LONDON ASSEMBLY TRANSPORT COMMITTEE
INVESTIGATION INTO LONDON'S AIRPORT CAPACITY

Memorandum from the City of London Corporation
Submitted by the Office of the City Remembrancer

Introduction

1. The City of London's leading position as an international finance and business centre is heavily dependent on it being easily accessible not only from across the UK but, crucially, also from all over the world.
2. Aviation services are vital to the wellbeing of London and the UK economy, and the City welcomes the creation of the Independent Commission to consider options for maintaining this country's status as an international hub for aviation. The City Corporation recently published research to build on the previous City-backed studies into the importance of aviation set out below. The new research, is in two parts looking at the importance of hub capacity and London's connections to emerging markets. Both are intended to feed into the Davies Commission.

Previous research into the importance of aviation

3. The City Corporation first commissioned research into the importance of aviation in 2002. The study¹ identified that the provision of air services in London that are able to compete with and outperform services available in other financial centres are essential if London is to remain globally competitive. This was updated by a further study published in July 2008² which looked at the extent to which City businesses relied on air travel. Although it did not go as far as placing a monetary figure on the value of aviation to the UK economy, this research demonstrated that, at the time, 64% of businesses regarded air travel as critical or very important for internal company purposes, and that 73% considered aviation critical or very important for meeting external clients or service providers. In addition, 82% of businesses regarded Heathrow as critical or very important to their operations, making it the most highly-valued airport in the South East by some margin. This was largely attributed to the wide range of destinations served and the frequency of the service. The research concluded that that this hub airport plays a key role in the functionality of the financial services industry in the UK.
4. The 2008 report concluded that, in recent years, Heathrow had stagnated and lost some of its market share to European competitors. This is reflected in the fact that, while the frequency of services from Heathrow rose between 2003 and 2008, the number of destinations to which it provided air services declined and, in comparison with other major European hub airports where additional runways have been built to meet rising demand, the rate of expansion has been noticeably slower. Furthermore, 50% of businesses surveyed regarded road and rail access to London's airports as worse than that of airports in other major cities.

¹"The Use of Aviation Services in the City of London and the Central London Business District and the Implications for Future Aviation Policy", Oxford Economic Forecasting, published by the City of London Corporation, December 2002.

²"Aviation Services and the City", York Aviation, published by the City of London Corporation, July 2008.

5. Whilst recognising the importance of Heathrow to London's business community, both pieces of research highlighted major weaknesses in the airport's management. The 2002 report indicated that there was real concern about time wasted at airports waiting for security checks reflecting the expense to companies of having staff unable to work because of overly-long airport security processes. The 2008 report also identified that inefficient security procedures led to passenger delays and also prevented many flights leaving Heathrow at the time scheduled.
6. The 2008 research³ identified some of the environmental concerns inevitably attached to any of the expansion options, in particular aircraft noise disturbance and local air quality. This aspect has also been recognised by the Corporation as important.

The importance of a hub airport

7. More recently the City Corporation has published two reports, by York Aviation, exploring London's Air Connectivity and they have been prepared as a contribution to the on-going debate on how to meet London's airport capacity needs and the importance of retaining hub status. The first report, *'London's air connectivity: the importance to London of having world class aviation hubbing capacity'* examines the importance of London's hubbing capacity to the maintenance of connectivity by air to key business markets, focusing on the extent to which hub connecting traffic underpins the provision of services in London to 20 key business centres. The second, *'London's air connectivity: emerging and growth markets'* examines London's current connectivity, by air, to 22 growth and emerging markets, and compares this region's connectivity with four other primary European air travel hubs (Amsterdam, Frankfurt, Madrid and Paris) and with another growing global hub, Dubai.
8. The need for businesses to travel to and receive visitors from emerging countries will increase over time as their economies grow. The principal concern, therefore, is the extent to which London will be able to keep pace with its competitors in future. The vast majority of London's business related air connectivity beyond Europe is provided by Heathrow.
9. Overall, the City's research found that London is most well-connected global hub to these 22 markets, and has direct connections to 17 of the 22 considered. But although well-connected to India and China, London is less well connected to Latin America in particular. However, the research indicates that whilst London remains ahead of competing hubs its status is being challenged by rapidly expanding Middle East hubs, Dubai in particular, and especially towards non-European destinations⁴.
10. A key reason why services to the emerging economies tend to be concentrated at Heathrow is its status as a hub. Often routes to individual cities within emerging countries are too small to support direct services without feeder traffic through a hub. The dependence of particular markets on transfer traffic overall varies considerably, with routes to countries such as Brazil, China, India and Mexico far more dependent on transfer passengers than routes to countries such as Pakistan, Poland or Turkey. In terms of services from Heathrow, these are much more dependent on transfer traffic

³ "Aviation Services and the City", York Aviation, published by the City of London Corporation, July 2008

⁴ "London's air connectivity: emerging and growth markets", York Aviation, published by the City of London Corporation, December 2012.

than routes from Gatwick or, indeed, the other London airports⁵. Almost 85% of the 28 million⁶ of transferring passengers using London airports used Heathrow Airport, at which over 34% of passengers were using the airport to connect between flights⁷. This reflects the ability of Heathrow to function as a hub and the ability to operate such routes from a hub airport.

11. In some markets, transfer passengers from Heathrow make up a very high proportion of overall demand; as high as 65% in the case of the route to Mexico City from Heathrow. Other countries with particularly high dependence on transfer traffic from Heathrow include the Czech Republic, India and South Africa. It is also evident that British Airways is more dependent on transfer passengers than other airlines at Heathrow. For example, over half of BA's passengers on Heathrow routes to Brazil, Egypt, India, Morocco, South Africa and Taiwan are making transfer connections onto such flights.
12. The ability of Heathrow to function as a hub is a factor in securing a wider route network than would otherwise be the case. The analysis found that for British airlines and British Airways in particular, having an airport capable of functioning as a hub is critical to the development of new routes and services. These additional routes and services are often to emerging business centres and, hence, provide UK businesses with a wider range of opportunities⁸. This is relevant to considering the extent to which Heathrow will be able to continue to provide a gateway for the opening up of such point to point services in future.
13. Heathrow has been constrained for some time, running at almost full capacity. Nevertheless, carriers at Heathrow have been able to adapt their networks so that, in overall terms, key business connections are maintained. This, however, has been at the expense particularly of UK domestic connections and connectivity to Europe from Heathrow. This is where other London airports have made a particular contribution, with a particular increase in the range of European services overall across the London airports.
14. It is clear that the scope for enhancing the range of services to the emerging economies at Heathrow is ultimately limited by the shortage of slots. Where there are capacity constraints airlines tend to focus on income generating routes - high value long haul and high volume short haul. Under such circumstances the lesser established long haul routes may be the ones which suffer, for example to emerging markets. The extent to which it will be possible to introduce services to newly emerging world cities will be limited by the need for these services themselves to be supported by feeder traffic, largely from the European and domestic network but also by services from the US, which also provide feeder traffic onto routes to Asia and to Africa.

⁵ It is only on the route to Mexico that BA relies on a reasonable (28%) proportion of transfer passengers at Gatwick. Other airlines do not use Gatwick as a hub to any great extent either, with only 6% of passengers in the relevant markets transferring onto flights at Gatwick with other airlines.

⁶ Transfer passengers are counted twice – once when they arrive by air and once when they depart.

⁷ *"London's air connectivity: the importance to London of having world class aviation hubbing capacity"*, York Aviation, published by the City of London Corporation, December 2012.

⁸ *"London's air connectivity: emerging and growth markets"*, York Aviation, published by the City of London Corporation, December 2012.

Conclusion

15. Whilst to date it would appear London has not lost connectivity in either absolute or relative terms because of capacity constraints, this may not continue to be the position as economic power shifts to new centres and demand for air travel to new routes increases. This underlines the importance of the work of the Davies Commission to find an urgent long-term solution which enables the UK to keep pace with the connectivity provided by competing centres' airports. It is suggested a greater range and frequency of connections to key cities in the emerging economies is more likely to develop through a focus on hub capacity than relying on non-hub airlines to develop services feeding their own hubs overseas.

February 2013



Report prepared for the City of London Corporation
by York Aviation
December 2012

London's Air Connectivity: Emerging and Growth Markets





York Aviation



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by York Aviation
December 2012

London's Air Connectivity: Emerging and Growth Markets

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Executive Summary

According to research conducted by various international institutions, the share of global GDP held by emerging markets will more than triple by 2050. Powered by growth in the so-called BRICS nations – Brazil, Russia, India, China and South Africa – and including other countries spread across Africa, Asia, Europe, the Middle East and Latin America, emerging markets are on the path to becoming favoured global business destinations for business people from all over the world. This report seeks to inform as to how well-connected London and the Greater South East of England are to 22 of these emerging markets, and to compare this region's connectivity with four other primary European air travel hubs (Amsterdam, Frankfurt, Madrid and Paris) and with another growing global hub, Dubai.

The report presents data regarding the number of passengers served, the proportion of business travellers among those passengers, the weekly frequencies of air connections and the weekly seats available in air connections. The data is presented across 2005, 2008, 2011, and 2012 to give a sense of the development across time of connectivity across the airports and countries discussed.

Calculating London and the Greater South East's connectivity through the Business Connectivity Index, the report concludes that London remains – in overall terms – the most well-connected global hub to these 22 emerging markets. On the other hand, with the exception of India and China, London is less well-connected to the BRICS countries than competing hubs, and is at a particular disadvantage in Latin America. Although other individual hubs serve particular destinations better in terms of frequency, destinations, and seats available, altogether London remains ahead of competing hubs. This status is though being challenged by rapidly expanding Middle East hubs, Dubai in particular, and especially towards non-European destinations.

The report finds that London and the Greater South East of England have improved in terms of aviation connectivity since the benchmark year of 2005, while other major European hubs considered in the report have followed a similar trend but still maintained their relative distance from London. The report concludes, however, that if London is to retain its dominant role in this sector, it must devise solutions to maintain the pace of competing growing hubs and to preserve its existing air connectivity links with emerging markets, strengthen links where they are weak and establish links where they do not exist. This will benefit London, the City, and the United Kingdom as a whole.

Introduction

This report examines London's connectivity by air to growth and emerging markets which are becoming increasingly important to trade and economic growth. There are varying definitions of which countries constitute the 'growth' or 'emerging' markets. However, all commentators project that these countries will make up an increasing proportion of global GDP and, hence, become much more significant as trading partners compared to the slower-growing developed countries.

Goldman Sachs projects that the BRICS countries, plus Mexico, Korea, Turkey and Indonesia will increase their share of world GDP from 13% to 46% over the period to 2050, with the existing developed countries' share falling from 78% to 31%.¹ Hence, being well connected with these countries will become increasingly important in retaining London's 'World City' status. For the purpose of this exercise, we have adopted the list of emerging equity markets published by the FTSE Group as being most relevant to the City of London Corporation as it represents the significance of these countries in terms of investment.

This list divides emerging markets into two groups:²

Advanced Emerging

Brazil
Czech Republic
Hungary
Malaysia
Mexico
Poland
South Africa
Taiwan
Thailand
Turkey

Secondary Emerging

Chile
China
Colombia
Egypt
India
Indonesia
Morocco
Pakistan
Peru
Philippines
Russia
United Arab Emirates (UAE)

In 2011, according to data taken from surveys of departing passengers conducted by the UK Civil Aviation Authority (CAA), there were some 89 million two-way air passenger journeys to and from the Greater South East of England,³ which represents the immediate hinterland of the City of London. Of these, approximately 21.5 million air passenger journeys were for business purposes, of which around 58% were by UK residents. It is connectivity for such business trips which forms the primary focus of this analysis. Of the current business travel market, some 78% of journeys had an end destination in Europe, of which 16% were internal UK business journeys by air.

¹ <http://www.goldmansachs.com/our-thinking/focus-on/growth-markets/dataviz/index.html>

² http://www.ftse.com/Indices/Country_Classification/Downloads/FTSE_Country_Matrix_March_2012.pdf

³ London, the South East and East of England. Note: journeys from London City Airport are excluded from this figure as the Airport was not surveyed in 2011. There were approximately 1.7 million business air journeys from London City Airport in 2010 and a similar number would be expected for 2011. Of these, the vast majority were flying directly to destinations in the UK and Europe. Around 4,000 business passengers were reported as having end destinations in the defined emerging countries, principally those within Europe.

Germany was the second largest business travel market. Of the 22% of business-related air journeys travelling beyond Europe, 8.2% (or 44% of such non-European business trips) were to/from the USA. No other country accounted for more than 1.5% of all business trips by air in 2011. In total, only 5.6% of business-related air journeys in 2011 began or ended in the Advanced Emerging Countries, with a further 5.3% beginning or ending in the Secondary Emerging Countries. Of these two groups, the most important business travel markets from the UK in 2011 were: China, Czech Republic, Hungary, India, Poland, Russia, South Africa, Turkey and the UAE.

Given that the emerging economies are expected to become more significant business destinations in the future, this report sets out to identify how well-connected London is, by air, with these countries in comparison to the other key European hub cities (Amsterdam, Frankfurt, Madrid and Paris) and the emerging Middle East hub of Dubai. This report considers connectivity offered from all of the London airports rather than focussing on the Heathrow hub alone, although it is recognised that, for many of these markets, hub connecting traffic may be essential to underpin the viability of direct air services. We identify Heathrow flights separately for reference.

Current Patterns of Travel and Passenger Characteristics

London currently has direct air service connections to 17 of the 22 Emerging Countries: Brazil, China, Czech Republic, Egypt, Hungary, India, Malaysia, Morocco, Mexico, Pakistan, Poland, Russia, South Africa, Taiwan, Thailand, Turkey, and the UAE. London currently has no direct air service to Chile, Colombia, Indonesia, Peru and the Philippines, although some of these destinations have been served by direct services in the past.

Using the CAA survey data for 2011, it is possible to identify how business passengers travelled to each of these destination countries in that year. The majority of passengers to these countries used direct services where they existed. We have identified where passengers opted to use services from the identified key competitor hubs.

Overall, of the almost 2.4 million business-related air journeys to these countries in 2011, approximately 85% flew on direct services to their destination country. Some of these passengers may also have made onward domestic connections within these countries.

Of those not flying directly to their country of destination, 47% used the identified competitor hubs, of which 26% (over half) routed via Dubai. The proportions using the European hubs were:

Amsterdam	7%
Frankfurt	4%
Madrid	5%
Paris	5%

Other significant connecting points for this traffic were Hong Kong (with 12%, mostly to China and the Philippines); Abu Dhabi (5%); Singapore (5%); Munich (4%); Doha (4%); Mumbai (4%); Istanbul (3%); and Lisbon (3%, mostly to Brazil).

Current Air Service Connections

This report examines the current weekly frequencies and seats offered to airports in each of the 22 advanced or secondary emerging countries using data from OAG⁴ for the current week. It also compares this with the connections available to these destinations in 2005, 2008 and 2011.

It also examines how the pattern of services has developed since 2005 to each of the emerging countries in turn, based on our four representative years and also explores connections to other key business-related cities within each country, where applicable.

Additional data on connectivity is provided in a separate appendix, available at www.cityoflondon.gov.uk/aviationresearch.

⁴ Online Airline Guide. We have used OAG's online data for current (2012) information and quarterly disks for historic information. OAG relies on planned operational data received from airlines and it may not always reflect changes to frequencies or capacities actually operated. It, nonetheless, provides a broad indication of the pattern of services to/from each city, although individual discrepancies may exist at the detailed level.

Brazil

The following charts show the weekly frequencies and seats offered to Brazil from London and the comparative hub airports for the four representative years.

Figure 1: Weekly Frequencies

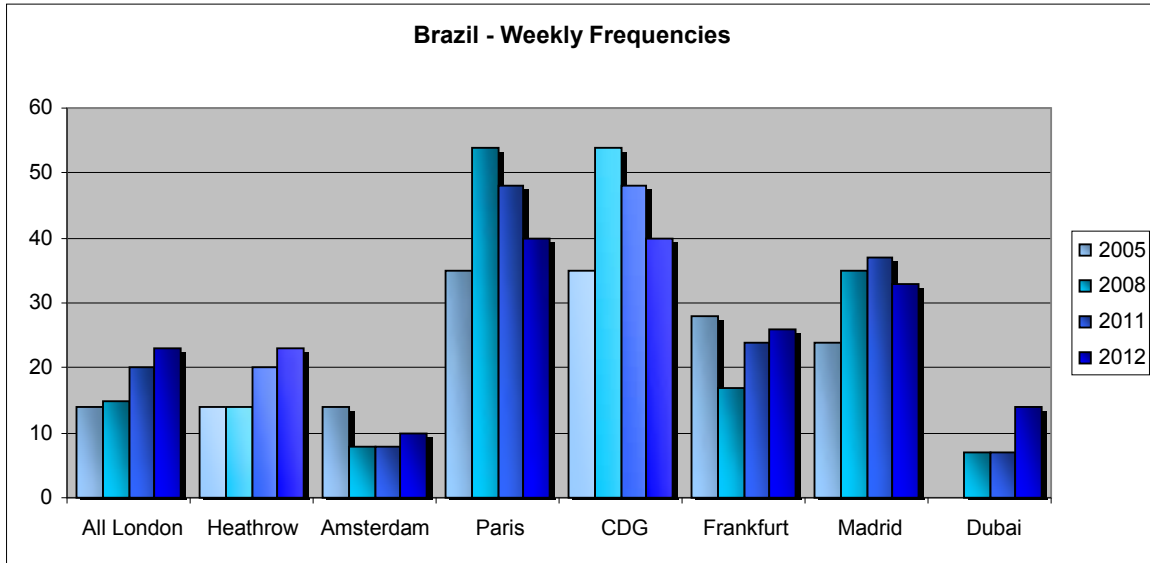
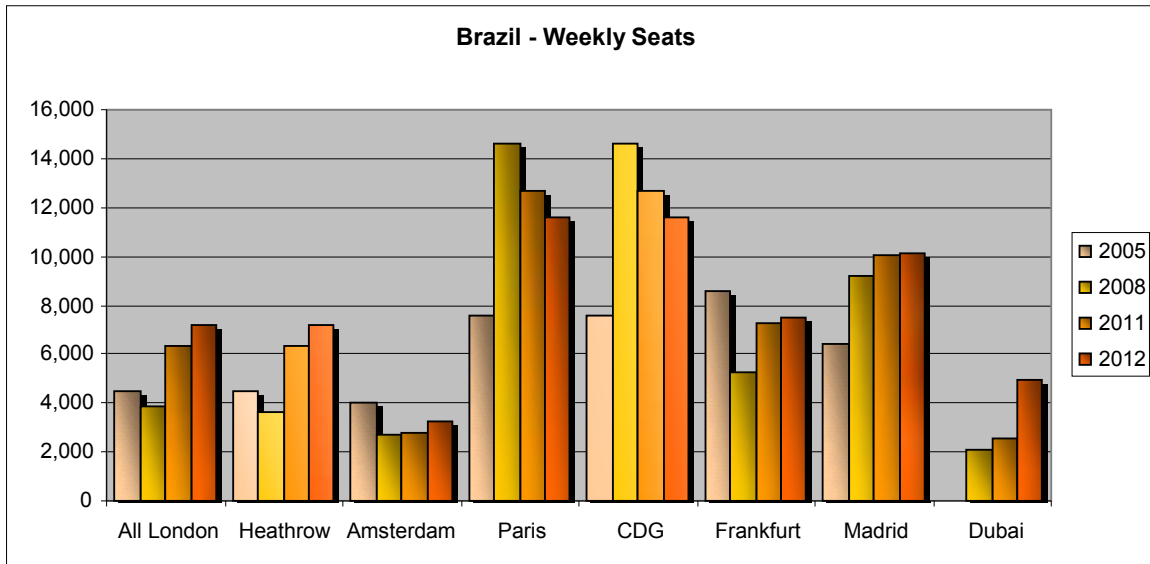


Figure 2: Weekly Seats



Both the frequency of service and the capacity to Brazil from London (Heathrow) has increased substantially since 2005, principally through the addition of a service to Rio de Janeiro. Paris traditionally has the highest frequency of service and capacity to Brazil and plays a more significant role in this market than Madrid. Service from London now broadly matches that on offer from Frankfurt and is better than that on offer from Amsterdam.

There were almost 100,000 business-related air journeys between the Greater South East and Brazil in 2011. 75% of business travel to Brazil used direct flights from London in 2011. Of those using connecting flights via other hubs, almost half flew via Lisbon Airport and a quarter via Madrid.

Direct flights from London carried over 400,000 passengers in 2011,⁵ approximately 55% to Sao Paulo and 45% to Rio de Janeiro. Some 35% of passengers were travelling for business purposes, with UK business passengers more likely to travel to Rio and foreign residents from Sao Paulo. Overall some 39% of passengers were connecting onto these flights in London, including UK domestic connecting passengers.

⁵ Data is taken from CAA Surveys, which comprises a sample weighted by the CAA to equate to annual volumes. Totals taken from this data may not exactly match those recorded in CAA statistics. Data as to the routings taken by passengers should be taken as a broad indication of the pattern due to the small sample sizes in some cases.

Chile

The following charts show the weekly frequencies and seats offered to Chile from the comparative hub airports for the four representative years. There are currently no direct flights from London. All services operate to Santiago.

Figure 3: Weekly Frequencies

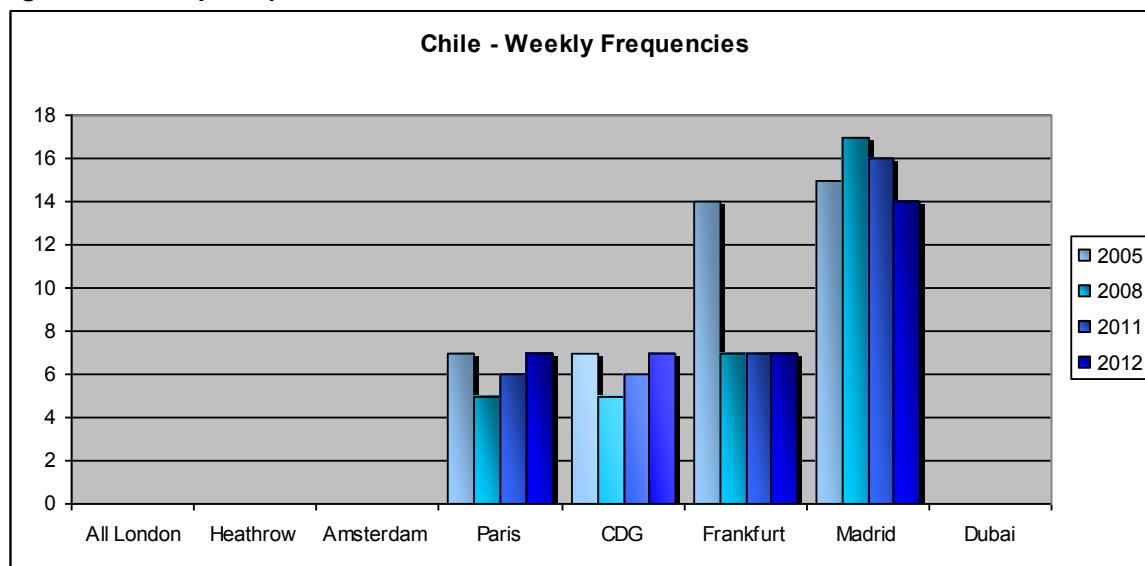
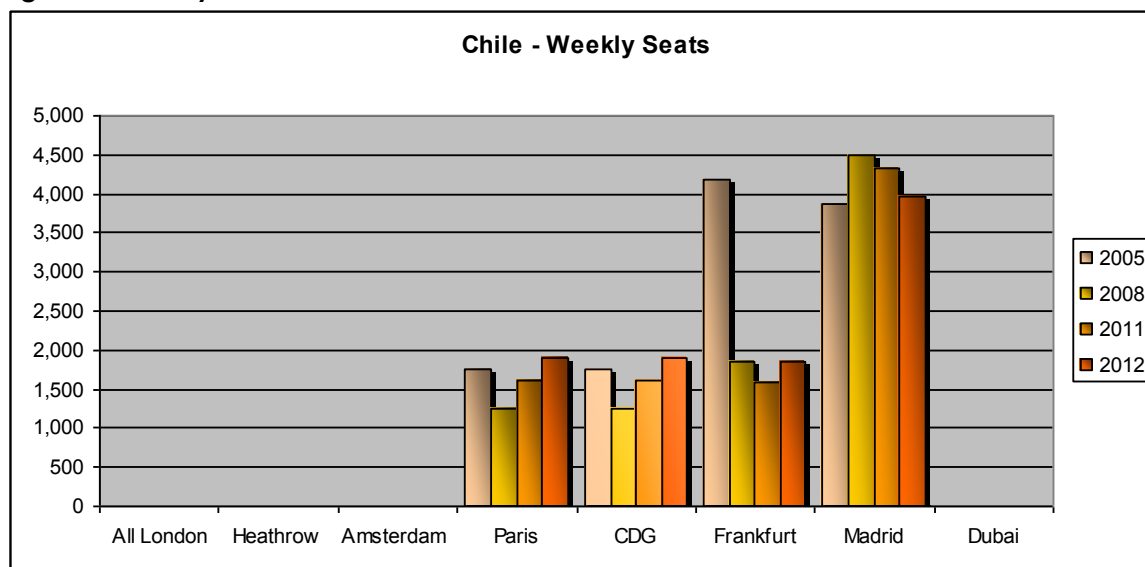


Figure 4: Weekly Seats



Business travel from the Greater South East to/from Chile amounted to just over 8,000 air journeys in 2011. Of these, half of the passengers connected in Sao Paulo and a quarter each in Madrid and Paris.

China

The following charts show the weekly frequencies and seats offered to China from London and the comparative hub airports for the four representative years.

Figure 5: Weekly Frequencies

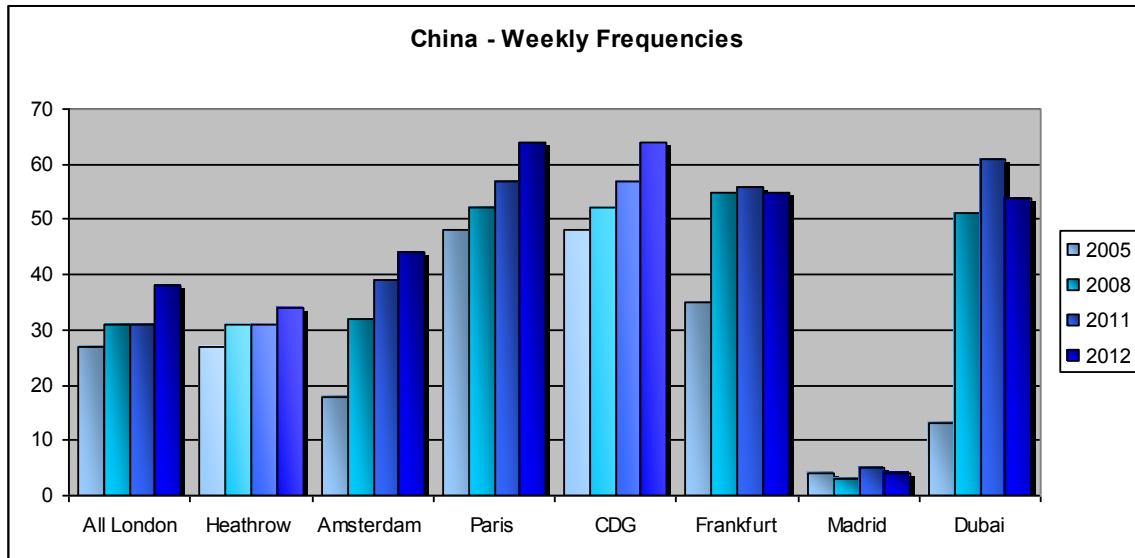
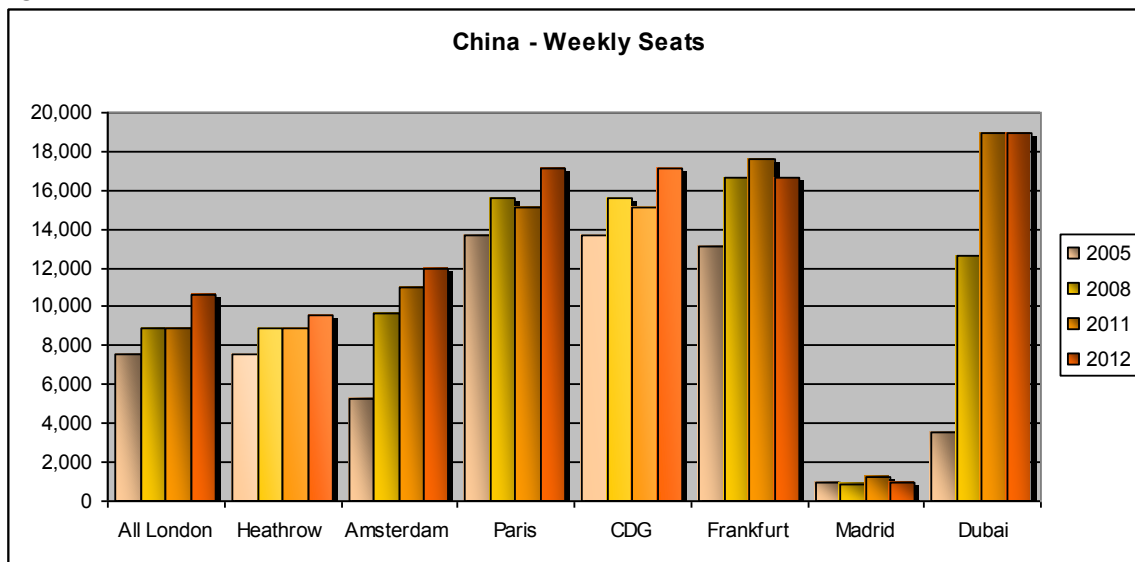


Figure 6: Weekly Seats



The main Chinese cities served are Beijing, Chengdu, Guangzhou, Nanjing and Shanghai. Whilst Beijing and Shanghai are served twice daily from London, there are more frequent services from Paris and Frankfurt to these key cities.

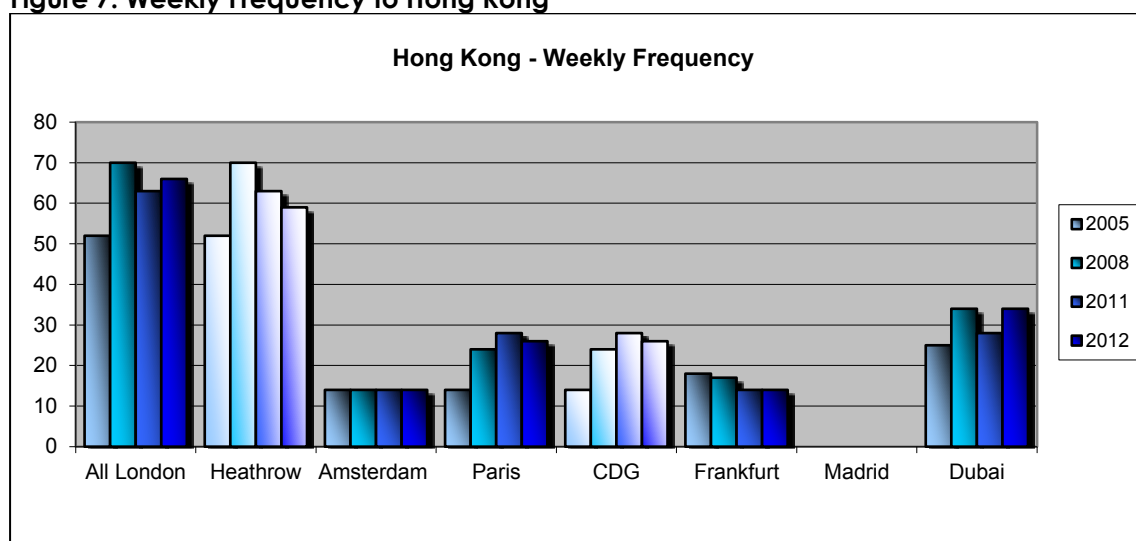
A number of other cities, not presently identified in the Global and World Cities Index, are also served, but not necessarily on a daily basis, from some of the other hubs:

Hangzhou from Amsterdam
 Kunming from Dubai
 Qingdao from Frankfurt
 Shenyang from Paris
 Wuhan from Paris
 Xiamen from Amsterdam

These cities may become more significant business destinations over time. There are other growing cities in China which are also expected to become more economically significant, such as Chongqing, which is now served from Helsinki.

In an earlier report for the City of London,⁶ key players in the financial services sector told us that they conducted business in China primarily through offices in Hong Kong. London is significantly better served to Hong Kong than the other hubs.

Figure 7: Weekly Frequency to Hong Kong



When Hong Kong frequencies are combined with those direct to other cities in China, London is in aggregate better served than the other hubs. The significance of this depends on the view which is taken of the extent to which business in China will continue to be conducted largely through Hong Kong or whether having direct links to a wider range of cities will become more important in general as their economic importance grows.

⁶ Aviation Services and the City, July 2008 and Update 2011.

Figure 8: Weekly Frequencies including Hong Kong

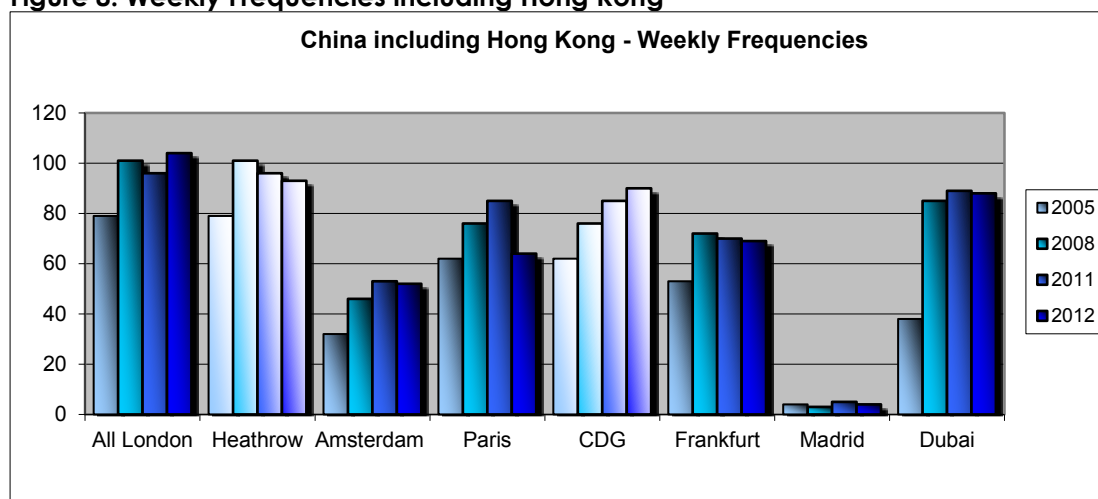
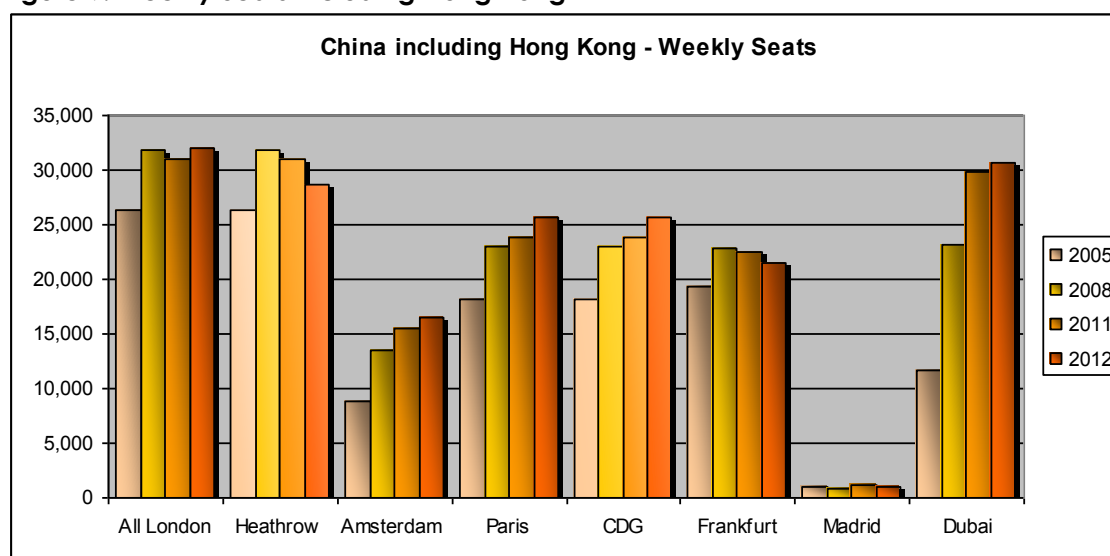


Figure 9: Weekly Seats including Hong Kong



In 2011, there were 131,500 business air journeys between the Greater South East and China (excluding Hong Kong). Of these, 66% flew on direct services to Chinese cities. Of those not flying direct, approximately 25% flew via Hong Kong (not counting those who stopped over there) and 25% via Dubai. Other gateways used included Amsterdam, Paris, Moscow, Frankfurt and Kuala Lumpur.

The direct flights from London carried over 660,000 passengers in 2011, approximately 53% to Shanghai and 47% to Beijing. Some 37% of passengers were travelling for business purposes, with UK business passengers more likely to travel to Shanghai and foreign residents from Beijing. Overall some 21% of passengers were connecting onto these flights in London, including UK domestic connecting passengers.

Colombia

The following charts show the weekly frequencies and seats offered to Colombia from the comparative hub airports for the four representative years. There are currently no direct flights from London. Services operate to Bogota and those from Madrid also serve Cali and Medellin.

Figure 10: Weekly Frequencies

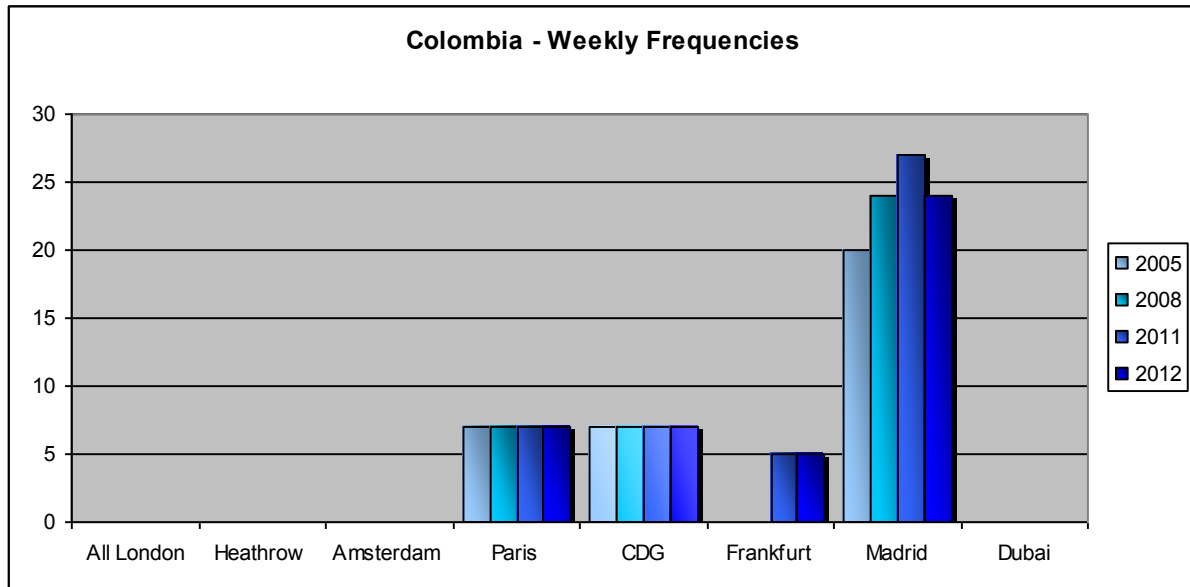
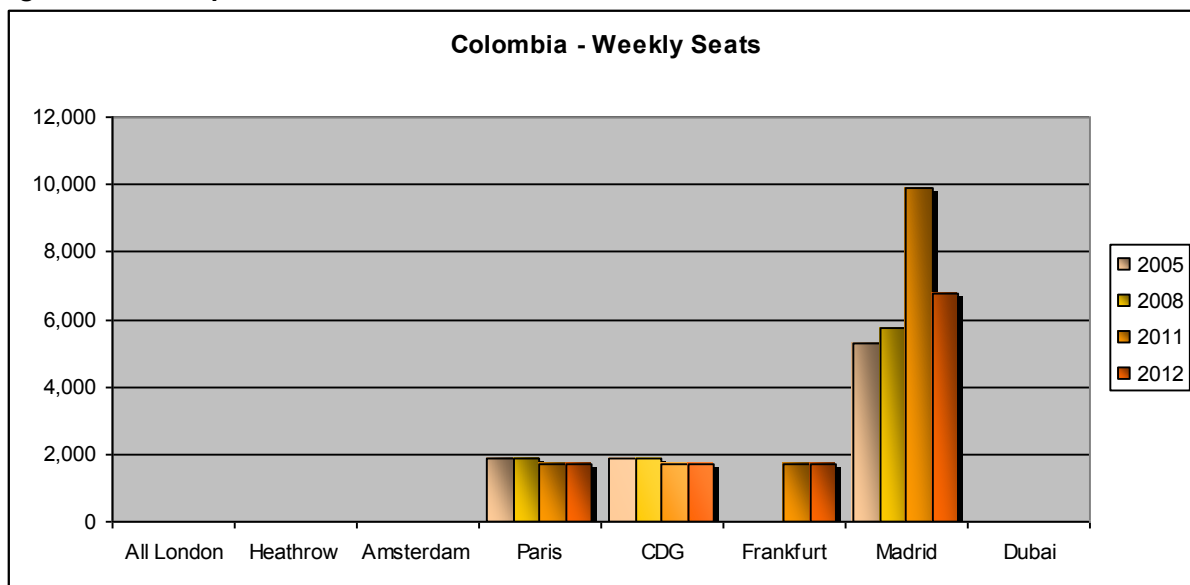


Figure 11: Weekly Seats



Business travel from the Greater South East to/from Colombia amounted to just over 4,000 air journeys in 2011. Of these, more than half of the passengers connected in Paris and the remainder in Zurich.

Czech Republic

The following charts show the weekly frequencies and seats offered to Czech Republic from London and the comparative hub airports for the four representative years.

Figure 12: Weekly Frequencies

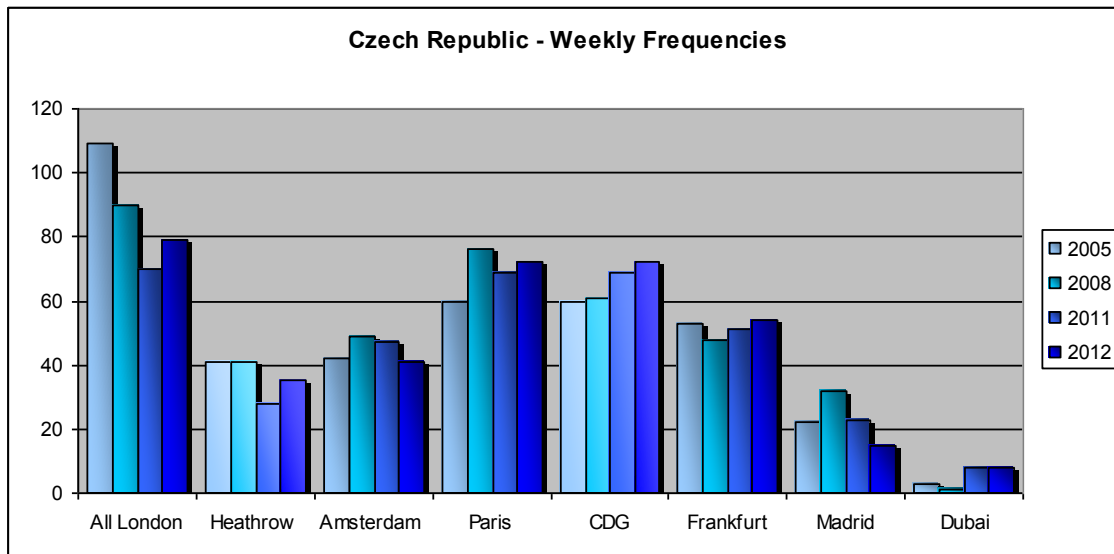


Figure 13: Weekly Seats

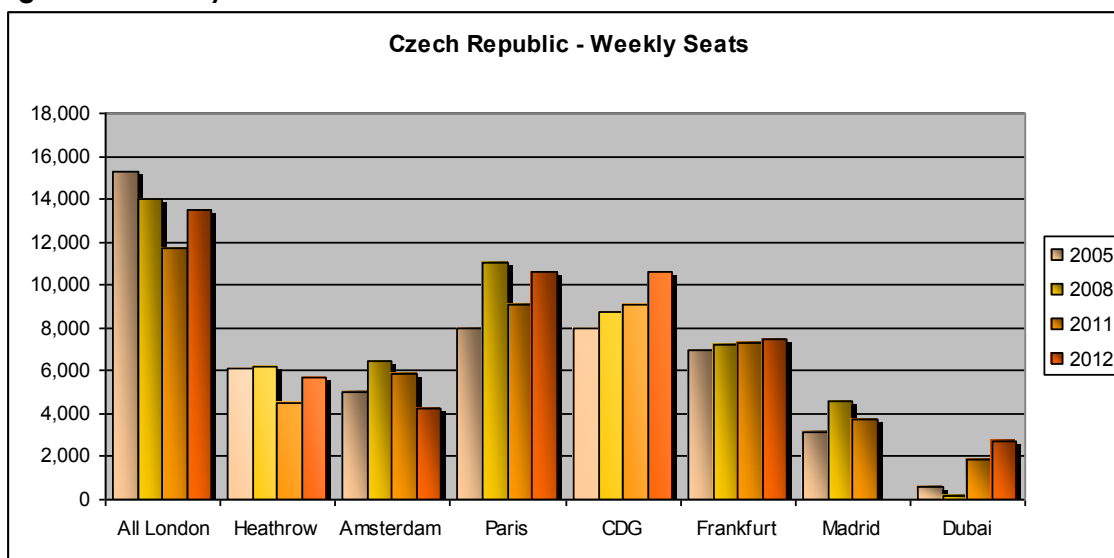
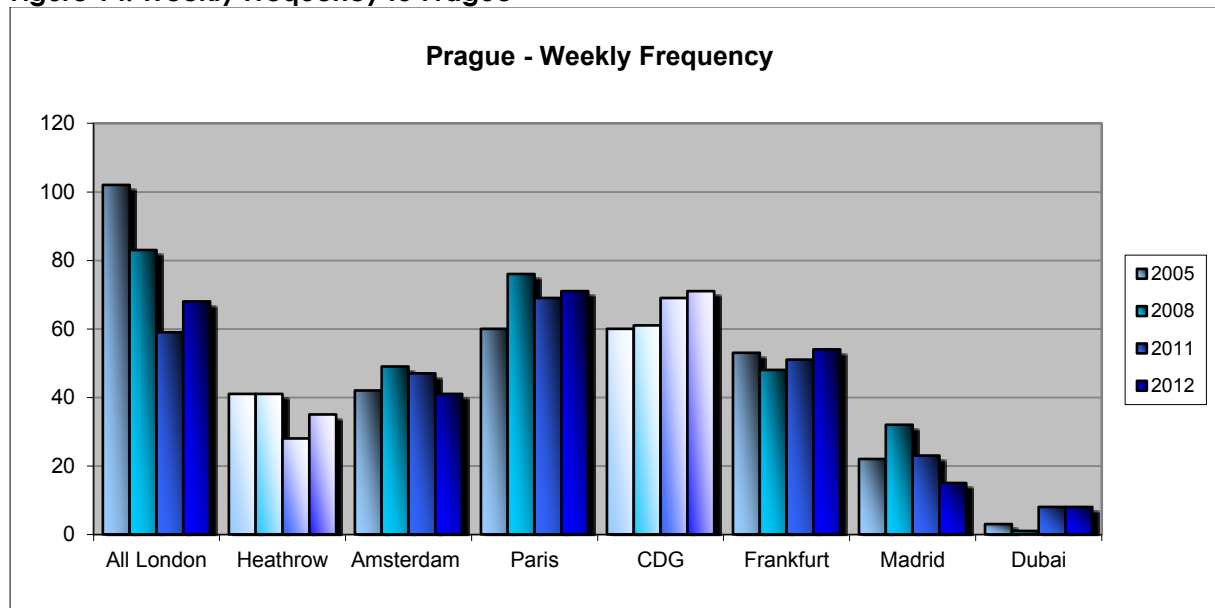


Figure 14: Weekly Frequency to Prague



Overall, there is better service to the Czech Republic from the London airports than from its competitor cities, albeit frequencies and capacities are lower from Heathrow than from Amsterdam, Paris CDG or Frankfurt individually. The level of service has fallen recently, in part due to the withdrawal Czech Airlines (CSA) from the UK market. Many of the services from London are of a low fares nature and more oriented towards leisure traffic.

There were almost 180,000 business-related air journeys between the Greater South East and the Czech Republic in 2011. 99% of business travel to the Czech Republic used direct flights from London in 2011. There was a small amount of leakage via Amsterdam.

The direct flights from London carried over 950,000 passengers in 2011, of which 85% travelled to Prague. Some 25% of passengers were travelling for business purposes principally to Prague. Overall some 19% of passengers were connecting onto these flights in London, including UK domestic connecting passengers and those from transatlantic services.

Egypt

The following charts show the weekly frequencies and seats offered to Egypt from London and the comparative hub airports for the four representative years.

Figure 15: Weekly Frequencies

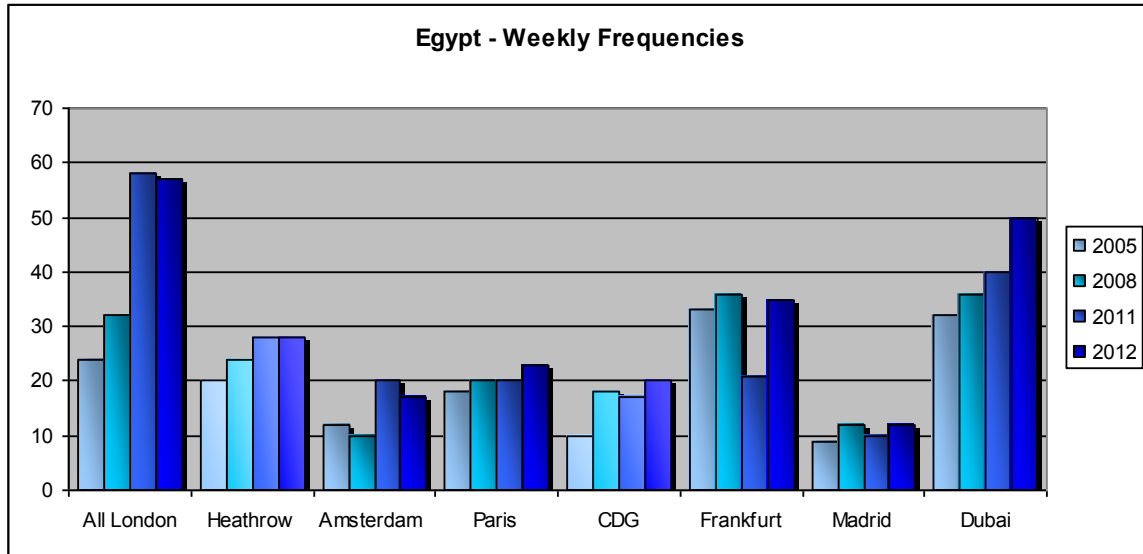


Figure 16: Weekly Seats

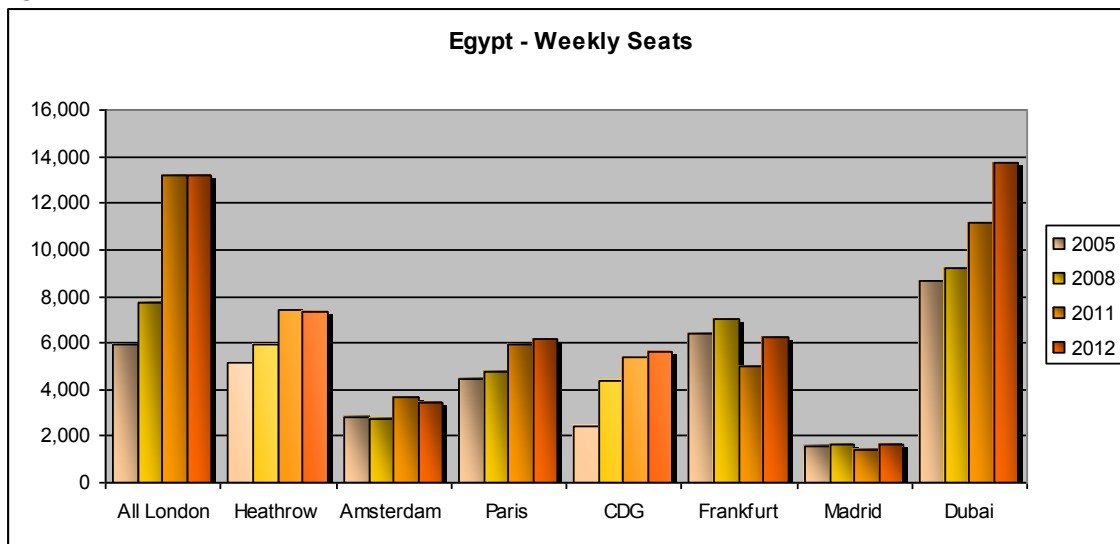
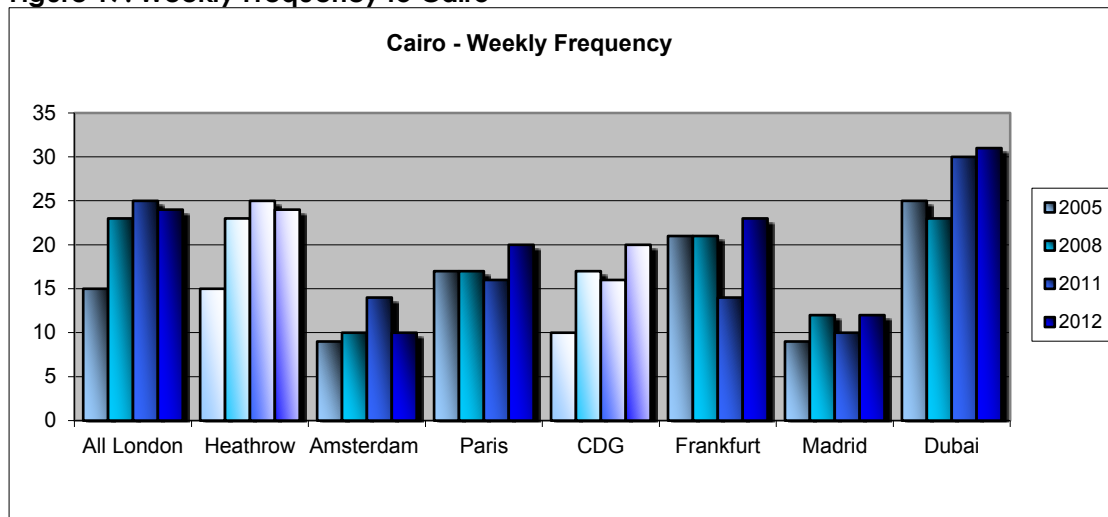


Figure 17: Weekly Frequency to Cairo



Frequency and capacity to Egypt from London has increased since 2005 but there has been less growth from Heathrow, although the number of seats offered has increased. In terms of service to Egypt, and Cairo in particular, London outperforms its competitors with exception of Dubai.

There were almost 50,000 business-related air journeys between the Greater South East and Egypt in 2011. 84% of business travel to Egypt used direct flights from London in 2011. The vast majority of those using connecting flights travelled through Istanbul.

The direct flights from London carried over 1,200,000 passengers in 2011, of which 35% were travelling to Cairo. Overall 8% of passengers were travelling for business purposes, largely to Cairo. Overall some 14% of passengers were connecting onto these flights in London, principally to Cairo although there were some passengers connecting on to the Luxor service. 7% of passengers were connecting onwards beyond Egypt, all through Cairo travelling to Saudi Arabia and points in Africa.

Hungary

The following charts show the weekly frequencies and seats offered to Hungary from London and the comparative hub airports for the four representative years.

Figure 18: Weekly Frequencies

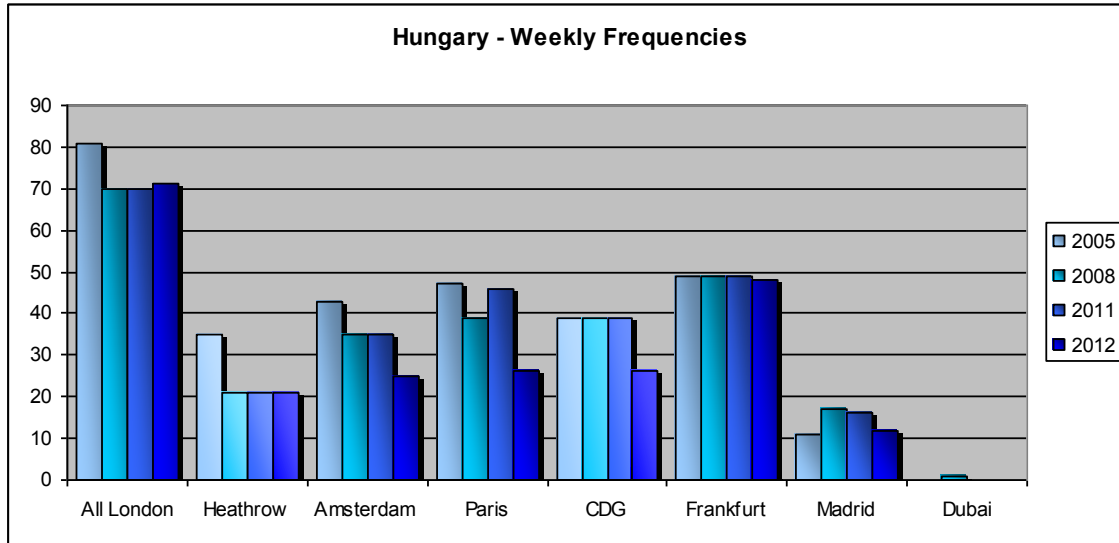


Figure 19: Weekly Seats

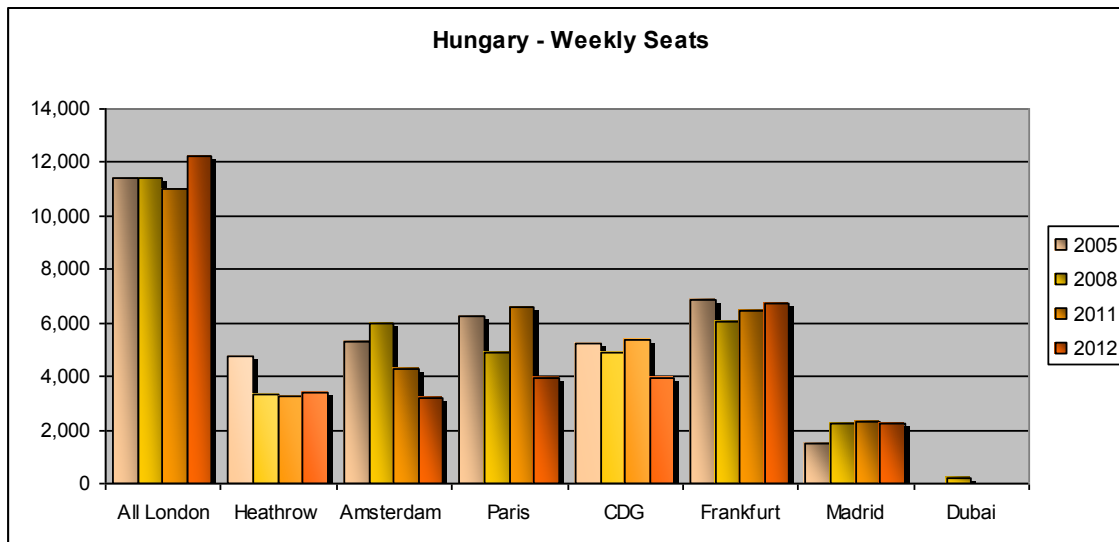
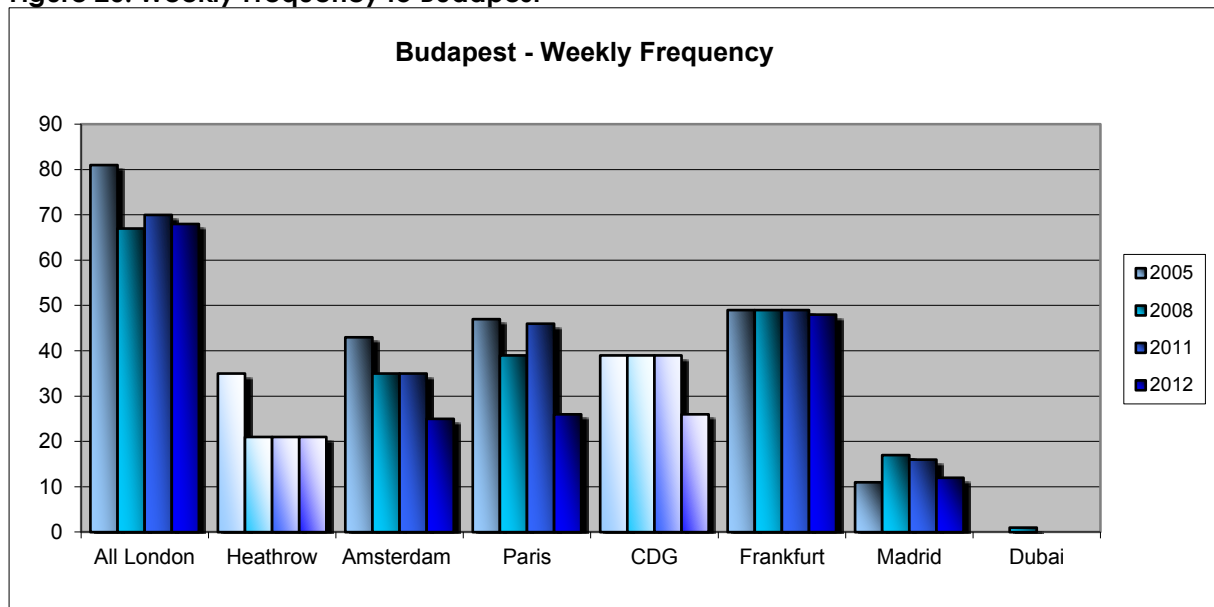


Figure 20: Weekly Frequency to Budapest



Overall, there is better service to Hungary from the London airports than from its competitor cities, albeit frequencies and capacities are lower from Heathrow than from Amsterdam, Paris CDG or Frankfurt individually. Many of the services from London are of a low fares nature and more oriented towards leisure traffic.

There were almost 170,000 business-related air journeys between the Greater South East and Hungary in 2011. 99% of business travel to Hungary used direct flights from London in 2011.

The direct flights from London carried over 920,000 passengers in 2011. Overall some 11% of passengers were connecting onto these flights in London, including UK domestic connecting passengers and those from transatlantic services.

India

The following charts show the weekly frequencies and seats offered to India from London and the comparative hub airports for the four representative years.

Figure 21: Weekly Frequencies

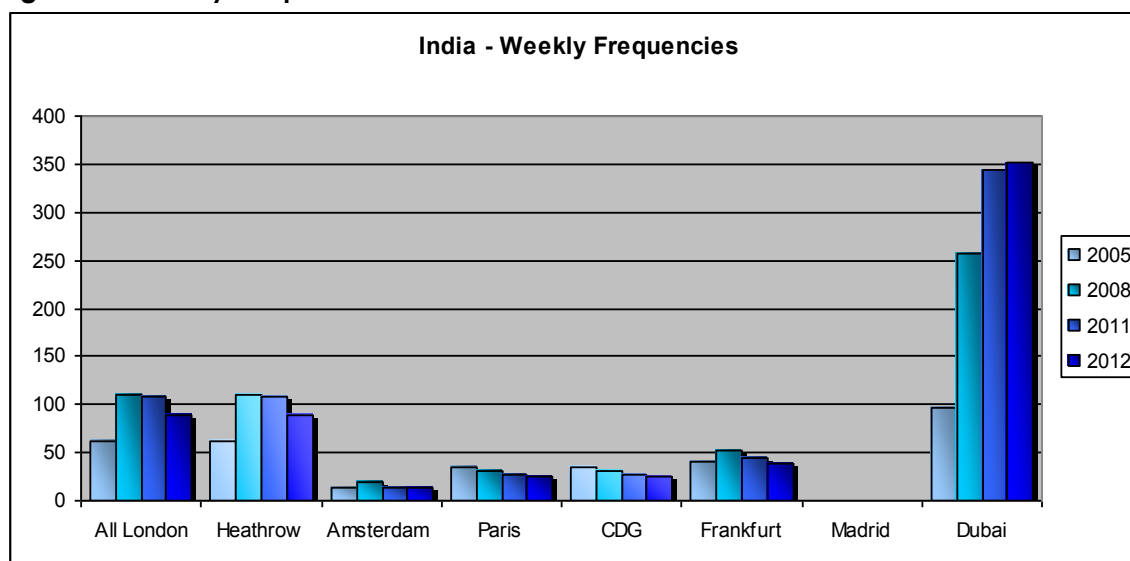
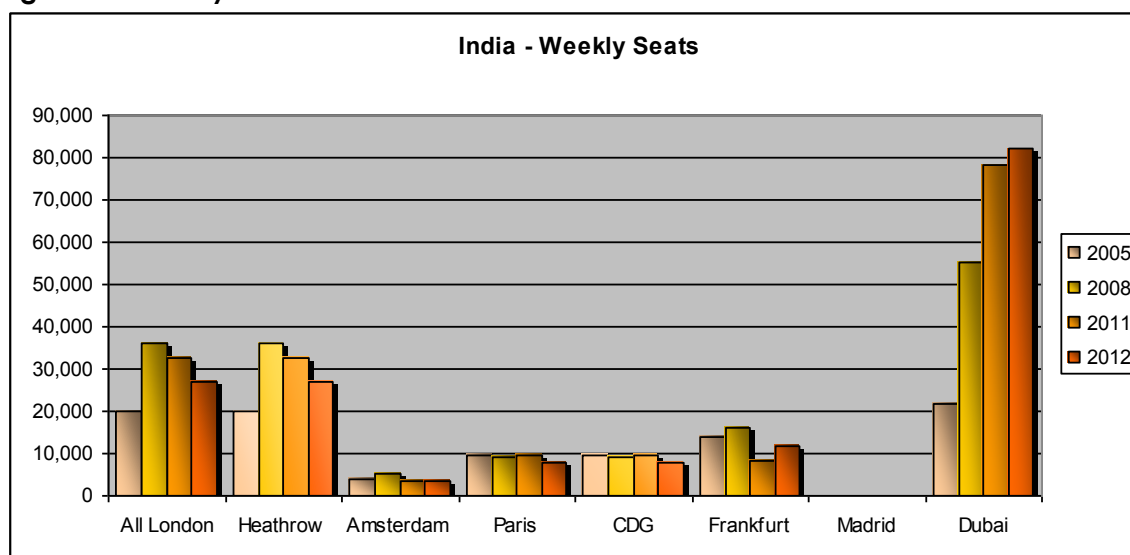


Figure 22: Weekly Seats



Overall, Heathrow provides a greater frequency and capacity of service to India than any of its European competitors, although there is a greater range of destinations and frequencies operated from Dubai. Of the identified key cities, only Pune is not served from Heathrow but is served from Frankfurt as well as Dubai.

In 2011, there were over 310,000 business air journeys between the Greater South East and India. Of these, 78% flew on direct services to Indian cities. Of those not flying direct, almost 70% flew via Dubai. Doha, Kuwait and Colombo were also used as connecting points.

The direct flights from London carried almost 2,500,000 passengers in 2011, approximately 42% to Delhi and 39% to Mumbai, followed by Bangalore, Chennai and Hyderabad. There were also charter services to Goa. Some 29% of passengers were travelling for business purposes, with UK business passengers more likely to travel to Delhi or Mumbai but significant foreign resident business passenger flows from Bangalore and Hyderabad as well. Overall some 44% of passengers were connecting onto these flights in London, including UK domestic connecting passengers but mainly from the USA.

Indonesia

The following charts show the weekly frequencies and seats offered to Indonesia from the comparative hub airports for the four representative years. There are currently no direct flights from London. Services operate to Jakarta, with a small number of services to Denpasar. The development of services to Europe has been hampered until recently due to an EU ban on Indonesia Airlines from operating in Europe. This has recently been relaxed and Garuda has recommenced services to some European points.

Figure 23: Weekly Frequencies

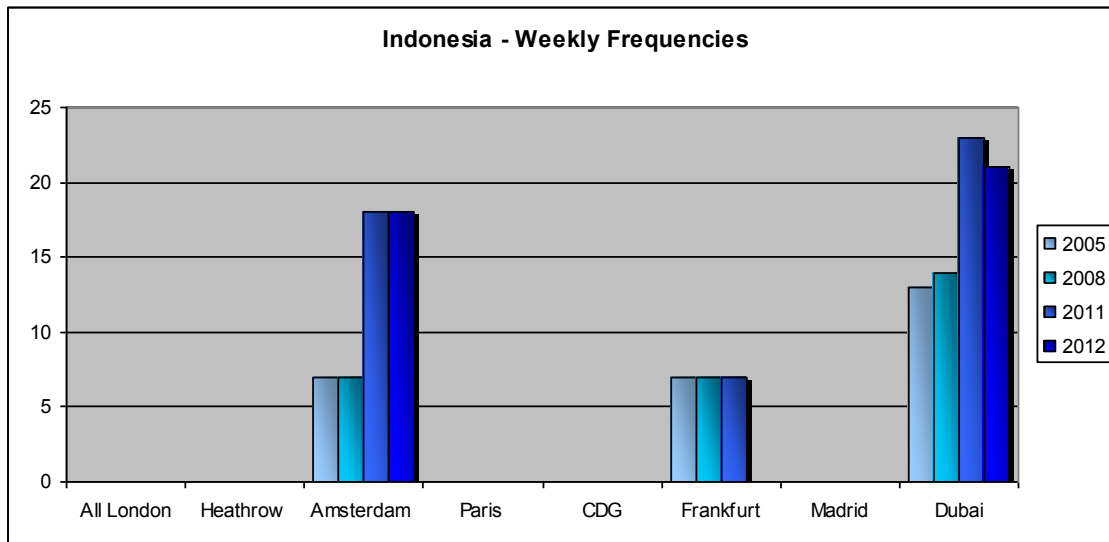
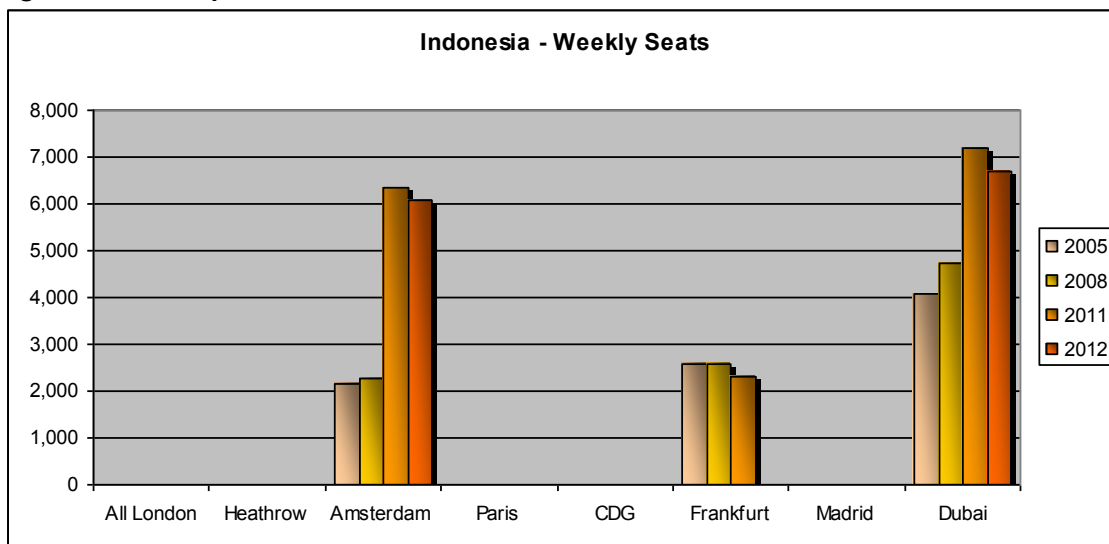


Figure 24: Weekly Seats



Business travel from the Greater South East to/from Indonesia amounted to just over 17,000 air journeys in 2011. Of these, over two thirds connected in Singapore, with the remainder split between Amsterdam and Dubai.

Malaysia

The following charts show the weekly frequencies and seats offered to Malaysia from London and the comparative hub airports for the four representative years.

Figure 25: Weekly Frequencies

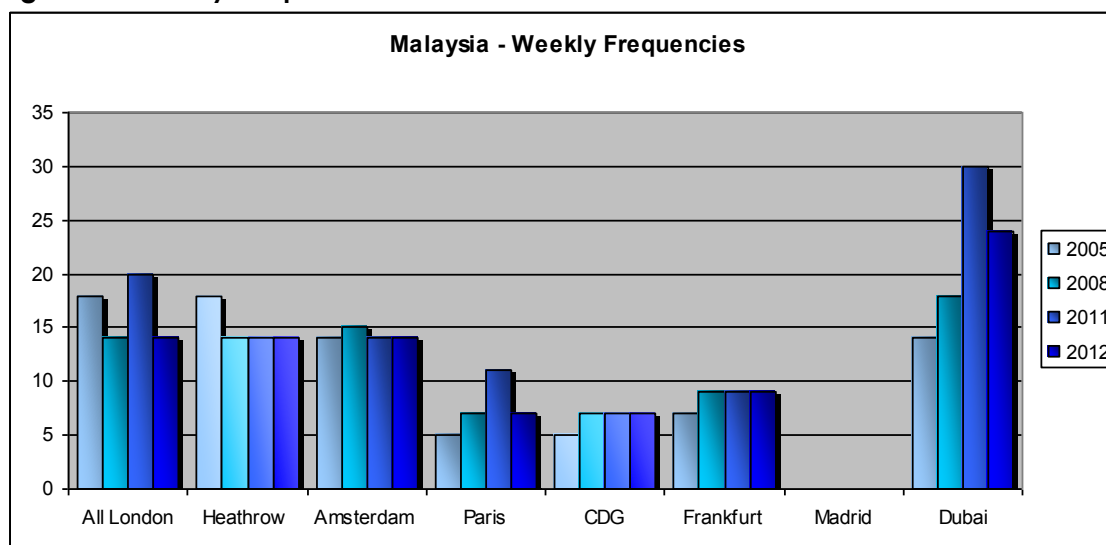
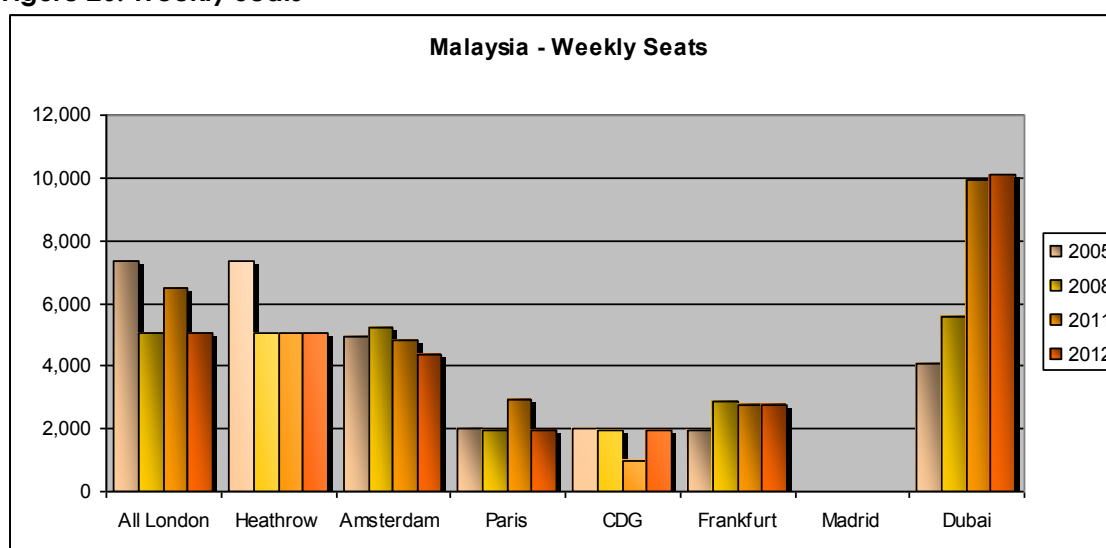


Figure 26: Weekly Seats



Frequency and capacity to Malaysia has remained broadly constant over the relevant years. All services go to Kuala Lumpur. Previously some of these continued on to Penang or Langkawi. The level of service is broadly comparable to the other European hubs although a higher frequency and capacity of service is offered from Dubai.

There were almost 35,000 business-related air journeys between the Greater South East and Malaysia in 2011. 65% of business travel to Malaysia used direct flights from London in 2011. Half of those using connecting flights travelled through Dubai, with most of the remainder using either Amsterdam or Singapore.

The direct flights from London carried almost 590,000 passengers in 2011. Overall 9% of passengers were travelling for business purposes. Overall some 21% of passengers were connecting onto these flights in London. Significantly, 60% of passengers were connecting onwards beyond Malaysia to other points in South East Asia and Australasia.

Mexico

The following charts show the weekly frequencies and seats offered to Mexico from London and the comparative hub airports for the four representative years.

Figure 27: Weekly Frequencies

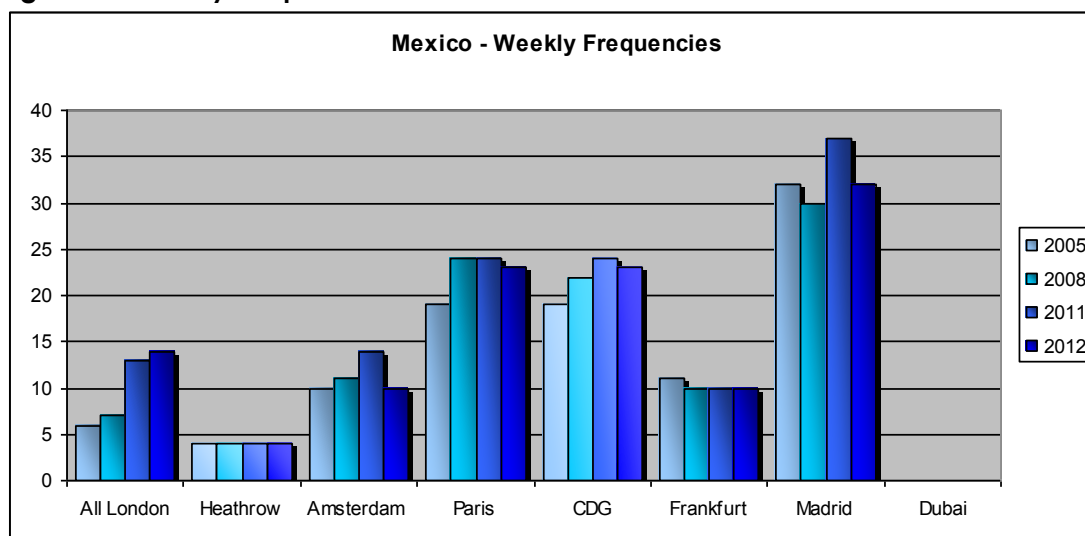
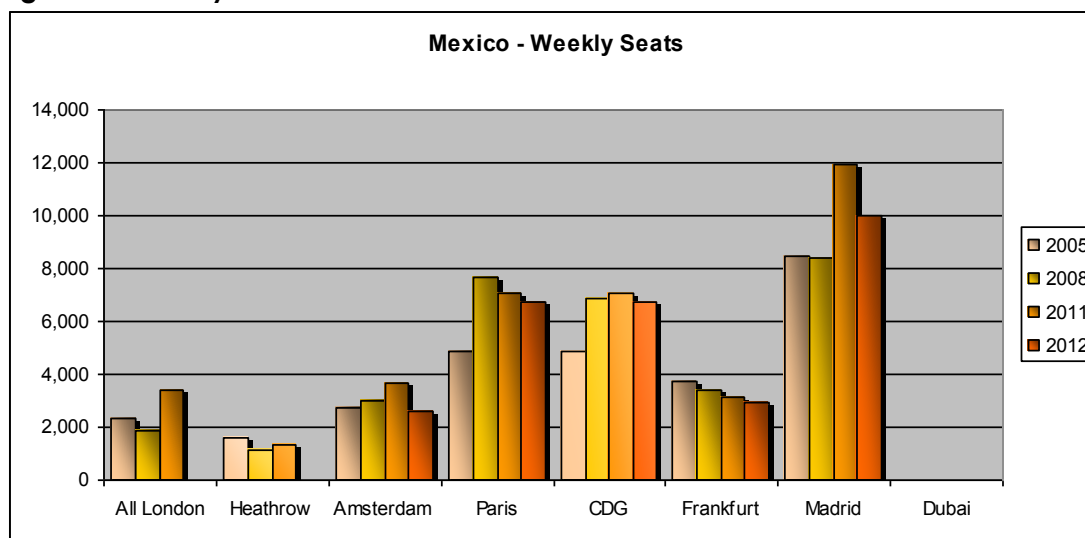


Figure 28: Weekly Seats



Frequency and capacity by British Airways to Mexico City from Heathrow has remained broadly constant over the relevant years. However, there has been an increase in leisure-related services to Cancun from Gatwick, operated by British Airways, Virgin Atlantic and Thomson Airways. London compared unfavourably in terms of services to Mexico City compared to all the other European hubs, particularly Madrid and Amsterdam.

There were almost 23,000 business-related air journeys between the Greater South East and Mexico in 2011. 79% of business travel to Mexico used direct flights from London in 2011. Three quarters of those using connecting flights travelled through Madrid, with most of the remainder using Paris and a small number using Miami.

The direct flights from London carried over 340,000 passengers in 2011. Overall 7% of passengers were travelling for business purposes, mostly foreign inbound business travellers. Overall some 27% of passengers were connecting onto these flights in London but only 2% connected onwards internationally beyond Mexico City.

Morocco

The following charts show the weekly frequencies and seats offered to Morocco from London and the comparative hub airports for the four representative years.

Figure 29: Weekly Frequencies

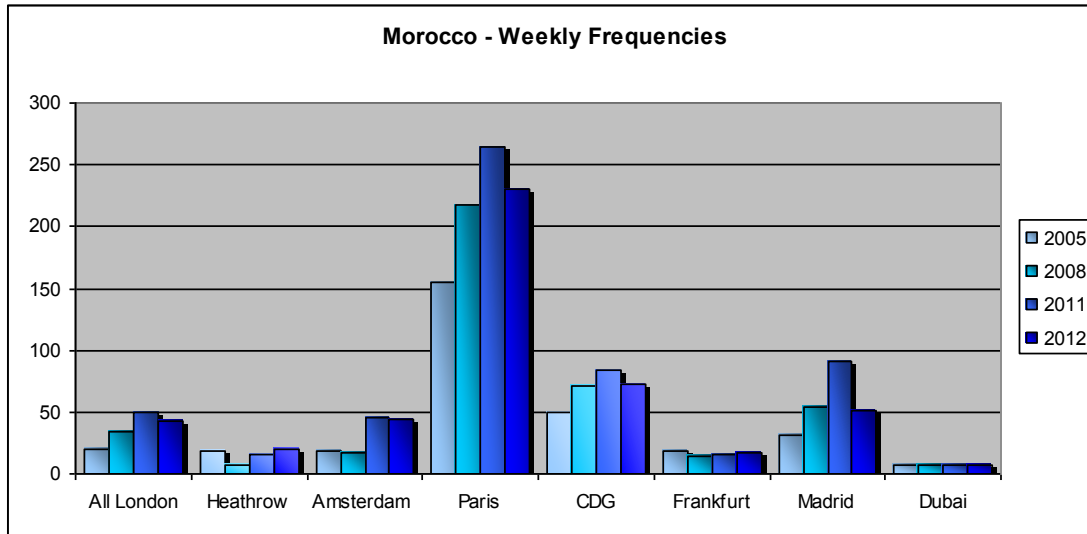
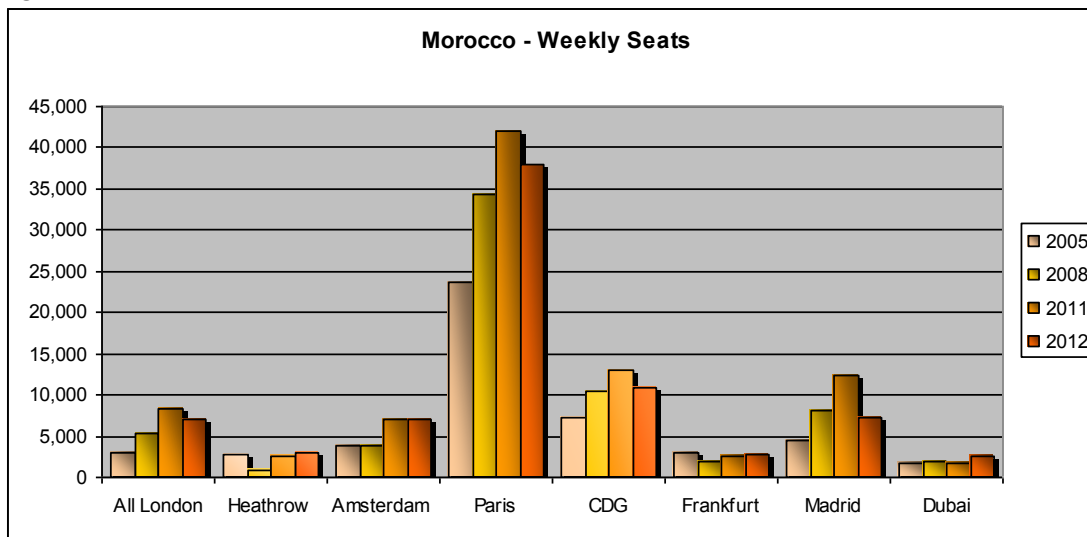


Figure 30: Weekly Seats



Frequency and capacity to Morocco from London has remained broadly constant over the relevant years. There is significantly greater frequency and capacity offered from Paris, as a result of historic linkages, and more capacity from Madrid than London.

There were over 44,000 business-related air journeys between the Greater South East and Morocco in 2011. 93% of business travel to Morocco used direct flights from London in 2011, with the remainder using Paris or Madrid for connections.

The direct flights from London carried over 635,000 passengers in 2011. Overall 9% of passengers were travelling for business purpose, mostly to Casablanca with a small number to Tangier. Overall some 10% of passengers were connecting onto these flights in London but only 4% connected onwards internationally beyond Casablanca to other points in Africa.

Pakistan

The following charts show the weekly frequencies and seats offered to Pakistan from London and the comparative hub airports for the four representative years.

Figure 31: Weekly Frequencies

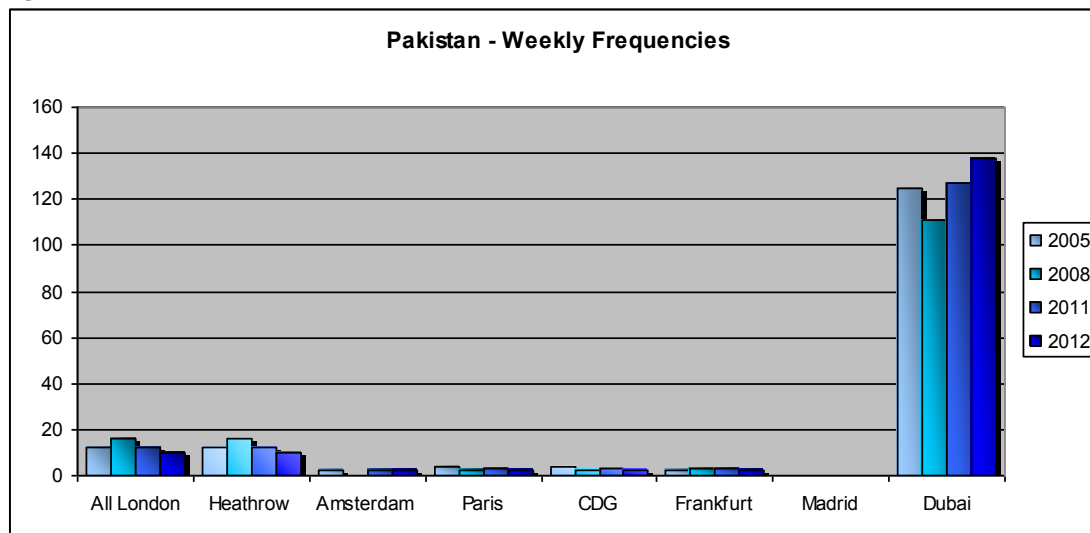
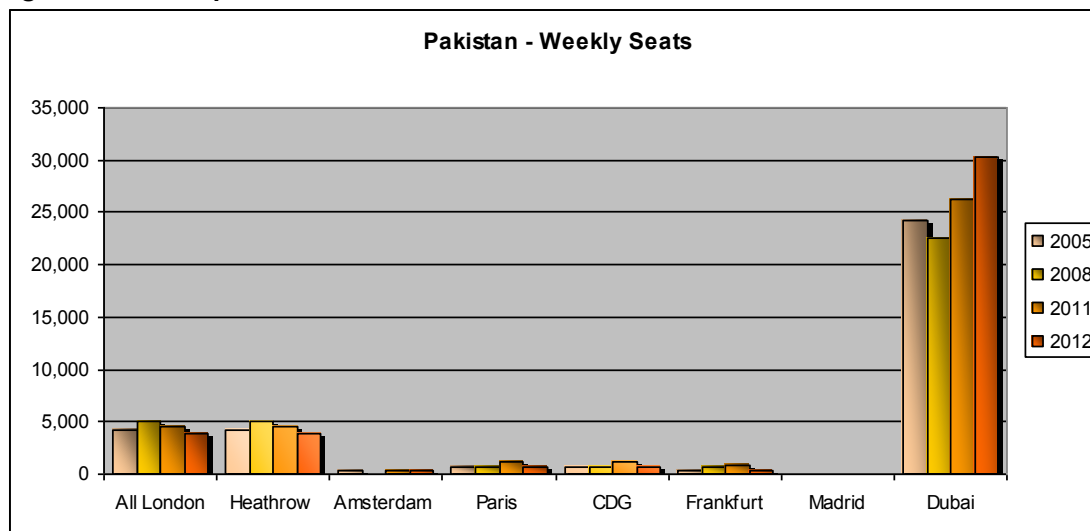


Figure 32: Weekly Seats



London is substantially better served to Pakistan than the other European hubs. However, there is a substantially greater range and frequency of services available from Dubai.

All services are operated from Heathrow by Pakistan International Airlines. Flights often service Karachi, Lahore and Islamabad in combination. One service a week goes on to Sialkot.

There were almost 30,000 business-related air journeys between the Greater South East and Pakistan in 2011. 74% of business travel to Pakistan used direct flights from London in 2011, with the vast majority of the remainder routing via Dubai.

The direct flights from London carried almost 300,000 passengers in 2011. Overall 9% of passengers were travelling for business purpose, mostly to Casablanca with a small number to Tangier. Overall some 3% of passengers were connecting onto these flights in London but none used these flights for onward international connections beyond Pakistan.

Peru

The following charts show the weekly frequencies and seats offered to Peru from the comparative hub airports for the four representative years. There are currently no direct flights from London. All flights go to Lima.

Figure 33: Weekly Frequencies

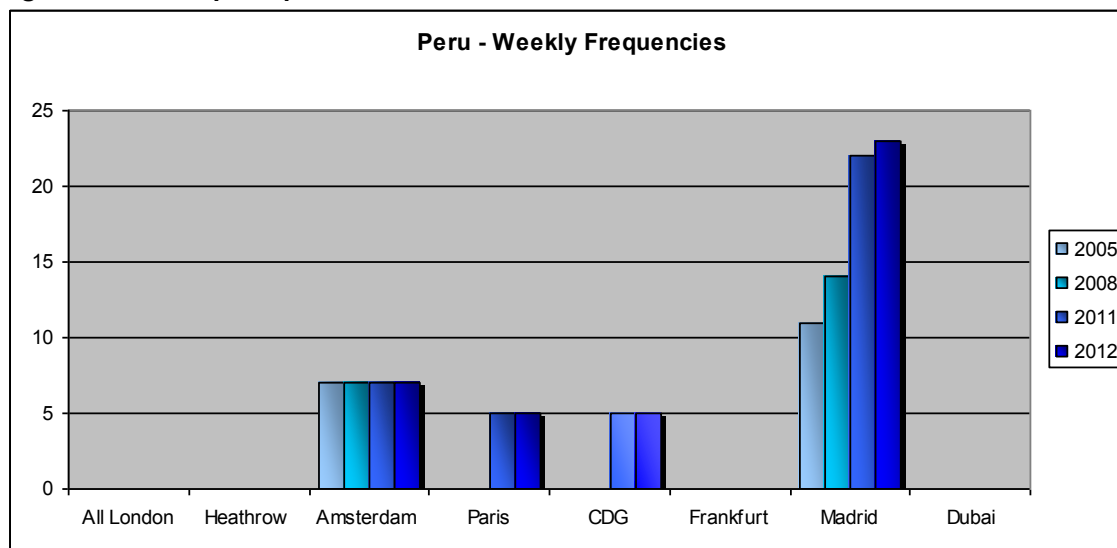
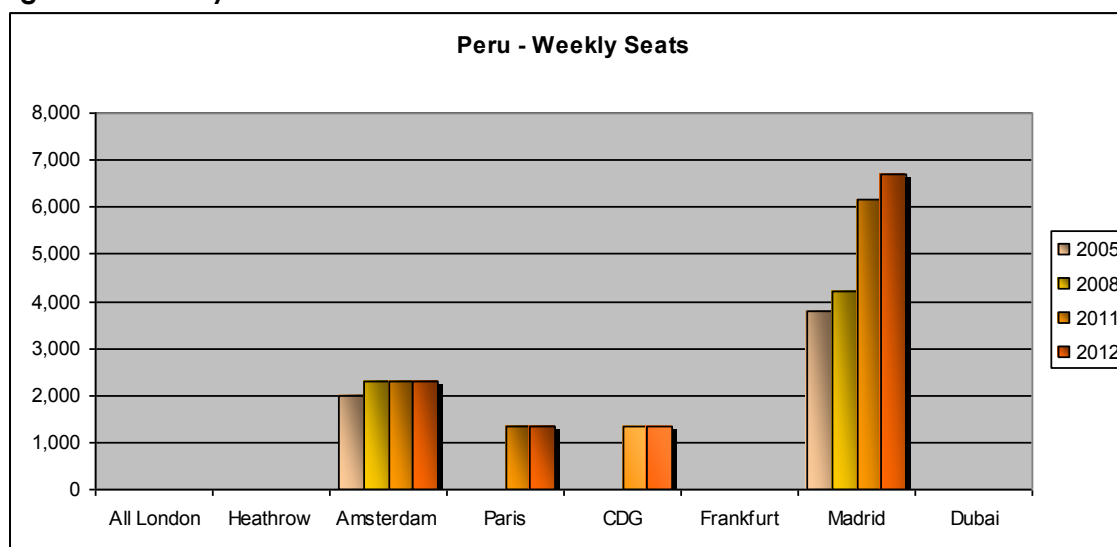


Figure 34: Weekly Seats



Business travel from the Greater South East to/from Peru amounted to just under 10,000 air journeys in 2011. Of these, 80% connected in Amsterdam and 20% in Madrid.

Philippines

The following charts show the weekly frequencies and seats offered to Philippines from the comparative hub airports for the four representative years. There are currently no direct flights from London. All flights go to Manila.

Figure 35: Weekly Frequencies

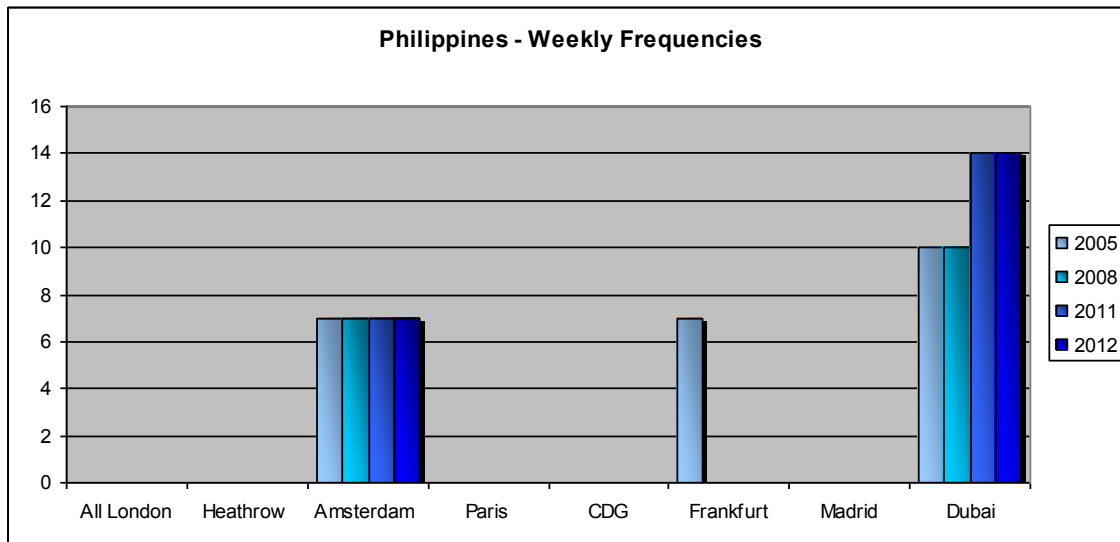
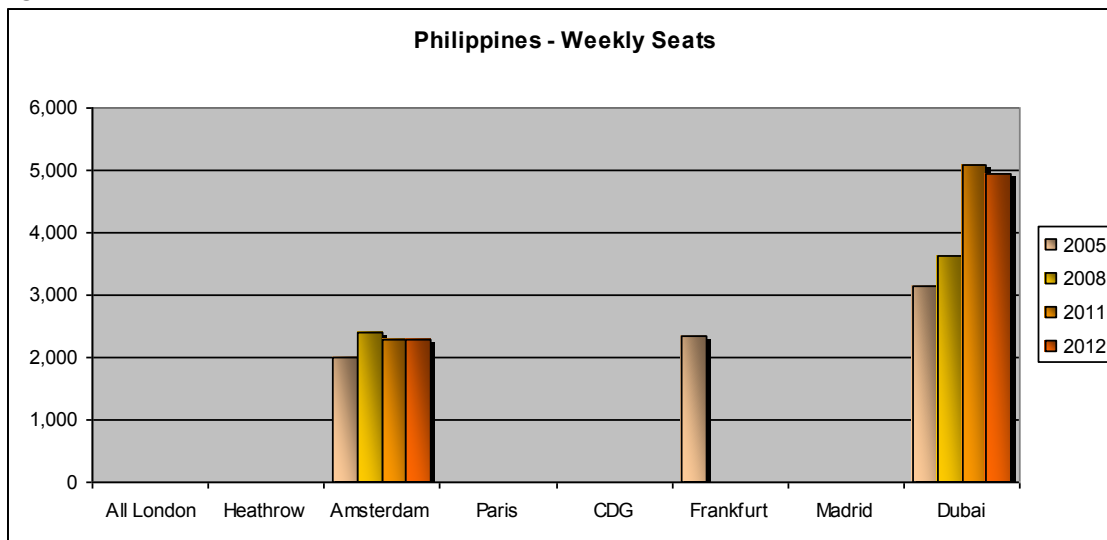


Figure 36: Weekly Seats



Business travel from the Greater South East to/from the Philippines amounted to just under 36,000 air journeys in 2011. Of these, almost two thirds connected in Hong Kong, with almost 25% in Abu Dhabi and the remainder in Singapore.

Poland

The following charts show the weekly frequencies and seats offered to Poland from London and the comparative hub airports for the four representative years.

Figure 37: Weekly Frequencies

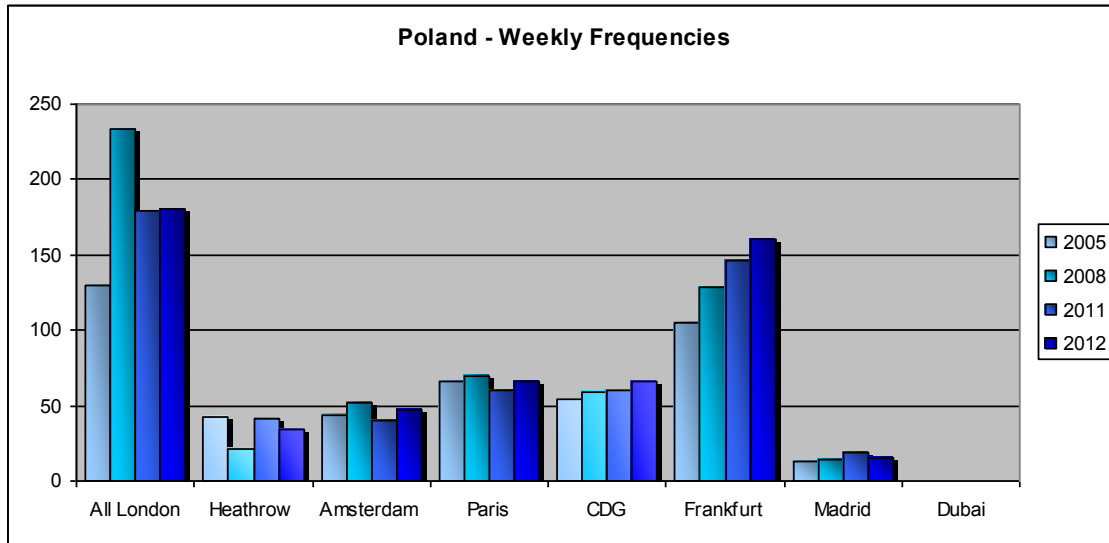
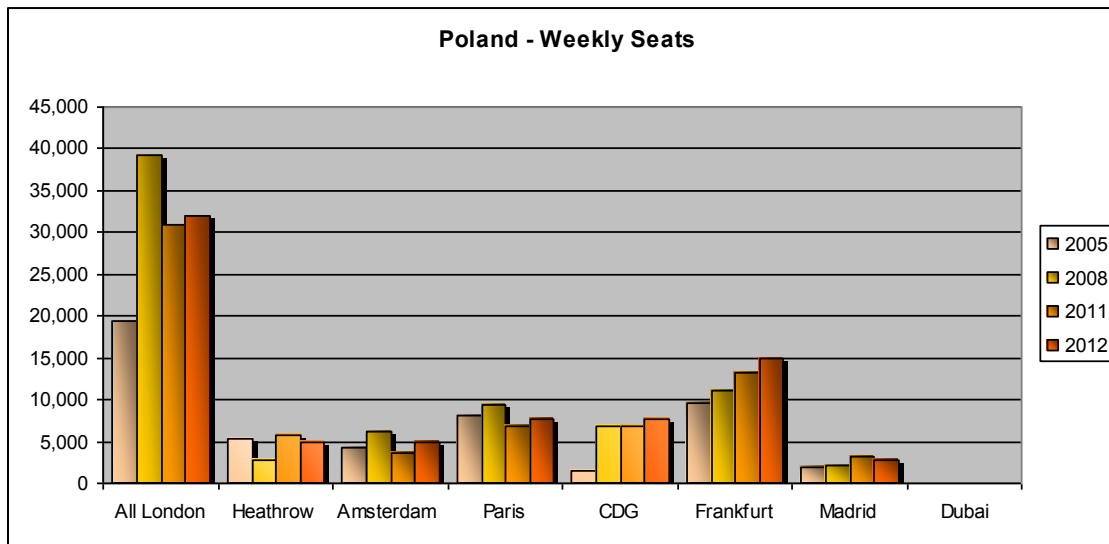


Figure 38: Weekly Seats



There is a substantial range of services to Polish Cities from London, to a large extent operated by low fare airlines other than from Heathrow. In terms of services to Warsaw, Heathrow performs worse than the other European hubs at Amsterdam Paris and Frankfurt, which also has a high level of service to other important Polish cities.

Currently, British Airways operates 14 flights a week to Warsaw from Heathrow and LOT Polish Airlines operates 20 flights per week. The remaining services are operated by the low fares airlines Ryanair and Wizz Air from Luton and Stansted, with 7 flights a week to Krakow operated by easyJet from Gatwick. There are also direct flights from London to Bydgoszcz, Gdansk, Katowice, Lodz, Rzeszow, Szczecin and Wroclaw.

There were almost 340,000 business-related air journeys between the Greater South East and Poland in 2011. 96% of business travel to Poland used direct flights from London in 2011, with the remaining passengers largely connecting via Munich and Frankfurt.

The direct flights from London carried over 2,600,000 passengers in 2011, of which 28% travelled to Prague. Substantial numbers of passengers also travelled to Gdansk, Krakow, Katowice, Poznan and Wroclaw. Some 16% of passengers were travelling for business purposes principally to Warsaw, although there are a substantial number of business travellers to/from most of the other cities. Some 8% of passengers were connecting onto these flights in London but only 1% connected on beyond Poland.

Russia

The following charts show the weekly frequencies and seats offered to Russia from London and the comparative hub airports for the four representative years.

Figure 39: Weekly Frequencies

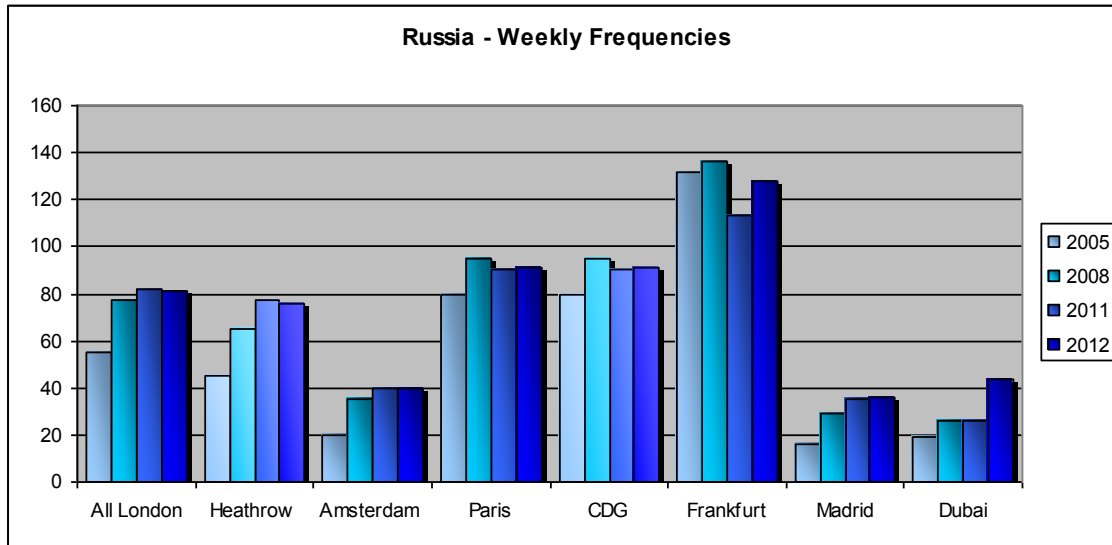
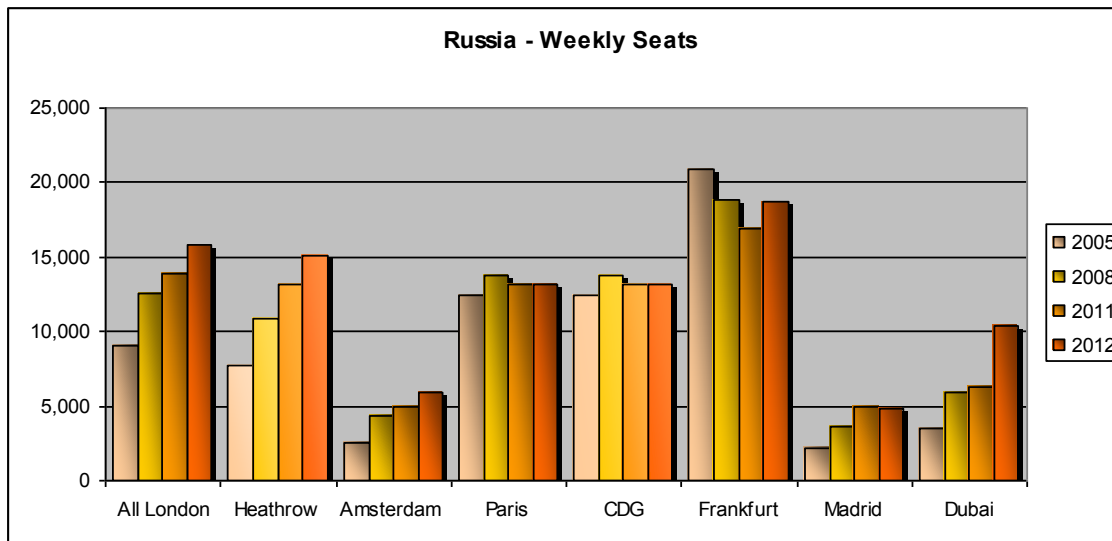


Figure 40: Weekly Seats



London has a similar level of service to Moscow as the other European hubs but it has a lower level of frequency to St Petersburg than Paris or Frankfurt. In addition, Frankfurt offers services to a number of other Russian cities, including Kazan, Nizhniy Novgorod, Novosibirsk, Perm, Rostov, Samara, Saratov and Yekaterinburg.

There were almost 250,000 business-related air journeys between the Greater South East and Russia in 2011. 99% of business travel to Russia used direct flights from London in 2011, with a small amount of leakage over Munich and Kiev.

The direct flights from London carried over 860,000 passengers in 2011, of which 88% travelled to Moscow. Some 37% of passengers were travelling for business purposes principally to Moscow. Some 14% of passengers were connecting onto these flights in London and 7% connected on beyond Russia, principally to Northern Asia.

South Africa

The following charts show the weekly frequencies and seats offered to South Africa from London and the comparative hub airports for the four representative years.

Figure 41: Weekly Frequencies

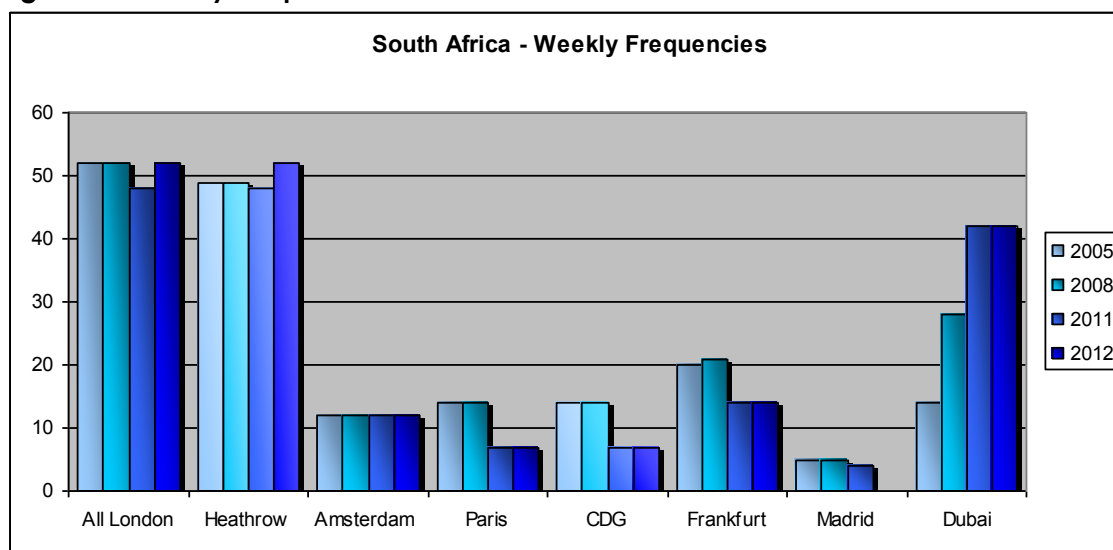
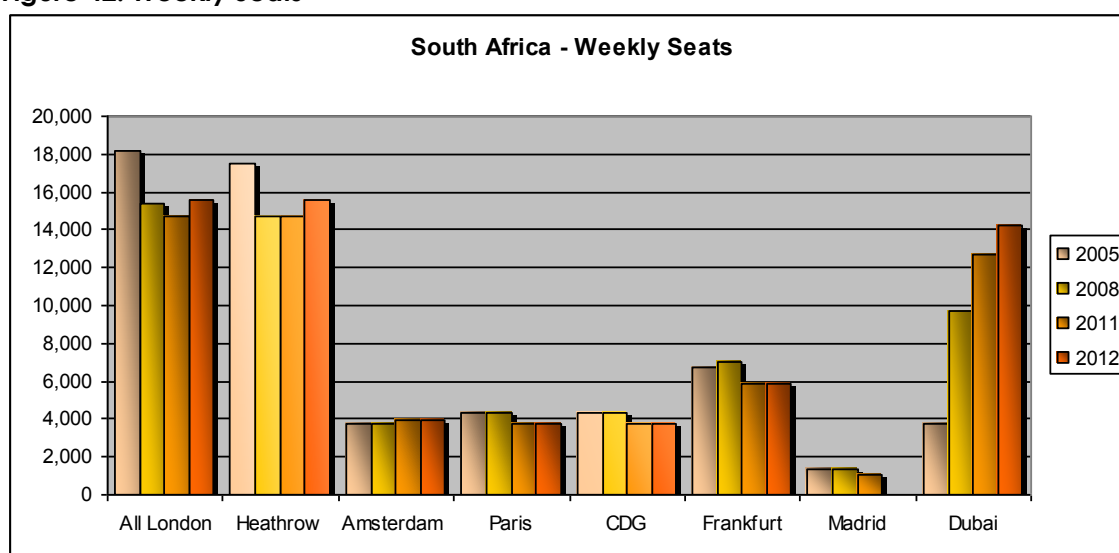


Figure 42: Weekly Seats



London has the best level of service to South Africa of all the hubs examined. The pattern of service has been broadly constant over the time period examined, although there has been a marginal reduction in the number of seats offered. There have been reductions in service elsewhere in Europe whilst services from Dubai have increased.

There were almost 140,000 business-related air journeys between the Greater South East and South Africa in 2011. 82% of business travel to South Africa used direct flights from London in 2011, with half of the remaining passengers connecting in Dubai.

Other business passengers connected in Zurich, Paris, Cairo, Nairobi and Madrid. The direct flights from London carried over 1,300,000 passengers in 2011, of which almost two thirds travelled to Johannesburg. Some 22% of passengers were travelling for business purposes, of which three quarters were inbound to the UK. Business travel was split pro-rata between Johannesburg and Cape Town. Some 44% of passengers were connecting onto these flights in London, including from North America, and 9% connected on beyond South Africa, principally to other points in Southern Africa.

Taiwan

The following charts show the weekly frequencies and seats offered to Taiwan from London and the comparative hub airports for the four representative years. All flights operate to Taipei.

Figure 43: Weekly Frequencies

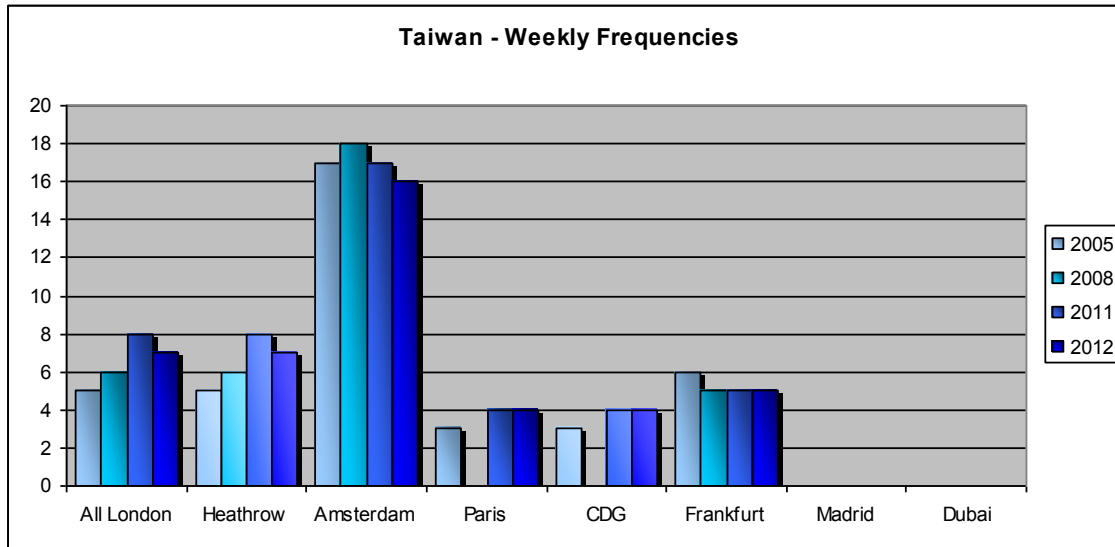
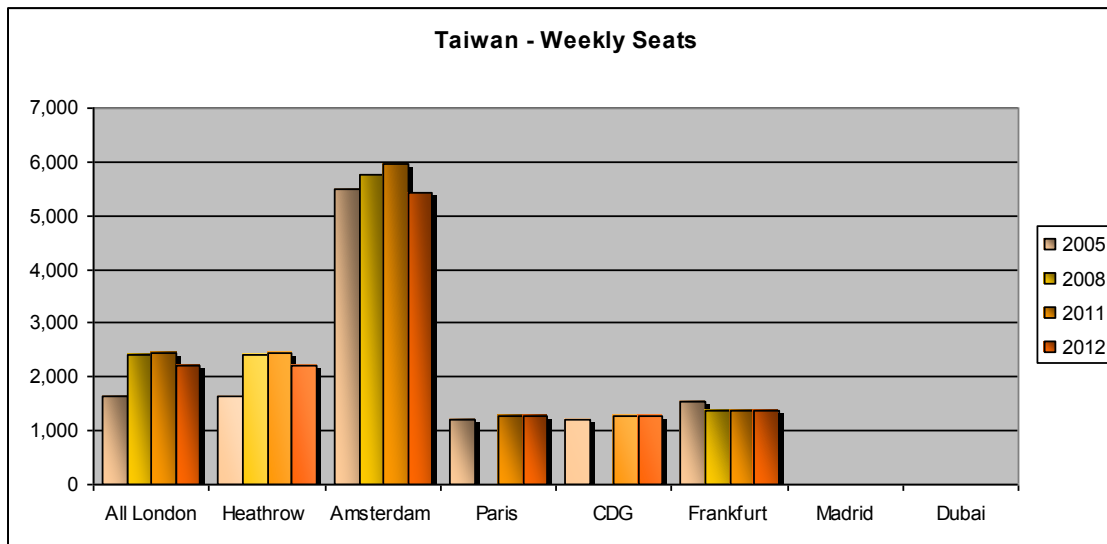


Figure 44: Weekly Seats



London has better service to Taiwan than the other hub airports, except for Amsterdam. There were almost 14,000 business-related air journeys between the Greater South East and Taiwan in 2011. 55% of business travel to Taiwan used direct flights from London in 2011, with the vast majority of other passengers connecting in Hong Kong.

The direct flights from London carried almost 70,000 passengers in 2011. Overall 13% of passengers were travelling for business purposes, largely foreign inbound business travellers. Overall some 10% of passengers were connecting onto these flights in London and 17% connected onwards internationally beyond Taipei principally to Australia, Indonesia and Cambodia.

Thailand

The following charts show the weekly frequencies and seats offered to Thailand from London and the comparative hub airports for the four representative years.

Figure 45: Weekly Frequencies

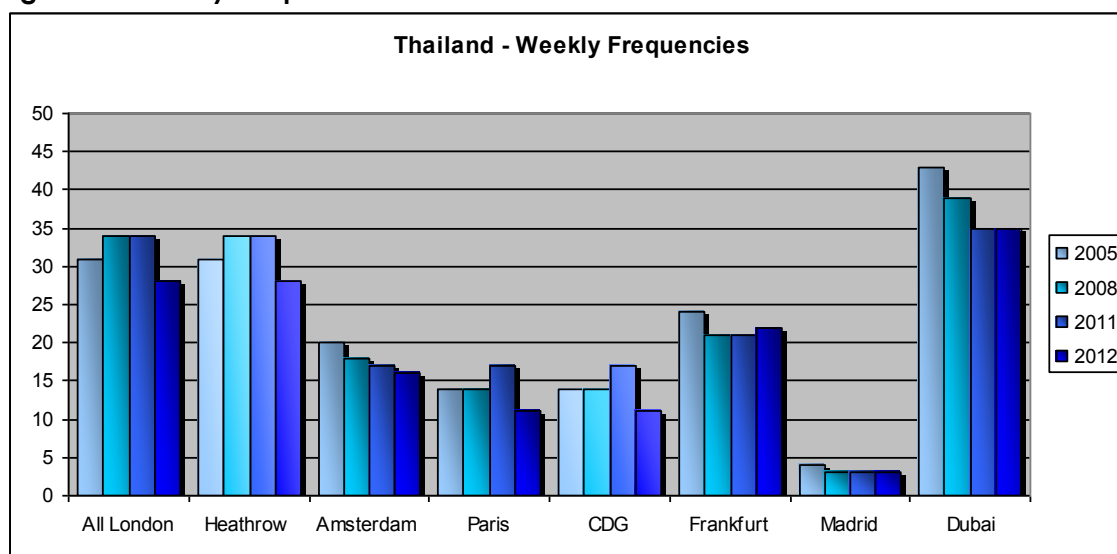
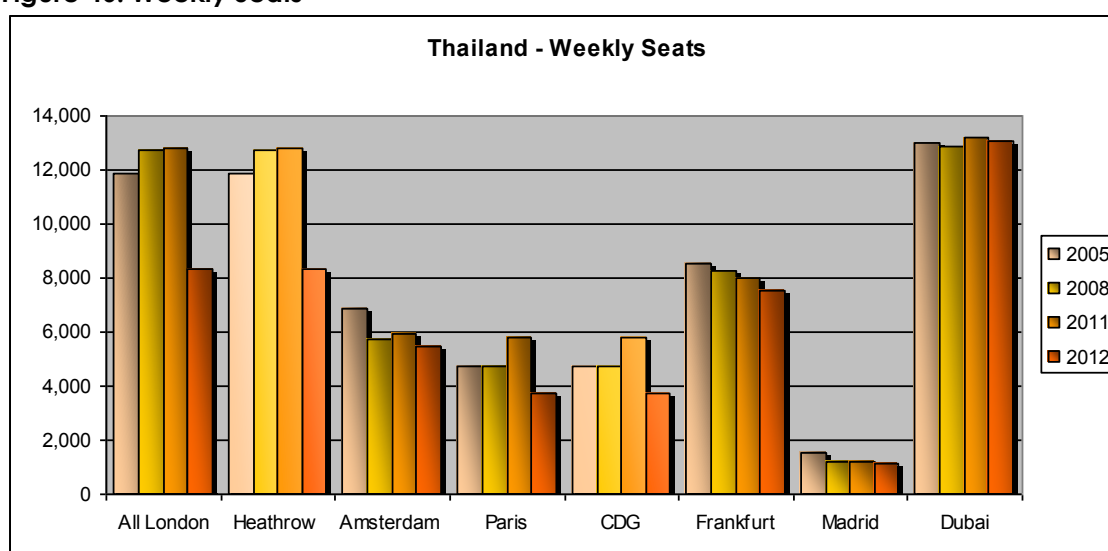


Figure 46: Weekly Seats



London is the best served of the hubs to/from Thailand with the marginal exception of Dubai. Generally levels of service have fallen by a small amount over time.

There were over 50,000 business-related air journeys between the Greater South East and Thailand in 2011. Only 40% of business travel to Thailand used direct flights from London in 2011 with other business passengers choosing to hub via Mumbai, Abu Dhabi, Dubai and Doha.

The direct flights from London carried over 680,000 passengers in 2011. Overall 9% of passengers were travelling for business purposes. Overall some 22% of passengers were connecting onto these flights in London and 19% connected onwards internationally beyond Bangkok principally to Australia and neighbouring countries in South East Asia.

Turkey

The following charts show the weekly frequencies and seats offered to Turkey from London and the comparative hub airports for the four representative years.

Figure 47: Weekly Frequencies

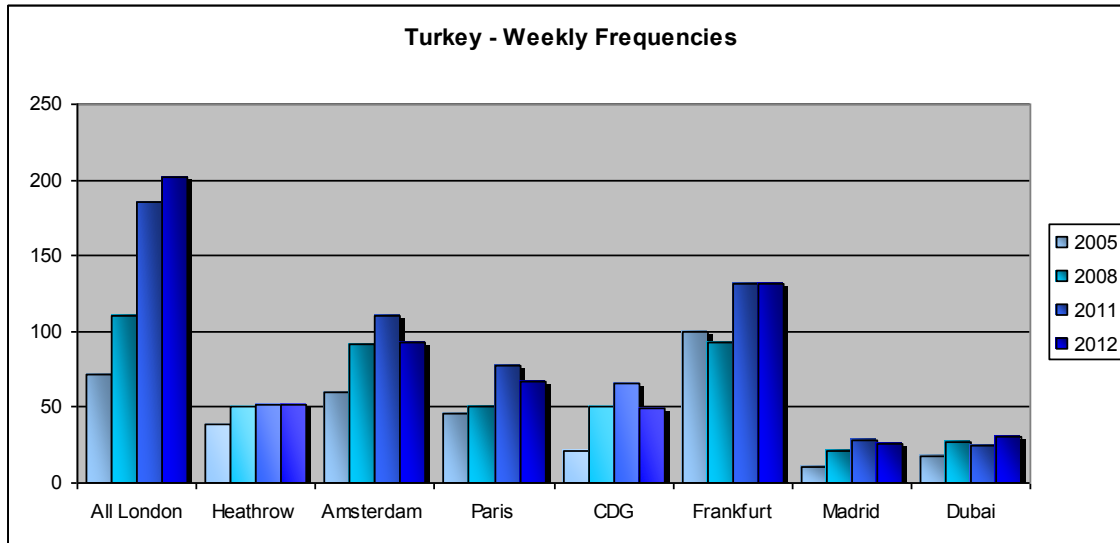
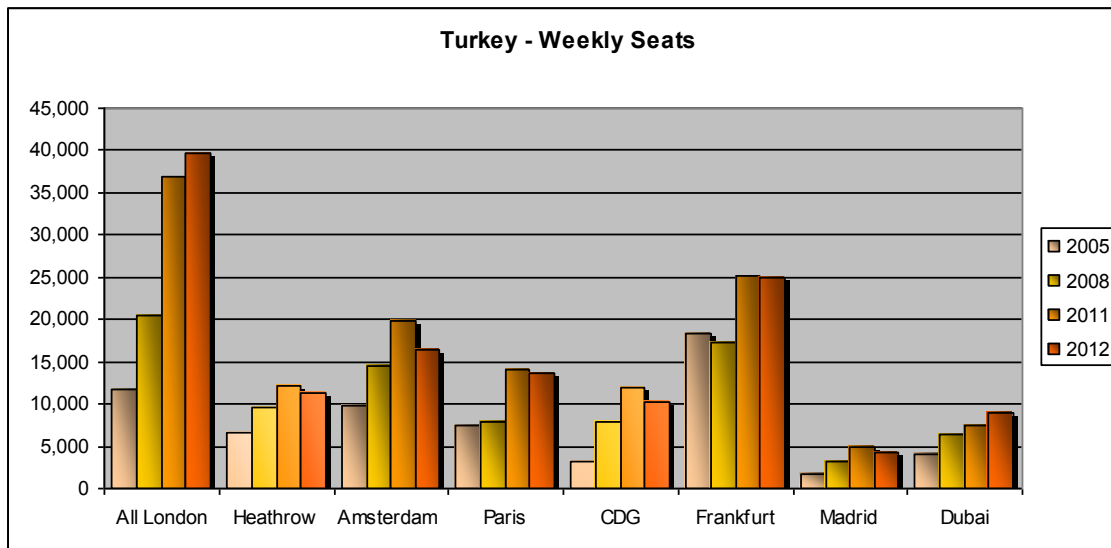


Figure 48: Weekly Seats



Connections to/from Turkey have grown considerably at the London airports over the time period. London now has substantially better service than the other competitor cities in terms of frequencies and seats offered, although Frankfurt offers service to a wider range of points. Many flights from London serve Turkish holiday destinations but the same is true from the other European hubs. London has better service than the other hubs to the key business city of Istanbul.

There were almost 170,000 business-related air journeys between the Greater South East and the Turkey in 2011. 99% of business travel to the Turkey used direct flights from London in 2011. There was a small amount of leakage via Munich.

The direct flights from London carried over 2,400,000 passengers in 2011, of which 46% travelled to Istanbul (both airports). Some 13% of passengers were travelling for business purposes principally to Istanbul. There was also some business-related travel to Ankara in 2011 (from Stansted) but the service is not operating in 2012. Overall some 7% of passengers were connecting onto these flights in London. 9% of passengers connected onwards from Turkey, principally through the two Istanbul airports. Such passengers were destined for a wide variety of points in South, South East and East Asia and Australasia.

United Arab Emirates

The following charts show the weekly frequencies and seats offered to the United Arab Emirates from London and the comparative hub airports for the four representative years.

Figure 49: Weekly Frequencies

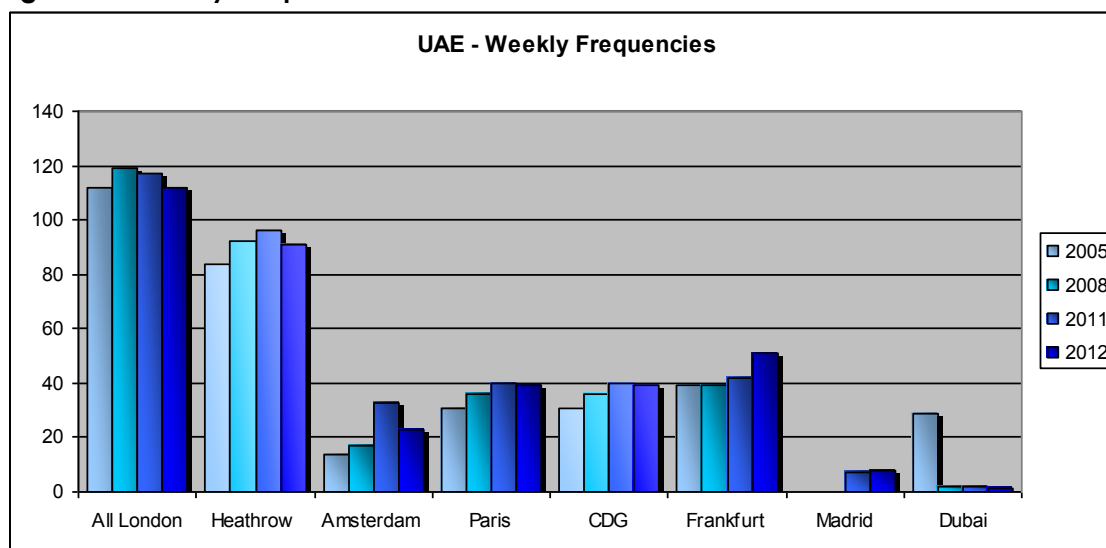
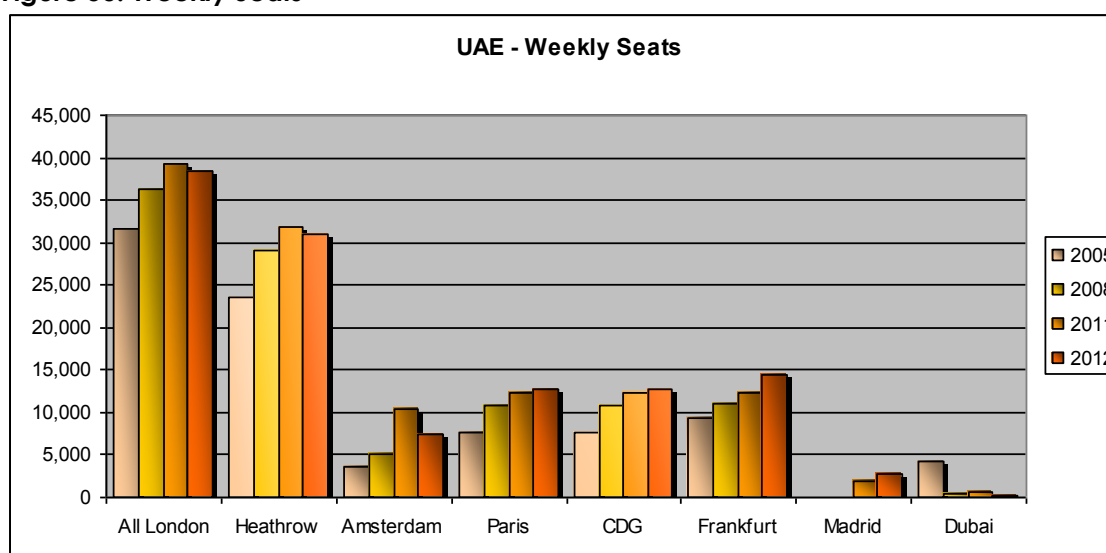


Figure 50: Weekly Seats



London is by far the best connected of the European cities to the UAE. This has benefits but, as is evidenced by other markets, enables air journeys originating in the UK to route via these hubs, particularly Dubai.

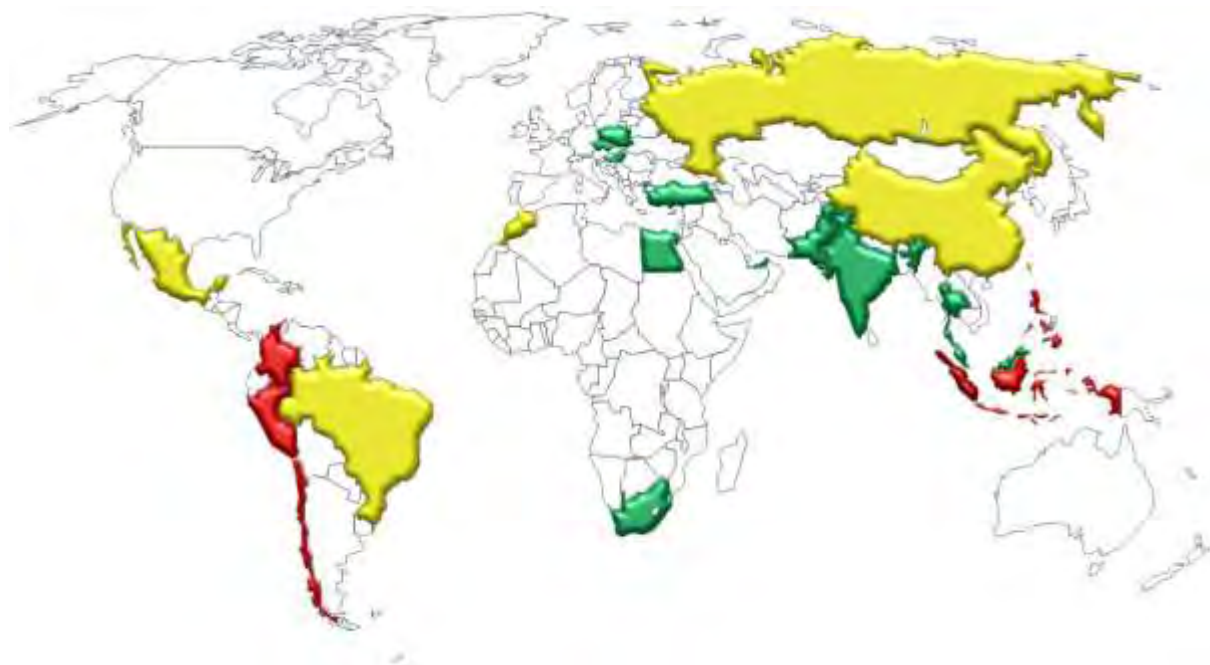
There were almost 260,000 business-related air journeys between the Greater South East and the UAE in 2011. 96% of business travel to the UAE used direct flights from London in 2011. Despite the high frequency of direct service some business passengers connected in Amsterdam, Bahrain and Frankfurt.

The direct flights from London carried over 3,100,000 passengers in 2011, of which 81% travelled to Dubai and the majority of the remainder to Abu Dhabi. Some 23% of passengers were travelling for business purposes, with more business passenger destined for Dubai than Abu Dhabi. Overall some 16% of passengers were connecting onto these flights in London. Significantly 59% of passengers connected on through the two Middle East hubs, with a higher overall proportion of traffic connecting on the Abu Dhabi route compared to the Dubai route. These passengers were destined for a wide variety of destinations in the rest of Asia and Australasia.

Conclusion

Overall, London is currently well linked in terms of business-related air connectivity to key emerging countries, although clearly the pattern is not consistent across all countries. We summarise the position of London's connectivity compared to the European hubs in Figure 51. Red indicates that London has poorer service than its European competitors, yellow that the level of air service is broadly equivalent and green that London has a better quality of service. In some cases Dubai has even better connectivity, particularly to points in South Asia.

Figure 51: Summary of London's Comparative Connectivity by Country



In terms of the BRICS countries, London does appear at a disadvantage in terms of air connectivity, with poorer connections except to India. However, as we have pointed out, this does ignore the extent to which Hong Kong acts as an effective business gateway to China. However, the extent to which this role will continue into the future is less clear as other Chinese cities increase their economic importance. Where London appears particularly disadvantaged is in terms of connections to Central and Latin America.

In practice, London's air service connectivity is likely to mirror where the UK has traditionally done business, hence, the good connections to Commonwealth countries. Similar patterns can be observed at the other European hubs. For the airlines, it is important to have a strong business market before services can be viably sustained so, to an extent, air service connections will tend to follow rather than lead the search for new business markets.

It is evident that the ability of UK carriers – in particular British Airways - to extend the range of destinations served is heavily underpinned by the ability to attract additional transfer traffic through the Heathrow hub. The adequacy of capacity at Heathrow remains of critical importance in this context.

For non-UK carriers, the ability to connect passengers at Heathrow is far less important and, instead, they operate hubs in their own countries.

Another factor in the pattern of air services across Europe is the role of the airline alliances. These alliances allow airlines to benefit from feeder traffic from partners, so effectively creating hubs at both ends of a route. Overall, our analysis would suggest that the biggest immediate challenge to London's hub role comes from the emerging Middle East hubs. The more passengers that are attracted to use such hubs, the more difficult it is for an increased range of direct services to be sustained.

Whilst to date London has not lost connectivity in either absolute or relative terms because of capacity constraints, this may not continue to be the position as global economic growth returns driving increasing demand for air travel. Hence, there is the need for a positive solution that positions the UK so as to be able to keep pace with the air service connectivity provided by airports serving key competitor cities.

Appendix – connectivity summary table

Connectivity - Flights from London and the Greater South East of England							
Advanced Emerging							
<u>Destination</u>	<u>Weekly frequencies and % change since 2005</u>		<u>Rank</u>	<u>Weekly seats and % change since 2005</u>		<u>Rank</u>	<u>Status of Connectivity</u>
Brazil	23	+64%	4/6	7,185	+60%	4/6	London's connectivity to Brazil has been increasing remarkably over the past years and continues to do so, thanks to direct flights from both British Airways and Brazilian airlines.
Czech Republic	79	-28%	1/6	13,485	-12%	1/6	Although the frequency and capacity of flights has decreased since 2005, London remains ahead all of its competitors. This connection benefits from both frequent national carrier connections and frequent services offered by low-cost airlines.
Hungary	71	-12%	1/6	12,216	+7%	1/6	Although weekly frequencies have decreased, Hungary is well-served from London, which maintains a significant advantage over competing hubs.
Malaysia	14	-22%	2/6	5,026	-31%	2/6	Although London's connectivity to Malaysia has been decreasing, only Amsterdam provides comparable levels among the European hubs. Globally, Dubai's connectivity to Malaysia exceeds London's.
Mexico	14	+133%	3/6	3,384*	+46%*	n/a	Increased connectivity to Mexico is due in great part to the growth of holiday travel to a number of destinations. In terms of business connectivity, London fares relatively poorly and is far behind Madrid and Paris and at comparable levels to Amsterdam and Frankfurt.
Poland	181	+39%	1/6	31,904	+65%	1/6	London is the best-connected hub to Poland, covering more cities with significantly more frequency and capacity than any other

							competitor. An important portion the connectivity is due to low-cost airlines.
South Africa	52	=	1/6	15,557	-15%	1/6	London's connectivity to South Africa has remained largely stable and far ahead of its European competitors, though very large growth of connectivity from Dubai is rapidly catching up to London.
Taiwan	7	+40%	2/6	2,226	+35%	2/6	London has better service to Taiwan – especially in capacity – than all other hubs with the exception of Amsterdam, which has approximately double the frequency and capacity of London.
Thailand	28	-10%	2/6	8,323	-30%	2/6	Although London's connectivity to Thailand has been decreasing in the last six years, it remains significantly more well-connected than all other European hubs and is second only to Dubai by a small margin in frequency and by a much greater proportion in capacity.
Turkey	202	+181%	1/6	39,719	+241%	1/6	London's enormous increase in connectivity to Turkey places it far ahead of all competitors. Holiday destinations make up a significant portion of the connectivity.
Secondary Emerging							
<u>Destination</u>	<u>Weekly frequencies and % change since 2005</u>		<u>Rank</u>	<u>Weekly Seats and % change since 2005</u>		<u>Rank</u>	<u>Status of Connectivity</u>
Chile	0	=	4/6	0	=	4/6	London does not have any direct flights to Chile and passengers traveling there must transfer at other hubs, such as Sao Paulo (half), Madrid (a quarter), and Paris (a quarter).
China	38	+41%	5/6	10,602	+40%	5/6	Although London is not well-connected to China as a whole, it enjoys exceptional connections to Hong Kong, from which
China†	104	+32%	1/6	32,074	+22%	1/6	

								travellers can take flights to any domestic destination. A number of European airlines are opening connections to various emerging Chinese cities from their hubs, something British Airways is not doing at present.
Colombia	0	=	4/6	0	=	4/6		London does not have any direct flights to Colombia and passengers traveling there must transfer at other hubs, such as Paris (over half) and Zurich.
Egypt	57	+138%	1/6	13,210	+123%	2/6		Service to Egypt has expanded vastly, with most of the travellers being tourists and flying to holiday destinations. Cairo remains well-served from London Heathrow.
India	89	+46%	2/6	26,953	+33%	2/6		London provides better service to a number of Indian cities than all of its European competitors, with only Dubai providing more flights, seats, destinations, and options. Service is provided by a range of airlines.
Indonesia	0	=	4/6	0	=	4/6		Indonesia is not served from London. The primary hubs used to connect to Indonesia are Amsterdam (two-thirds), Dubai, and Singapore.
Morocco	43	+115%	4/6	7,112	+141%	4/6		London has similar connectivity to Morocco as Amsterdam, Frankfurt, and Madrid, though Paris nearly enjoys a six-fold advantage over its competitors despite London's improvement of connections over the past six years.
Pakistan	10	-17%	2/6	3,802	-10%	2/6		London is considerably ahead all of its European competitors for connectivity to Pakistan. All European hubs have decreased their connections with Pakistan in the last six years, whereas Dubai has increased them and maintains a sizeable advantage.
Peru	0	=	4/6	0	=	4/6		Peru is not served from London. The best-connected hub is Madrid, which distances the alternatives Amsterdam and Paris.

Philippines	0	=	4/6	0	=	4/6	The Philippines are not served from London, and trips from the UK connect through Hong Kong (two-thirds), Abu Dhabi (a quarter), and Singapore. Amsterdam remains the only European hub connected to the Philippines, with about half the frequency and capacity of Dubai.
Russia	81	+47%	3/6	15,767	+75%	2/6	London's connectivity to Russia is similar to those of its main competitors, Frankfurt and Paris. Frankfurt maintains a significant advantage in number of cities served.
UAE	112	=	1/5‡	38,348	+21%	1/5‡	London has more than double the frequency and capacity to the UAE than all other European hubs. Part of the reason for this is the increasing number of connecting flights which originate from the UAE to other destinations and which draw a lot of travellers.

All data provided is for 2012, unless otherwise noted.

"London" is used to refer to London and the Greater South East of England.

*Data is from 2011.

† Including Hong Kong.

‡ The ranking excludes Dubai International Airport since it is located in the UAE.



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Executive Summary

This short report examines the importance of having global aviation hubbing capacity to the maintenance of London's connectivity by air to key business markets. This report has been prepared as a contribution to the on-going debate about how to meet London's airport capacity needs and the importance of retaining hub status.

This report focuses on the extent to which hub connecting traffic underpins the provision of services in London to twenty key business centres: Amsterdam, Bangalore, Beijing, Chennai, Delhi, Dubai, Frankfurt, Geneva, Hong Kong, Hyderabad, Madrid, Moscow, Mumbai, New York, Paris, Rio de Janeiro, Sao Paulo, Shanghai, Singapore, Zurich. These cities account for over 35% of all end destinations for business travel to and from London today.

Overall, there were some 28 million airport passengers transferring at London airports in 2011, representing some 14 million actual people using the London airports to connect between flights¹, according to CAA survey data. This is nearly 22% of all airport passengers across the four airports surveyed, Heathrow, Gatwick, Stansted and Luton (London City was not surveyed in this year). Almost 85% of these transfer passengers used Heathrow Airport, at which over 34% of passengers were using the airport to connect between flights.

Our analysis serves to demonstrate the complex web of interrelationships between routes and airlines at Heathrow. This complexity is a function of the sheer scale of operations there, allowing airlines – and particularly BA – to inter-connect passengers between a multiplicity of routes.

Our analysis shows that routes to emerging markets, such as India or Latin America, are much more dependent on hub feeder traffic to sustain current frequencies of service than routes to the more established business centres. Whilst many routes to the more established business centres are much less dependent on connecting traffic at Heathrow, such routes are key sources of connecting traffic which underpins the viability of routes to new and emerging markets.

Our analysis also highlights the indivisibility of business and leisure traffic on these services. On all the routes to these key business centres, there are high proportions of point to point leisure travellers. Many of those passengers connecting will also be travelling for leisure purposes. Hence, it would not be practical to seek to differentiate between business and leisure markets in terms of the use of the hub.

In summary, this analysis provides evidence that hubbing is a key factor in securing a wider route network than would otherwise be the case. Our analysis suggests that the conditions for British airlines to enhance the range and frequency of connections are to a large extent dependent on being able to retain a range of feeder connections at a hub. For British airlines and British Airways in particular, having an airport capable of functioning as a hub is critical to the development of new routes and services. These additional routes and services are often to emerging business centres and, hence, provide UK businesses with a wider range of opportunities.

¹ Transfer passengers are counted twice – once when they arrive by air and once when they depart.

Where markets are larger and airlines at the other end of the route have developed strong hubs themselves or with their alliance partners, such as to China or the established markets in Europe and the USA, the ability to sustain these routes at a high frequency is less dependent on having a hub in London. Nonetheless, such services also contribute connecting traffic to the London hub.

Overall, the analysis demonstrates that the whole is greater than the sum of the parts – more routes are served at a higher frequency because of the existence of the hub than would otherwise be the case. This is always likely to be the case and the ability to attract transfer passengers will remain crucial to developing services to new global cities.

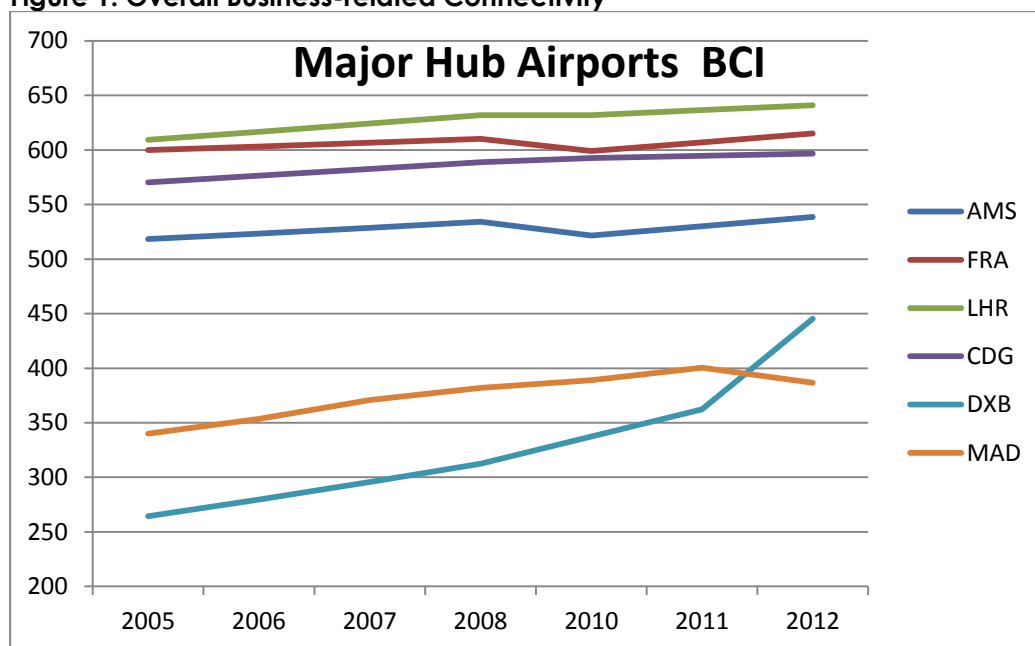
Introduction

This short report examines the importance of having hub airport capability to the maintenance of London's connectivity by air to key business markets. Such capability is currently provided by Heathrow, as a major hub airport. This report has been prepared as a contribution to the on-going debate about how to meet London's airport capacity needs and the importance of retaining hub status.

Connectivity

Through Heathrow, London is today well connected to globally important business centres as measured by the Global and World Cities Index. Figure 1 sets out the overall Business Connectivity Index (BCI) score for Heathrow and key comparator hub airports over the period since 2006.

Figure 1: Overall Business-related Connectivity



AMS: Amsterdam Airport Schiphol

FRA: Frankfurt Airport

LHR: London Heathrow

CDG: Paris Charles de Gaulle

DXB: Dubai International Airport

MAD: Madrid-Barajas Airport

London is currently the best connected for business of the European benchmark cities. It has even marginally improved its performance. Also notable, however, is the strong growth in business connectivity at Dubai shown in Figure 1. Figure 2 shows that 90% of this business value connectivity for London is provided through the hub at Heathrow.

Figure 2: Current Business-related Connectivity by City

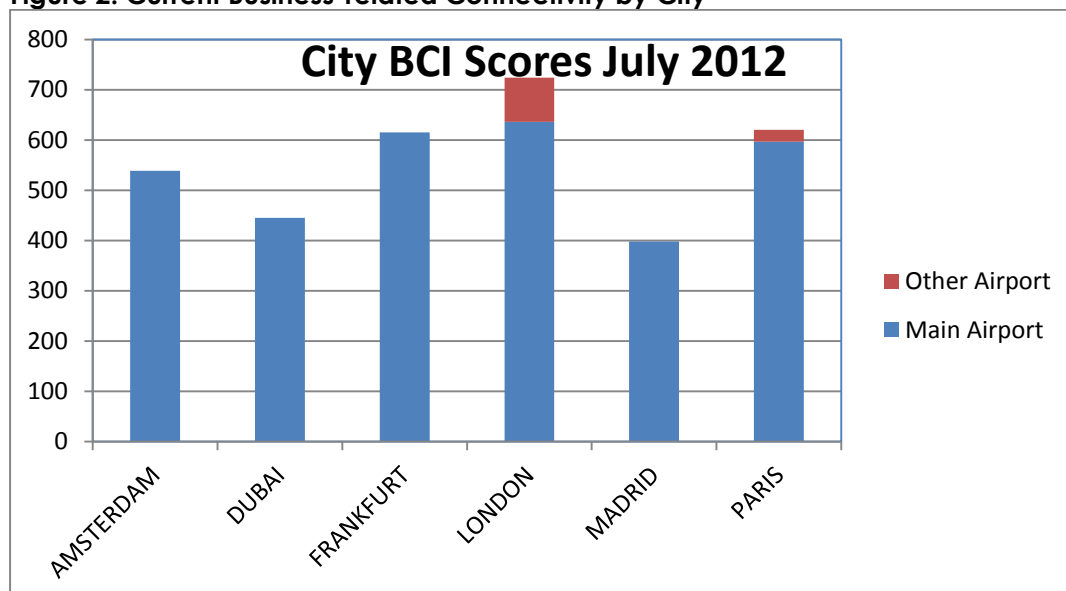
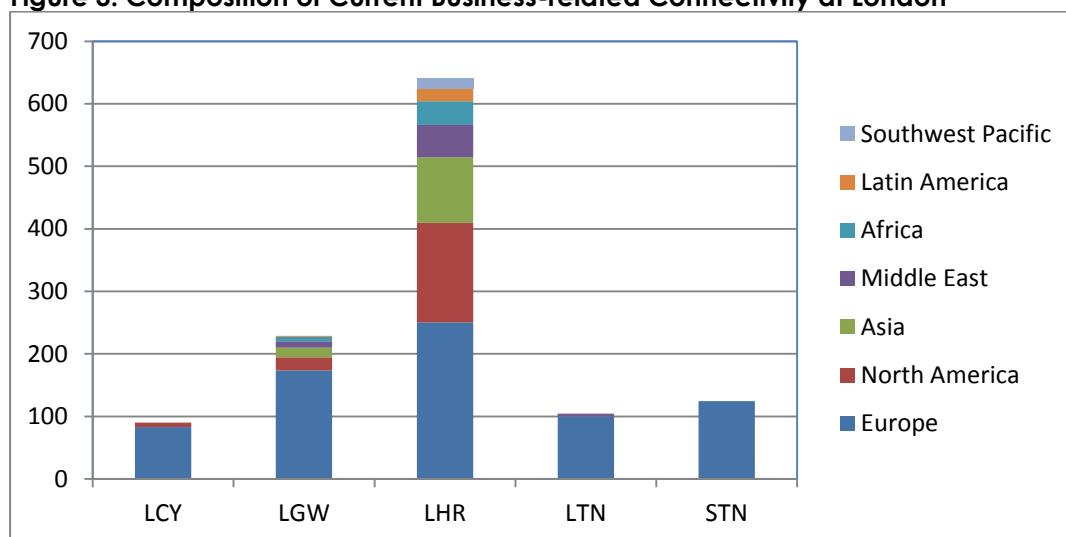


Figure 3: Composition of Current Business-related Connectivity at London



LCY: London City Airport
 LGW: London Gatwick
 LHR: London Heathrow
 LTN: Luton Airport
 STN: Stansted Airport

A significant part of this business connectivity is driven by London's links with the established business centres in the US, Japan and Europe as shown in Figure 3. Levels of connectivity to emerging markets are relatively low. Whilst all the London airports contribute to the connectivity to Europe, only Heathrow currently plays a substantial role in providing connections to key business centres beyond Europe.

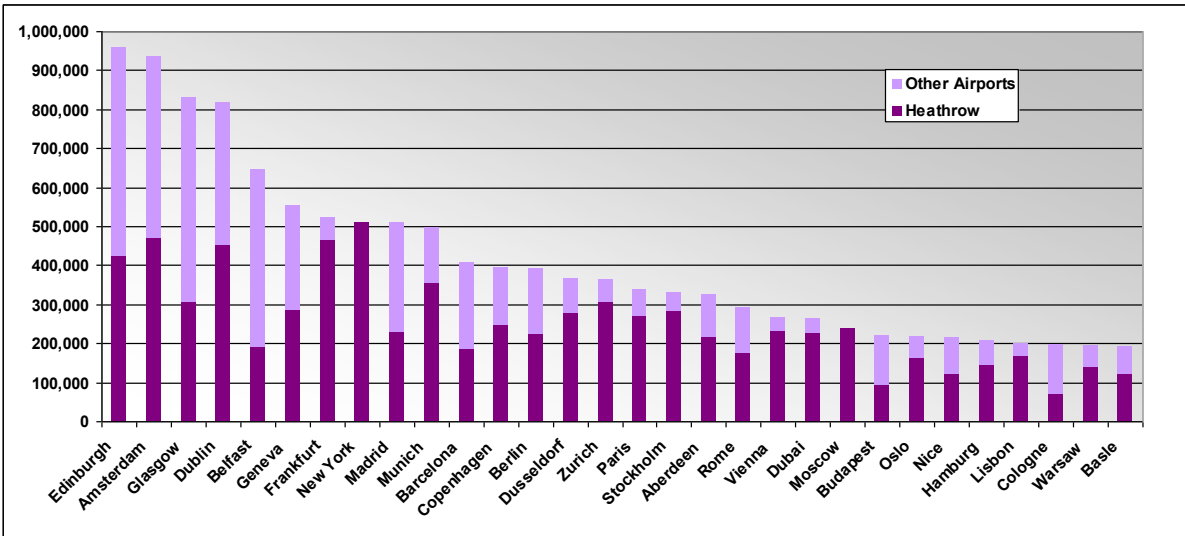
Key Business Centres

This report focuses on the extent to which hub connecting traffic underpins the provision of services to twenty key business centres, namely Amsterdam, Bangalore, Beijing, Chennai, Delhi, Dubai, Frankfurt, Geneva, Hong Kong, Hyderabad, Madrid, Moscow, Mumbai, New York, Paris, Rio de Janeiro, Sao Paulo, Shanghai, Singapore, Zurich. These cities represent a mix of emerging and established markets and account for over 35% of all end destinations for business travel to and from London today. Over 20 million passengers travelled on routes to these destinations from Heathrow in 2011, including passengers transferring onto these flights and passengers transferring onwards at the end destination airport.

Business Travel from London

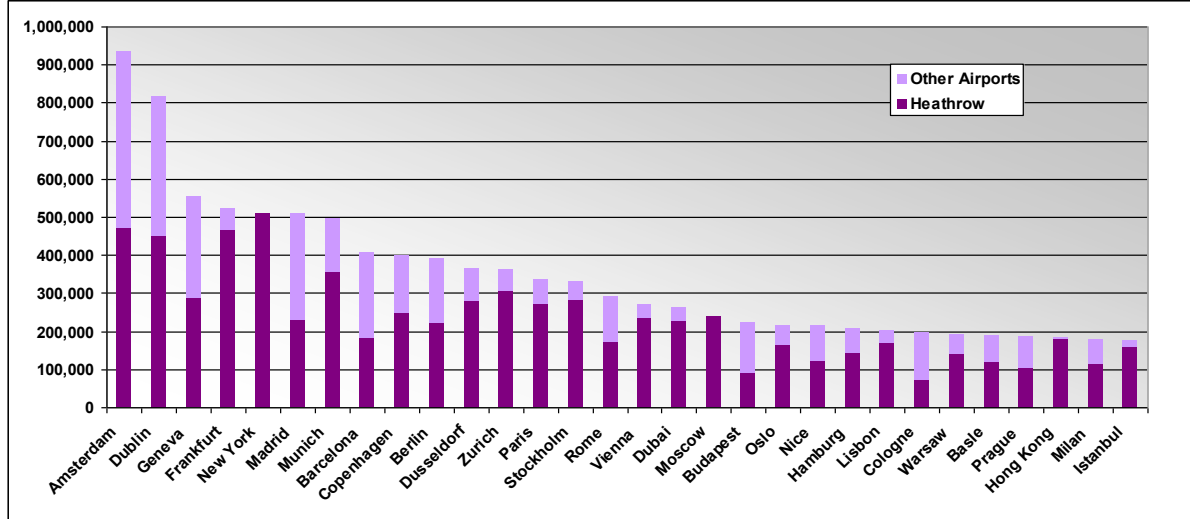
By way of context, we have used Civil Aviation Authority survey data from 2011 to identify the most important air routes for business travel from London³. These are set out in Figure 4, which also shows the share of the business travel market handled through Heathrow. Figure 5 identifies the most important international routes for business. Ten of our identified business centres figure in the top 30 business travel destinations from London; overall, they represent a mix of established and newer markets. This report focuses on the selected cities to examine the importance of hub connectivity to sustaining these routes and to illustrate the role which hub connectivity is likely to play in securing and sustaining new business related air services critical to the future growth of the UK economy.

Figure 4: Main Business Travel Routes from London



³ Excluding London City Airport which was not surveyed in that year.

Figure 5: Main International Business Travel Routes from London



It is evident that while connectivity to many UK and European business centres is provided by a range of London airports, Heathrow remains the pre-eminent airport for key long haul business routes. Our previous research for the City of London also demonstrates that, even in European markets, Heathrow plays an essential role in providing business related air connectivity to large areas of West London where many outbound business travellers live. So, while the other airports can play a part in meeting inbound business travel to the centre of London, each of the airports has a more local catchment area for outbound business travel.

Table 1 summarises the volume of business air travel to the twenty selected cities and the importance of Heathrow in delivering the connectivity. This table includes both those passengers flying on direct services and those using connecting flights via other hubs⁴. It is evident that Heathrow is pre-eminently important in providing connectivity to these key business centres, with the exception of the European cities of Amsterdam, Geneva and Madrid.

⁴ i.e. it excludes passengers using the transferring at a London airport.

Table 1: Business Travel to Selected Key Business Centres 2011

	Number of Point to Point Business Passengers	Proportion of Business Passengers using Heathrow
Amsterdam	937,432	50%
Geneva	553,498	52%
Frankfurt	521,971	89%
New York	510,660	100%
Madrid	510,345	45%
Zurich	361,838	84%
Paris	337,073	81%
Dubai	263,129	86%
Moscow	237,358	100%
Hong Kong	182,169	99%
Delhi	152,879	99%
Shanghai	121,313	98%
Singapore	98,324	98%
Mumbai	95,582	98%
Beijing	70,303	99%
Sao Paulo	48,267	100%
Rio De Janeiro	47,250	95%
Bangalore	33,606	99%
Chennai	28,306	81%
Hyderabad	21,096	95%

The Importance of Hub Connectivity

The Importance of Transfer Passengers at the London Airports

We first highlight the key characteristics of transfer traffic using the London airports in general and Heathrow in particular, before going onto examine the extent to which services to the identified business centres are dependent on connecting traffic through the Heathrow hub.

Overall, some 28 million airport passengers were transferring between flights at the London airports in 2011, representing 14 million people⁵ transferring between flights.⁶ This is just under 22% of all airport passengers across the four airports surveyed⁷. Almost 85% of these transfer passengers used Heathrow Airport, at which over 34% of passengers were using the airport to connect between flights.

⁵ Each passenger transferring is counted twice – as they arrive on a flight and as they depart so this 28 million figure represents 14 million passengers transferring between flights.

⁶ Excluding London City Airport which was not surveyed in that year.

⁷ Heathrow, Gatwick, Stansted and Luton.

Of the remaining transfer passengers not using Heathrow, almost 10% used Gatwick, 5% Stansted and just over 2% Luton. Of those passengers transferring at Gatwick, 47% were between carriers not belonging to any of the alliances, whilst 26% were between British Airways (BA) and its other alliance partners in the oneworld Alliance. 60% of the transfers used a non-aligned carrier for at least one flight leg. A relatively high proportion of these transfers involved at least one flight leg on easyJet or, to a lesser extent, Flybe or Virgin. Transfers involving easyJet will be so-called 'self-transfers' whereby the passenger buys separate tickets for each leg of the journey. Transfers at Stansted are also largely 'self-transfers' involving Ryanair or easyJet.

The Role of Alliances

Full service airlines globally are increasingly grouping themselves into alliances to facilitate interconnection between flights and to extend their networks. There are three global alliances; oneworld led by BA, its sister company Iberia and American Airlines, Star alliance led by Lufthansa and United Airlines and Skyteam led by Air France/KLM with Delta Airlines. Each alliance concentrates its activity on feeding the hubs of its airline members to provide a global network. Hubs are, hence, intrinsically linked to the concept of airline alliances, so the main hubs for Star Alliance are at Frankfurt, Munich and Chicago along with hubs in the home country of each of its other member airlines whilst the focus of Skyteam is on the hubs in Paris and Amsterdam.

Compared to the type of transfer traffic at the other London airports, at Heathrow it is much clearer the extent to which the use of the Airport by transfer traffic is a function of the alliances:

- Of all transfers at Heathrow 77% involved a oneworld carrier for at least one of the flight legs:
 - 61% were solely between carriers within the oneworld alliance;
 - 60% involved BA for at least one leg;
 - 48% were solely between flights operated by BA.
- Of the remaining transfers, 9% were solely between Star Alliance carriers, including bmi, which is now part of British Airways, and 4% were between carriers which are not members of any alliance, including Virgin Atlantic and Emirates. The Skyteam alliance airlines carried only very small volumes of transfer passengers through Heathrow.

This highlights the extent to which BA and its partner airlines in the oneworld alliance are the main drivers of the use of Heathrow as a hub. Airlines which are members of the other alliances are similarly focussed on feeding their own hubs. This becomes more obvious when we look at the patterns of traffic on individual routes.

Connecting to Key Business Centres

This section considers the role of hub connecting traffic in underpinning the availability of connections to the business centres identified. Further supporting data for each centre individually is presented in the appendix, which shows for each the extent to which the level of service currently offered on each route is dependent on passengers connecting at Heathrow.⁸

Table 2 summarises the key features of traffic on each of the identified routes, sorted in order of the dependence of the routes on connecting traffic at Heathrow.

Further charts showing the geographic sources of connecting traffic at Heathrow by world region, the business/leisure split of point to point passengers and the proportion of passengers connecting onwards at the other end of the route, is available in a separate appendix available at www.cityoflondon.gov.uk/aviationresearch. This also highlights the key features of services from Heathrow to each of the key business centres.

⁸ It should be noted that we have no way of knowing the extent to which transfer passengers underpin the viability of these routes specifically. As a general rule, airlines will prioritise selling seats to higher yielding point to point passengers then fill up the flights with often lower yielding transfer passengers.

Table 2: Traffic Characteristics on Routes from Heathrow to Selected Business Centres

	Total Passengers on Route	Point to Point Passengers	Proportion of Point to Point Business Passengers	Proportion of Connecting Passengers at Heathrow	Proportion of Onward Connecting Passengers	Proportion of Passengers carried on British Airlines	Proportion of Passengers carried on BA	Proportion of Heathrow Connecting Passengers carried on BA	Proportion of BA Passengers Connecting
Hyderabad	95,966	19,460	50%	80%	0%	100%	100%	80%	80%
Bangalore	165,440	49,643	40%	69%	1%	100%	100%	69%	69%
Chennai	115,118	59,065	14%	48%	1%	100%	100%	48%	48%
Delhi	1,041,099	319,415	43%	45%	24%	46%	30%	42%	62%
Sao Paulo	271,535	101,241	33%	41%	23%	35%	35%	51%	59%
Rio De Janeiro	154,384	87,378	48%	39%	5%	53%	53%	70%	51%
Mumbai	950,819	309,242	26%	37%	30%	29%	29%	52%	65%
Geneva	977,928	613,224	47%	35%	1%	59%	59%	73%	45%
Hong Kong	1,549,422	533,627	31%	34%	31%	34%	26%	37%	49%
Paris	1,434,374	567,315	48%	32%	28%	53%	53%	86%	53%
Singapore	1,305,154	277,875	31%	30%	46%	19%	19%	27%	44%
Madrid	1,191,047	482,293	47%	27%	33%	32%	32%	52%	37%
Zurich	957,726	615,177	50%	23%	13%	41%	41%	70%	39%
Shanghai	351,933	208,325	47%	22%	19%	76%	30%	59%	44%
Amsterdam	1,407,083	857,156	55%	21%	18%	45%	45%	21%	37%
Beijing	310,758	161,418	25%	20%	28%	53%	53%	100%	38%
Frankfurt	1,469,904	817,750	57%	20%	25%	34%	34%	68%	40%
Dubai	1,902,219	673,354	30%	18%	46%	28%	19%	53%	54%
Moscow	756,416	562,824	41%	14%	11%	50%	33%	64%	28%
New York	3,876,826	2,265,081	21%	14%	10%	63%	40%	65%	53%

Our analysis demonstrates that there is no consistent pattern of dependence on connecting traffic on our selected routes from Heathrow, although a general relationship that the thicker routes with more passengers tend to be less dependent on connecting traffic at Heathrow than thinner routes with fewer passengers, such as Hyderabad, Chennai or Bangalore. Generally, routes to the emerging markets are more dependent on transfer traffic at Heathrow than other routes, supporting the view that the existence of a hub at Heathrow is important to sustaining these routes. This is particularly the case for services operated by BA, which is the only operator on the routes to these three Indian points, but it is equally worth noting that the level of onward connecting passengers through some other points, such as Sao Paulo and Rio de Janeiro, when combined with the point to point demand, may be insufficient to sustain reasonable frequencies of services without the hub activity at Heathrow.

Generally thicker routes, particularly those between Heathrow and other hub airports, often have a balanced proportion of passengers connecting at the Heathrow end of the route and the destination end. However, in these cases, BA is much more dependent on hub traffic at Heathrow and, by inference, the foreign carrier on connecting traffic at its home hub. This is consistent with the airlines focussing on alliance relationships and channelling traffic through each alliance's hub. So, for example, the frequency of service operated by BA from Heathrow to Paris is heavily sustained by the volume of connecting traffic (53% of passengers on BA compared to 32% on the route as a whole) on the route (and this connecting traffic in turn contributes to sustaining other routes), 28% of passengers on the route as a whole connected onwards in Paris, principally using the Air France service. Similar patterns are observed on other routes such as Hong Kong, Madrid, Amsterdam and Frankfurt. Interestingly, a similar pattern is also to be seen on the routes between Heathrow and Shanghai and Beijing, with BA being dependent on hub feed at Heathrow but China Eastern/Air China using their own hubs in China. Hence, hubbing at either end of a route can be important in sustaining the overall frequency of service on a route, to the benefit of business travellers.

The proportion of passengers connecting at Heathrow on the New York route is much lower but the significance of this traffic is that it underpins the viability of the services to India highlighted above as being highly dependent on connecting traffic to sustain the services which provide important business links to emerging markets.

Conclusion

Our analysis serves to demonstrate the complex web of interrelationships between routes and airlines at Heathrow. This complexity is a function of the sheer scale of operations there, allowing airlines – particularly BA – to inter-connect passengers between a multiplicity of routes.

There is evidence that routes to emerging markets are much more dependent on hub feeder traffic to sustain current frequencies of service. As traffic grows on these routes, dependence on feeder traffic may be expected to reduce but the ability to gather passengers from a range of global points is likely to be equally important to sustaining the next set of new key destinations for business travel.

Whilst many routes to the more established business centres are much less dependent on connecting traffic at Heathrow themselves, such routes are key sources of hub connecting traffic which underpins the viability of routes to new and emerging markets, as evidenced particularly by the flows of traffic between the US and points in India. Analysis of the pattern of traffic on such routes also highlights the role of alliances and hubbing overall. The high frequencies of service, which benefit business travellers, are sustained not just by connecting traffic at Heathrow but by passengers connecting at hubs at the other end of the many routes where other alliances operate hub networks with their alliance partner airlines, similar to that of BA at Heathrow.

Our analysis also highlights the indivisibility of business and leisure traffic on these services. On all the routes to these key business centres, there are high proportions of point to point leisure travellers. Many of those passengers connecting will also be travelling for leisure purposes. Hence, it would not be practical to seek to differentiate between business and leisure markets in terms of the use of the hub.

In summary, this analysis provides evidence that the hubbing is a factor in securing a wider route network than would otherwise be the case. Our analysis suggests that the conditions for some airlines to enhance the range and frequency of connections are to a large extent dependent on being able to retain a range of feeder connections at a hub and this has been significant in supporting the development of services to emerging business centres in India and Latin America. Feeder traffic from the UK, Europe, US and the rest of the world is critical to sustaining these services.

For British airlines and British Airways in particular, having an airport (or airports) capable of functioning as a hub is critical to the development of new routes and services. However, where markets are larger and airlines at the other end of the route have developed strong hubs themselves or with their alliance partners, the ability to sustain the routes at a high frequency is less dependent on having a hub in London. Nonetheless, such services also contribute connecting traffic to the London hub.

Overall, the analysis demonstrates that the whole is greater than the sum of the parts – more routes are served at a higher frequency because of the existence of the hub than would otherwise be the case. This is always likely to be the case and the ability to attract transfer passengers through a hub will remain crucial to developing services to new global cities.



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Evidence to the London Assembly's Transport Committee's investigation into airport capacity in London

CAP 1001

1. Introduction

- 1.1 The CAA welcomes the Transport Committee's investigation as a way of contributing to and informing the development of the UK's future aviation strategy, in particular in so far as it affects London. Given the timelines involved in delivering such a strategy, a stable, long-term political consensus on the way forward will be a condition of success.
- 1.2 The UK has the benefit of addressing its aviation strategy from a strong position, having one of the most developed and advanced aviation systems in the world. For example, the range of destinations available from London's airports make it the most globally connected city in the world, while over 70% of the UK population live within less than an hour's journey from an airport that offers connections to international destinations.
- 1.3 The last two decades have seen sharp reductions in prices, particularly for short-haul flights, prompted by liberalisation which has driven competition and enabled the development of a successful "no-frills" sector that now accounts for four out of every ten passengers flying to or from the UK¹. The choice and value available to consumers have, in some ways, made recent years a golden age for UK passengers and for UK businesses that rely on aviation.
- 1.4 However, the aviation sector is already showing signs of stress and the UK faces significant challenges if it is to continue to ensure aviation meets the needs of its consumers and wider economy. In addition to the exposure to the weak world economy, the industry faces looming constraints from aviation infrastructure in the UK that, in some parts of the country, is operating at or close to capacity, as well as environmental constraints at the local and national level. As a result, further aviation liberalisation, with consequent benefits for consumers, may be more difficult to achieve. A successful aviation strategy needs to confront all of these challenges.
- 1.5 Government has an important role to play in shaping the future of UK aviation by providing a robust framework that sends credible signals about the long-term direction of policy. However, Government's role is a supporting one, not as the main actor: the aviation sector is a commercial industry, driven by private investment. Consumers benefit from the choice

¹ Source: CAA airport statistics, 2011 figures

and value that have resulted from competition and innovation in the sector over recent decades. A successful strategy will need to provide a sufficiently stable regulatory environment to encourage investments that continue to deliver benefits for passengers and the wider economy, whilst targeting any interventions in ways that improve outcomes and minimise unintended consequences. Given the long lead times involved in delivering aviation infrastructure and in developing new technologies, policy stability is crucial. Consequently, an effective strategy will need to secure the support of successive Governments if it is to deliver successful change.

- 1.6 This submission summarises the views of the CAA, the UK's specialist aviation regulator, on the questions that have been posed by the Transport Committee. Further information on a number of these issues can be found in the CAA's input to the Government's aviation policy framework, which informs much of this submission and is available from the CAA website² and appended to this submission.

² www.caa.co.uk/SustainableAviationFramework

2. What are the arguments for and against changing existing airport capacity in London? What is the evidence in support of these arguments?

What are the current levels of airport capacity and the current and future estimates of demand for aviation travel? What is the basis for the estimates?

- 2.1 Current evidence suggests that the extent and distribution of existing capacity is poorly suited to meet the demands of the future. Heathrow is already operating at or close to capacity. The latest demand forecasts, published by the Department for Transport in February 2013, predict that Gatwick will be full by 2020 with all airports in London and the South-East operating at their maximum capacity by 2030³.
- 2.2 Long-term demand forecasts are, by their nature, always subject to considerable uncertainty. This is especially true in the current economic climate, so that saturation of London airports may come earlier or later than predicted. However, this uncertainty is not material. The Government is looking to put in place a sustainable framework for aviation that takes a long-term view of the challenges facing UK aviation. A number of these challenges are forecast to have a considerable effect on the ability for aviation to serve the consumer, and by extension the wider UK economy.
- 2.3 Constraints on capacity are likely to limit consumer choice. For example, at Heathrow, which has already been operating at or close to capacity for approximately 10 years, experience has shown that airlines have tended to enhance 'slot productivity' by allocating scarce capacity to the most profitable routes. These routes tend to be operated at a higher frequency than at other airports, but with the total number of destinations served from Heathrow declining over time.
- 2.4 Often, routes not served from Heathrow are instead served from one of the other London airports. This is particularly true of routes which can be supported mainly through passengers travelling to and from London or the UK and do not require a significant proportion of connecting

³ DfT, UK Aviation Forecasts 2013

passengers who transfer between flights in the UK.

- 2.5 The opportunity cost of scarce slots mean that airlines at Heathrow are less likely than those at other European airports to try out new routes to emerging markets, which often require connecting passengers to sustain them in the first few years. Furthermore, there is evidence that the lack of available capacity at Heathrow is already beginning to affect the UK's ability to negotiate more liberal air services agreements with foreign states, including a number of key emerging markets.
- 2.6 A further trend at Heathrow is the reduction in the number of domestic airports with connections to Heathrow. For example, the figures show that that between 2000 and 2010 the number of domestic airports served from Heathrow fell from ten to seven (though this has to some extent been reversed following the recent merger of British Airways and bmi, albeit at the expense of competition on some of these routes).
- 2.7 A further effect is the likely increase in fares. The Department for Transport's forecasting model generates a 'premium' on fares to simulate the additional costs to passengers where capacity constraints become binding. The level of demand growth predicted by the 2013 forecasts suggests that the value of fare premiums resulting from capacity constraints at UK airports is predicted to total £1.0bn in 2030. Spreading this equally across the 313m terminal passengers predicted to use UK airports in 2030, this equates to £3 per terminal passenger or £6 per return journey. There is much variation in how this impact is distributed with significant increases at some airports and very little impact at others. The implied 'premium' per one-way trip at Heathrow would be £7 with the maximum predicted increase being £10 per terminal passenger at London City.
- 2.8 There are clear implications for the passenger experience. Analysis carried out for the CAA in 2008⁴, and updated in 2011 for the South-East Airports Taskforce, demonstrated the trade-off between throughput and delay as airport utilisation approaches capacity. This relationship becomes increasingly severe as congestion grows. The analysis suggested that the optimal level of capacity utilisation, beyond which the congestion cost of adding additional services outweighs the consumer benefits of the additional flights, is likely to be significantly less than an airport's technical capacity.

4 Both reports can be accessed at www.caa.co.uk/apfg

2.9 The DfT's forecasts show that the impact of capacity constraints, in terms of both suppressed demand and increased fares, will be most acute in London⁵.

5 DfT, UK Aviation Forecasts, 2013, Figure 5.8

3. What are the options in the short, medium and long-term for addressing the issue of airport capacity?

What issues need to be taken into account when assessing each option for addressing airport capacity?

- 3.1 As already mentioned, the UK is fortunate in having a well-developed aviation sector that delivers high levels of connectivity and choice for the consumer. A large part of this benefit has been generated by a conscious policy of liberalising markets that has been sustained across successive Governments, backed by a consensus view that market participants are best able to direct change and produce innovative outcomes that would not have been forecast or delivered through state planning.
- 3.2 This context naturally places constraints on Government intervention. Further limitations arise as a consequence of international law, private ownership of assets and the present constraints on public finances.
- 3.3 We recommend the Committee look sceptically on proposals to intervene in the market as often these credit Government with more levers than it actually possesses, and seek to address symptoms not root-causes, with correspondingly low chances of success. Less prescriptive approaches, such as market-based policy measures, will be more flexible and resilient to change as well as creating incentives for innovation. However, market-based approaches will not always be appropriate. Once again, the Government will need to satisfy itself that it has control of policy levers to ensure delivery of a prescriptive solution.
- 3.4 History suggests that any decisions in this area have the potential to be politically divisive, underlining the need for both a consensual, objective framework for guiding decisions and, perhaps more importantly, mechanisms for ensuring support over time and despite changes of Government.
- 3.5 The CAA considers policy should be oriented to the needs of users. Such an approach avoids capture by producer lobbyists and reflects the reality of how aviation creates value for the economy: by moving people and goods. To contribute to this end, the CAA is recommending that the Commission should have regard to four key decision criteria when

considering options and potential solutions.

- i) Demand-focused: to ensure that any capacity solution is consistent with trends in demand and geared to deliver connectivity, choice and value for consumers.
- ii) Financeable: to ensure that any solution can be funded on the basis of airport charges at a level consistent with ensuring value for consumers;
- iii) Safe: to ensure that any solution is designed to further improve the safety of the UK aviation system and is consistent with effective airspace management;
- iv) Sustainable: to ensure that any growth in capacity is consistent with environmental objectives, including balancing the needs of consumers with those of local communities.

3.6 Though the CAA recognises that these criteria may not be exhaustive and there may be other considerations that the Davies commission, or Government, feels are valid, they are considerations that are central to the debate and where the CAA is well placed to offer its view. Looking ahead, the CAA intends to shape much of its advice around these key criteria.

Appendix: CAA's insight notes, submitted in response to the Government's aviation policy framework consultation.

AVIATION POLICY FOR THE CONSUMER



KEY INSIGHTS

KEY INSIGHTS

FOCUSING ON CONSUMERS

- The development of the Sustainable Aviation Framework offers an opportunity to look beyond current economic difficulties and develop a sustainable framework that is consumer-focused at all levels.
- Connectivity is a key goal, incorporating many aspects of the choice and value that drive the consumer benefits of aviation. These include the degree of choice available to consumers in terms of origin airport, destination and airline, as well as affordability.
- The importance that different consumers place on the components of connectivity varies. The focus of policy should be on creating the conditions for the market to adjust to consumer preferences. This is most likely to happen where there is competition and choice.

UK AVIATION CONNECTIVITY – CURRENT PERFORMANCE

- International comparisons show that UK aviation consumers are currently very well served in terms of the choice available to them.
- UK consumers currently enjoy a very high level of airport accessibility. Nearly 90% of the population lives within two hours travel time of at least two international airports.
- London has five key airports, all quite different, serving a wide range of routes and markets. The choice and frequency of services offered make the UK capital one of the world's best connected cities.
- Heathrow is the UK's largest airport and is also the only UK airport that performs a significant transfer function. Over one third of Heathrow passengers use the airport to connect between flights.
- Hub-and-spoke networks are an important feature of the global aviation network, and are particularly significant for long-haul traffic. Networks configured in this way offer benefits for consumers located near the hub and those near the spokes.
- Heathrow is the UK's largest airport and is also the only UK airport that performs a significant transfer function. Over a third of Heathrow passengers use the airport to connect between flights.
- Consumers in London and the South-East are the largest beneficiaries of the increased connectivity that Heathrow provides. Access to Heathrow's long-haul network is also important for UK passengers from regions outside the South-East. Around 10m passengers from outside the South-East travel to Heathrow by surface transport each year.

- In the decade prior to the global economic downturn, services at UK regional airports developed strongly, with passenger numbers increasing by approximately 50%. Until 2007, passenger growth at regional airports was nearly double that at London airports.
- Passengers from UK regions who fly indirectly to reach their destination have a choice of transfer airports including, but not limited to, Heathrow.
- There is evidence of airlines and alliances at some of the major European transfer airports, including Heathrow, specialising their networks to focus on particular world regions. This specialisation tends to be driven by geographical advantage, as well as economic, historic and cultural links.

IMPLICATIONS OF FORECAST DEMAND GROWTH

- Despite the current economic uncertainty in the UK and Europe, growth elsewhere in the world is forecast to stimulate significant growth in demand for aviation over the next 20 years.
- Demand growth may lead to increased route choice for consumers at some regional airports.
- Capacity constraints at many UK airports, particularly in the South-East, will increasingly limit the choice and value available to consumers.
- While London is well connected now, capacity constraints at London's airports may already mean that they are less able than airports in other European cities to adjust as global economic activity shifts to emerging markets such as China, India and South America. This trend is likely to become more pronounced:



KEY INSIGHTS



- o Capacity constraints will increasingly shape network configuration by reinforcing the trend towards focusing on the most profitable, high-yield routes;
 - o At Heathrow this is likely to lead to further specialisation on long-haul routes, in particular those serving North America for which Heathrow offers a geographical and economic advantage;
 - o However, a short-haul network will still be needed to sustain long-haul routes by providing feeder traffic;
 - o The additional 'opportunity cost' of launching new routes may result in airlines being less likely to 'take a chance' on launching services to emerging markets from Heathrow, especially where UK-based demand does not generate a sufficient volume of premium traffic;
 - o The lack of available capacity at Heathrow is already affecting the UK's ability to liberalise Air Services Agreements with foreign states, which would potentially open up routes into emerging markets. This trend is likely to become more acute as London's airports become more congested.
- Regional passengers may benefit from capacity constraints in the South East if this leads to increased choice of direct routes, although routes to London are likely to be squeezed further. The development of significant hub-and-spoke networks at regional airports seems unlikely.
 - Fares at congested airports are predicted to increase significantly as a result of capacity constraints. The value of fare premiums resulting from capacity constraints at UK airports is predicted to total £1.7bn in 2030. This equates to an additional £10 per passenger on a return air fare.
 - Resilience issues will become more widespread as more airports become congested, if appropriate mitigations are not put in place.

CAA INSIGHT NOTE:

AVIATION POLICY
FOR THE CONSUMER

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INTRODUCTION

The UK has one of the most developed, innovative and complex aviation systems in the world. The range of destinations available from London's airports makes it the most globally connected city in the world. Over 70% of the UK population lives within less than one hour's journey from at least one airport that offers connections to international destinations.

Demand for aviation is strongly correlated with the strength of the economy. The current economic climate is affecting consumer demand and having a consequent impact on the financial strength of airlines, airports and other providers of aviation services. This generates considerable uncertainty about nature of demand in the near-term.

However, the Department for Transport's most recent long-term forecasts predict that, as emerging markets continue to grow and the UK economy recovers, aviation demand will return to growth and capacity will become constrained at a number of UK airports.

There is a question mark whether, in a capacity constrained market, the aviation sector will be able to meet the future needs of UK consumers and the country's economy. This is a strategic issue of national importance.



The CAA considers that in developing its Sustainable Framework for UK Aviation, the Government should focus on ensuring that UK aviation delivers choice and value for consumers. The benefits from aviation are a function of the sector's ability to transport business and leisure consumers, or their goods, and to do so affordably, conveniently and comfortably.

The benefits delivered by aviation depend, to a significant degree, on the range of destinations and frequency of service that are accessible using aviation services; this drives the potential opportunities for both business and leisure activity. This concept is frequently referred to as 'connectivity'.

In the CAA's response to the UK Government's 2011 scoping consultation¹ we set out how clarity and durability can be achieved by formulating the policy framework at two distinct levels:

The strategic level: the Government needs to set broad objectives and the outcomes it is seeking to achieve which will deliver those objectives.

The implementation level: the Government then needs to set out steps that they intend to take to make the outcomes come to pass; ensuring that Government only intervenes where it has the ability to drive forward strategy.

The CAA committed to publish a series of three Insight Notes to build on this initial contribution:

- Aviation Policy for Consumers is the first document in the series. It considers the issue of connectivity from the perspective of current and future consumers. In particular, it addresses the implications of forecast demand growth for the choice and value offered to UK consumers:



Part 1 examines connectivity from the consumer perspective, in particular focusing on the preferences of different consumer groups in terms of choice and value;

Part 2 considers the extent to which the UK aviation sector currently delivers choice and value to consumers, and identifies some challenges which are already limiting the extent of choice and value;

Part 3 looks at the likely implications for consumers of forecast demand growth in the absence of additional aviation capacity, in terms of its effect on choice, value and resilience.

- Aviation Policy for the Environment considers how UK aviation can grow without unacceptable environmental consequences in terms of climate change, noise and local air quality.
- Aviation Policy for the Future: Creating a Sustainable Framework considers a number of the challenges that will need to be addressed to ensure that the framework provides both a robust strategic platform for the successful delivery of investment, and the improvements to the UK aviation system needed to meet the needs of aviation consumers and the UK economy.

The Scoping Response and Insight Notes will all be available on the CAA website:
www.caa.co.uk/sustainableaviationframework

CAA INSIGHT NOTE:

AVIATION POLICY FOR THE CONSUMER

PART 1: FOCUSING ON CONSUMERS

The development of the Sustainable Aviation Framework offers an opportunity to look beyond current economic difficulties and develop a sustainable framework that is consumer-focused at all levels.

Connectivity incorporates many aspects of the choice and value that drive the consumer benefits of aviation. This includes the degree of choice available to consumers in terms of origin airport, destination and airline, as well as affordability.

PART 1: FOCUSING ON CONSUMERS

The debate around aviation policy has all too often centred on solutions, most commonly infrastructure solutions, rather than addressing the outcomes that consumers want, including connectivity, identifying barriers to delivering those outcomes, and considering appropriate actions to remove such barriers. The present policy process creates an opportunity to address this issue and develop a policy framework that puts the consumer, not airlines or airports, at the heart of policy.

Connectivity is a term which is often used but rarely defined. At its simplest, connectivity combines a number of aspects of the choice and value available to consumers such as the range of airports they can access and the range of destinations available, the frequency with which these destinations are served, and whether destinations can be reached directly or only through intermediate stops. A focus on connectivity puts a large part of what consumers want at the heart of the policy debate.

The CAA is committed to improving the choice and value available to aviation consumers, both now and in the future. Connectivity impacts upon a number of important aspects of this choice and value:

CHOICE: The degree of choice available to consumers is a function of the routes offered by airlines. On the basis of these route offerings, aviation consumers then make decisions about the airports they use, where they fly to and which airline they fly with:

– *Airlines:* Ultimately airlines choose which routes to offer to passengers, but these decisions can be affected by a range of factors, including the availability of airport capacity, cost and the extent to which competition between airlines drives innovation in route offering. Aviation consumers' airline choice will be a function of various factors including accessibility to the origin airport, destination choice and cost.

- *Airports:* Convenience of surface access is a major determinant of airport choice. Nearly 90% of the UK population live within two hours of at least two international airports, giving many UK-based consumers a level of airport choice that is unrivalled in Europe, and providing them with access to the route offerings of multiple airports;
- *Destinations:* Consumers value the range of destinations that they can access, whether they are travelling for business or leisure purposes. For some consumer groups, service frequency is important in providing flexibility to their travel options. The range of destinations and the frequency with which they are served are key aspects of connectivity. Where destinations are not served directly, or only infrequently, indirect connections through hub airports can widen the choice available to consumers;

VALUE: The competition that has arisen as a result of liberalisation of the European aviation market has significantly increased the affordability of aviation. Competition, the flexibility to allocate capacity efficiently, and the availability of additional capacity to support growth are all likely to be important aspects that impact upon the range of people who have affordable access to connectivity benefits.

While all consumers are different, it is possible to make some generalised observations on the importance that different consumer groups place on the components of aviation connectivity.

BUSINESS PASSENGERS

In a recent study of the market for business travel in the UK¹¹ the CAA found that business passengers tend to be more time sensitive than price sensitive. This is unsurprising as business passengers generally have a higher value of time and are more concerned to maximise productivity while travelling. As a consequence:

- service frequency is important. The evidence suggests that average service frequency is

PART 1: FOCUSING
ON CONSUMERS

higher at airports which have a large share of business passengers;

- indirect connectivity is likely to be much less attractive to business passengers than leisure passengers;
- the cost of connectivity is generally relatively less important, although demand is relatively more price sensitive on short-haul routes than for long-haul travel given the greater availability of substitute modes.

The report noted that businesses had become more price sensitive as a result of the current economic situation, in particular with regard to service quality 'frills', with evidence of trading down in terms of cabin class, or from full service to low-cost carriers. In general this had not affected the decision of whether to travel or not, with the exception of business trips within organisations, some of which were being replaced by video-conferencing.

For the subset of business passengers that use business jets, the connectivity challenge is rather different. Given that destination choice is not limited by the route offerings of airlines, there is no requirement for scheduled or non-air taxi charter services to be arranged in advance. Accordingly, surface connectivity to a suitable airport or airfield becomes relatively more significant. However, both the on-demand nature of business aviation and the propensity to use aerodromes other than the major commercial airports may have a significant impact on airspace management.

LEISURE PASSENGERS

In a 2005 study into the drivers of demand for leisure travel^{III}, the CAA found evidence which supported the assumption that leisure passengers are more price sensitive than those travelling for business purposes, suggesting that affordability is relatively more important to these consumers. The report also noted that, as with business passengers, leisure passengers were



much more price sensitive in their decisions on carrier, airport or destination, than they were in their decision whether to fly or not.

PASSENGERS VISITING FRIENDS AND RELATIVES (VFR)

VFR passengers' destination choice is clearly determined by the location of their friends and relatives. Accordingly, the CAA's 2009 report into VFR passengers^{IV} found that some key factors differentiate VFR travel from other leisure trips.

In particular:

- the destination is less likely to be substitutable than in the case of international holiday travel, where a variety of destinations may meet passengers' needs;
- the cost of the flight is likely to represent a much greater share of the total cost of the trip, with lower accommodation or living costs – as for many such trips, these costs may be met in whole or part by the friend or relative being visited; and
- the motivation for travel is dependent on the prior dispersal of social networks.

CARGO

Air cargo is used to ship a wide range of products, from legal documents and small machinery parts through to perishables such as fish and fresh fruit as well as much larger items such as Formula 1 cars and even race horses. It is therefore hard to generalise about what drives demand. However, goods shipped by air tend to be high in value, either intrinsically or in terms of their value to a supply chain, and time-sensitive. As a result, journey time tends to be relatively more important than affordability, though clearly shippers are often very sensitive to price differences between carriers.

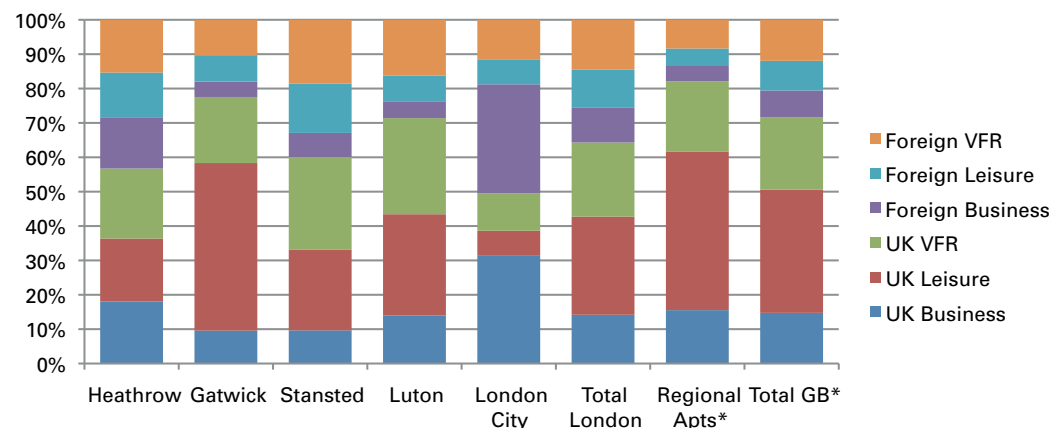
Figure 1 shows that a mix of passengers travelling for each journey purpose, both UK and foreign residents, are likely to use any one UK airport. Similarly, individual airlines also serve the range of consumer groups.

As already noted, connectivity is a function of airport choice as well as choice of airlines and destinations. In considering the determinants of airport choice, it may be helpful to distinguish between surface connectivity to UK airports, reflecting convenience of surface access, and onward air connectivity from UK airports, which encompasses route choice, frequency and affordability.

UK CONSUMERS ARE SERVED BY A LARGE NUMBER OF AIRPORTS:

- London has five key airports. Heathrow is the UK's largest airport, in terms of passenger numbers and air transport movements (ATMs). 69% of passengers travelling between the UK and non-European destinations use Heathrow. The other London airports are all quite different, serving a wide range of routes and markets.
- Consumers in the UK regions and devolved administrations are served by a large number of airports, ranging from major international airports to small aerodromes. The bigger regional

Figure 1: UK Airport Passengers by Consumer Group



Source: CAA Passenger Survey. Passengers by Residency and Purpose (excluding connecting passengers)

Note: Regional airports included are the airports surveyed by the CAA since 2008 with passenger numbers scaled to 2010 levels. Those airports were BRS, CWL& EXT (2008); ABZ, EDI, GLA, INV, MME, NCL& PIK (2009); BHX, DSA, EMA, HUY, LBA, LPL, MAN (2010).

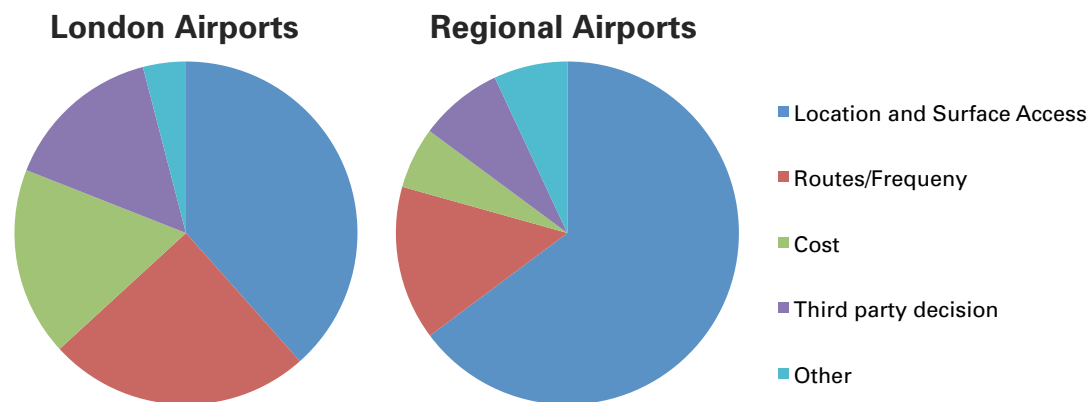
airports such as Manchester, Edinburgh, Birmingham and Glasgow have over 5 million passengers a year, serve a range of airlines and offer a limited number of long-haul routes. At the other end of the spectrum, a number of smaller airports serve a very limited number of routes and handle much fewer passengers. Some of these airports are heavily dependent on just one or two airlines.

Figure 2 suggests that there is a distinction between consumers using London airports and those using regional airports in terms of the primary determinants of airport choice. Consumers in the South-East generally have convenient access to multiple airports, meaning that route availability and cost take on a greater importance. For consumers in the regions, where major airports are more dispersed and surface access times generally greater, surface connectivity is relatively more important.

The importance that different consumers place on the components of connectivity varies. The focus of policy should be on creating the conditions for the market to adjust to consumer preferences. This is most likely to happen where there is competition and choice.

While some interesting insights can be made by segmenting consumers into different groups, for example in terms of journey purpose or geographic region, all aviation consumers have individual preferences.

Figure 2: Determinants of Airport Choice



Source: CAA Passenger Survey (January – July 2011 – provisional data)
Note: Regional airports comprise Manchester, Birmingham and East Midlands

PART 2: UK AVIATION
CONNECTIVITY –
CURRENT PERFORMANCE

International comparisons show that UK aviation consumers are currently very well served in terms of the choice available to them.

UK consumers enjoy a very high level of airport accessibility. Nearly 90% of the population lives within two hours travel time of at least two international airports.

PART 2: UK AVIATION CONNECTIVITY –
CURRENT PERFORMANCE

According to figures published by the World Economic Forum, despite the UK's relatively small size, its aviation network, measured in Available Seat Kilometres, is the third largest in the world behind only the USA and China^V.

Foreign businesses investing in the UK regularly cite the ease of access to international markets provided by the UK's aviation connectivity as a key factor in their location decision. In addition to facilitating leisure travel by UK residents, aviation is a key enabler of inbound tourism into the UK, with over 65% of overseas visitors to the UK arriving by air^{VI}.

SURFACE CONNECTIVITY

Figure 3 shows that 70% of the UK population lives less than one hour's journey from an airport offering connections to international destinations. Nearly 90% of the population lives within two hours of at least two international airports, giving UK consumers very high levels of accessibility to aviation.

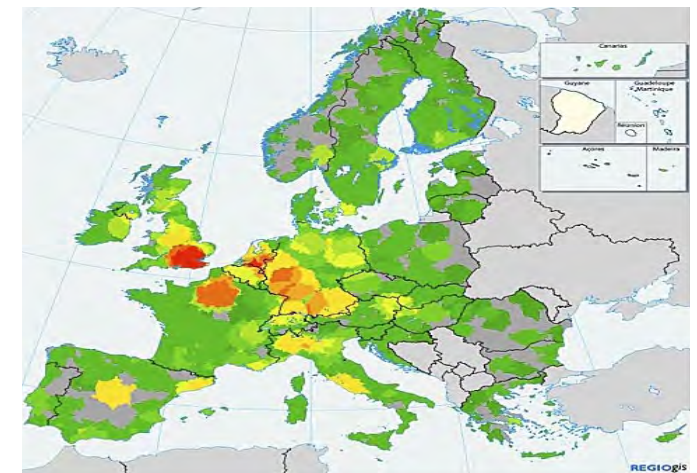
Figure 4 shows that in the South-East, where airport density is greatest, consumers currently enjoy levels of accessibility to aviation services that are virtually unparalleled in Europe.

Figure 3: Percentage of UK population with Access to UK Airports serving more than 1 million passengers per annum

Surface Access Journey Time, Percent of Total UK Population	At Least 1 Airport	At Least 2 Airports	3 or more Airports
Within 1 hour	68%	38%	12%
Within 2 hours	97%	89%	75%

Sources: SPAM surface access times for 1998, ONS population figures for 2009. Distance measured from population centroid of local authority district

Figure 4: European Comparison of Accessibility to Passenger Flights



Accessibility to passenger flights 2007
Cumulated daily number of passenger flights available within 90 minutes of travel by road

0-10	1001-1500	Travel time to nearest airport > 90mins
11-250	1501-2000	No data
251-500	2001-2500	
501-750	2501-3000	
751-1000	3001-3680	

Source: RegioGIS, European Commission

© EuroGeographics Association for the administrative boundaries

London has five key airports, serving a wide range of routes and markets. The choice and frequency of services offered by the five airports make the UK capital one of the world's best connected cities.

ONWARD CONNECTIVITY

There is no single agreed measure of onward connectivity, although many studies focus on numbers of destinations served. Even in terms of destinations served, there is potential for debate. In **Figure 6** we include all routes on which there were, on average, two or more scheduled services per week over the course of the year. Given their preference for frequent services a route operated on only one or two days a week may be of limited value to business passengers, particularly on short-haul routes, whereas it may be sufficient for most leisure and VFR passengers.

As we set out in the section on transfer airports, Heathrow is in many ways a special case. Regardless of the definition used, Heathrow serves fewer destinations than other major European hubs, albeit with higher daily frequencies.

Research carried out for the City of London, which focused on connectivity between major global business centres, found that the range and frequency of routes available from Heathrow makes it the best connected airport in Europe in terms of serving major business hubs^{vii}. **Figure 5** shows that London based consumers enjoy a major advantage benefit in terms for service frequency for two of the UK's more significant long haul business destinations.

Of London's five airports, Heathrow is the largest and the only airport which is used as a transfer hub by a significant volume of connecting passengers. The other London airports largely serve point-to-point markets, primarily on short-haul routes. These models offer different, but complementary, connectivity benefits to consumers. Heathrow's role as a transfer airport offers UK consumers access to routes that would not otherwise be

Figure 5: Weekly Departures from selected European Cities to New York and Hong Kong in 2010

Departures per week	New York	Hong Kong
Heathrow	174	61
London (5 airports)	184	61
Charles De Gaulle	68	21
Paris (Charles De Gaulle + Orly)	82	21
Frankfurt (Main)	49	14
Amsterdam (Schiphol)	37	14

Source: OAG

PART 2: UK AVIATION
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commercially viable. At the same time, competition between the five airports, and the airlines operating from them, delivers benefits from consumers in terms of both choice of value.

Taking the five airports together, London emerges as the best connected business city in the world, reinforcing and supporting London's status as a global business hub^{VIII}. **Figure 6** shows that the five London airports serve many more routes than any other European city.

In the decade prior to the global economic downturn, services at UK regional airports developed strongly, with passenger numbers increasing by approximately 50%. Until 2007, passenger growth at regional airports was nearly double that at London airports.

The passenger growth at regional airports, shown in **Figure 7**, was facilitated by liberalisation and driven, to a considerable extent, by the emergence of low-cost carriers. This growth in traffic was spread relatively evenly around the UK's regional airports. In recent years, passenger numbers at all regional airports have fallen significantly as a result of the challenging economic climate. Some of the smaller airport operators, in particular, currently face considerable commercial and financial difficulties.

As point-to-point networks have developed, particularly on short-haul routes, consumers have increasingly benefitted from a greater choice of airport and, in many cases, airline.

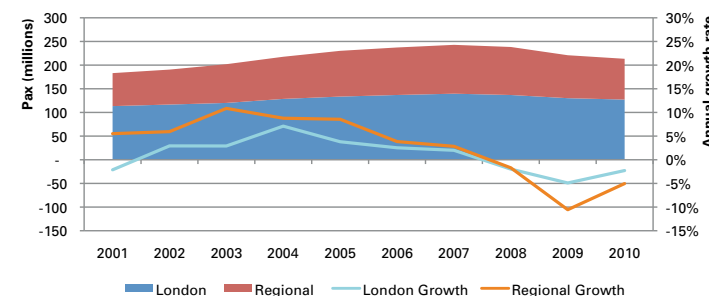
Figure 6: Number of routes served from selected European Airports and Cities in 2010

City	Routes served
Heathrow	154
London (5 airports)	322
Paris (Charles De Gaulle + Orly)	258
Frankfurt (Main)	212
Amsterdam (Schiphol)	193

Source: OAG and CAA Airport Stats

Note: A route is defined as an airport served non-stop by more than 100 scheduled departures in 2010

Figure 7: Growth in Passenger Numbers at UK Airports – London vs UK Regions



Source: CAA Airport Statistics

PART 2: UK AVIATION
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Figure 8 shows that in 2010, 21 overseas destinations were served from 10 or more UK airports.

Six overseas destinations (Dublin, Amsterdam, Geneva, Barcelona, Nice, and Madrid) had connections with all five major London airports.

It is worth noting that these are all short-haul routes and that demand comprises a strong point-to-point leisure component, even on those routes that serve international hub airports. The relative prevalence of leisure demand provides one reason why the development of significant range of long-haul routes or hub-and-spoke networks has been limited at regional airports, as the economics of long-haul operations requires a significant volume of premium demand to make services commercially viable.

In terms of domestic aviation, **Figure 9** shows that 12 UK airports offered 10 or more domestic routes in 2010. Of these, only one, Gatwick, was a London airport. Edinburgh and Glasgow have connections with 25 different domestic airports, including all five of the major London airports.

Figure 8: Destinations connected directly to 10 or more UK airports

Airport name	UK airports connected
Dublin	26
Amsterdam	23
Alicante	21
Malaga	20
Faro	18
Palma de Mallorca	18
Paris (Charles de Gaulle)	17
Tenerife (Sur Reina Sofia)	16
Geneva	15
Arrecife	14
Barcelona	14
Murcia san javier	14
Dalaman	12
Cork	12
Gerona	11
Nice	11
Copenhagen	10
Dusseldorf	10
Ibiza	10
Las palmas	10
Prague	10

Source: CAA Airport Statistics

Note: A destination is defined as an airport served by more than 100 scheduled and charter departures in 2010

Figure 9: UK airports with services to 10 or more domestic destinations

Airport name	UK destinations connected	London airports connected
Edinburgh	25	5
Glasgow	25	5
Belfast city (george best)	22	4
Aberdeen	20	3
Manchester	17	2
Belfast international	14	3
Newcastle	14	3
Bristol	13	0
Gatwick	13	0
Birmingham	12	0
Southampton	12	0
Leeds Bradford	10	1

Source: CAA Airport Statistics

Note: A destination is defined as an airport served by more than 100 scheduled and charter departures in 2010

PART 2: UK AVIATION
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Hub-and-spoke networks are an important feature of the global aviation network, and are particularly significant for long-haul traffic. Networks configured in this way offer benefits for consumers located near the hub and those near the spokes.

Heathrow is the UK's largest airport and is also the only UK airport that performs a significant transfer function. Over one third of Heathrow passengers using the airport to connect between flights.

GLOBAL CONNECTIVITY - THE ROLE OF TRANSFER AIRPORTS

Transit and transfer passengers originating at the spokes of the system provide traffic volumes which support service frequency on popular routes and sustain services on more marginal routes. For example, a number of high frequency routes at Heathrow also have a high volume of connecting passengers.

Local demand, that consists of consumers located close to the transfer airport, benefits from a greater number of direct routes operated at higher frequencies than would be commercially viable through point-to-point demand alone.

Connecting passengers benefit from access to a wider network than could be supported from their local airport. Their choice of transfer routing will be guided by the various parameters set out in Part 1, and overall journey time will clearly be an important factor. In this respect, consumers may be relatively less guided by whether they transfer through a UK or foreign airport.

HEATHROW – PROVIDING GLOBAL ACCESS FOR LONDON AND THE SOUTH-EAST

Heathrow is the UK's largest airport, in terms of passenger numbers and air transport movements (ATMs). 69% of passengers travelling between the UK and non-European destinations use Heathrow. It is also the only UK airport that performs a transfer function to any significant degree, with three home-based carriers at present. Approximately a third of all passengers using Heathrow are connecting between flights at the airport.

As a result of its size and the scope of its network, Heathrow generates significant benefits for UK consumers and makes an important contribution to the UK economy. London (and the South-East), was the origin or destination point of 32% (47%) of passengers using Heathrow during 2010 and is the primary beneficiary of the airport's connectivity.

PART 2: UK AVIATION
CONNECTIVITY –
CURRENT PERFORMANCE

Consumers in London and the South-East are the largest beneficiaries of the increased connectivity which Heathrow provides.

Access to Heathrow's long-haul network is also important for UK passengers from regions outside the South-East. Around 10m passengers from outside the South-East travel to Heathrow by surface transport each year.

The non-UK-based transfer passengers who use Heathrow provide additional traffic volumes which support service frequency on popular routes and sustain services on more marginal routes. Some examples are shown in Figures 10 and 11.

UK-based passengers on these routes benefit from the higher frequency as they may be able to travel nearer to their ideal departure time. The proportion of transfer traffic at Heathrow peaked in 2009, possibly indicating that world regions where economic growth has been less affected have helped maintain the route network at Heathrow during the current economic downturn.

Heathrow's size and the scope of its network mean that it is unlike other UK airports. It is also different to other European hub airports in a number of significant ways.

Figure 10: Examples of routes at Heathrow supported by connecting passengers

Airport	Country	Direct Passengers	Connecting Passengers	Total Passengers (000s)
Hyderabad	India	20%	80%	87
Bangalore	India	24%	76%	157
Las Vegas	USA	29%	71%	177
Entebbe	Uganda	33%	67%	61
Mexico City	Mexico	37%	63%	101

Source: CAA Airport Statistics and CAA Passenger Survey 2010

Note: Only routes with at least 40,000 annual passengers, at least 40 survey responses and average daily frequency between 0.4 and 2.0 were included.

Figure 11: Examples of routes at Heathrow where frequency is supported by connecting passengers

Route	Frequency (daily return trips)	Percentage of connecting passengers	Frequency wholly supported by connecting passengers
Paris (CDG)	16.1	37%	5
Manchester	12.9	81%	10
Edinburgh	15.0	56%	8
New York (JFK)	16.2	34%	5
Dublin	16.4	37%	6
Amsterdam	16.9	30%	5

Source: CAA Airport Statistics and CAA Passenger Survey 2010

In technical and operational terms:

- Capacity at Heathrow is close to being fully utilised, with the airport consistently operating at up to 99% of potential capacity under current operating arrangements. Where capacity is constrained, routes sustained by transfer and transit passengers may limit access to UK-based travellers wishing to travel on alternative point-to-point routes.
- Heathrow is part of a multi-airport system, one of five major airports serving London, with the other London airports largely used by airlines operating point-to-point networks. While cities such as Paris and New York are also served by multiple airports, albeit not so many as London, Amsterdam and Frankfurt have only one major airport.
- Airline competition on some of the most popular routes is greater at Heathrow than at other European hubs, driven, in part, by liberalisation of Air Services Agreements. However, progress in agreeing further liberalisation has been significantly hindered in recent years by difficulties faced by new entrants in accessing Heathrow slots. This suggests that the perceived lack of access to slots at Heathrow is limiting the UK Government's efforts to liberalise.

A further reason that Heathrow is different to other transfer airports is the size and make-up of its catchment area:

- Heathrow has a large and affluent hinterland providing greater local demand than many European transfer airports;
- London's business links with key financial centres, and cultural links with many world regions create strong local demand for routes to a number of world regions.

Figure 12 shows that the size of Heathrow's hinterland supports a much higher volume and share of direct passengers than at Frankfurt and Schiphol airports.

Figure 12: Connecting passengers at selected European airports 2010

	Total Passengers (millions)	Connecting Passengers (millions)	Terminating Passengers (millions)	% Connecting Passengers	LUZ Population 2004 (m)
London Heathrow	68	25	43	37%	12.3
Frankfurt Main	53	28	25	52%	2.5
Amsterdam Schiphol	48	21	27	43%	1.5
Paris Charles de Gaulle	58	19	39	32%	11.5*

Sources: Airports' websites, ATRS 2011 World Airport Benchmarking Report, and Eurostat
Notes: LUZ = Larger Urban Zone, *Paris' population refers to 2004

PART 2: UK AVIATION
CONNECTIVITY –
CURRENT PERFORMANCE

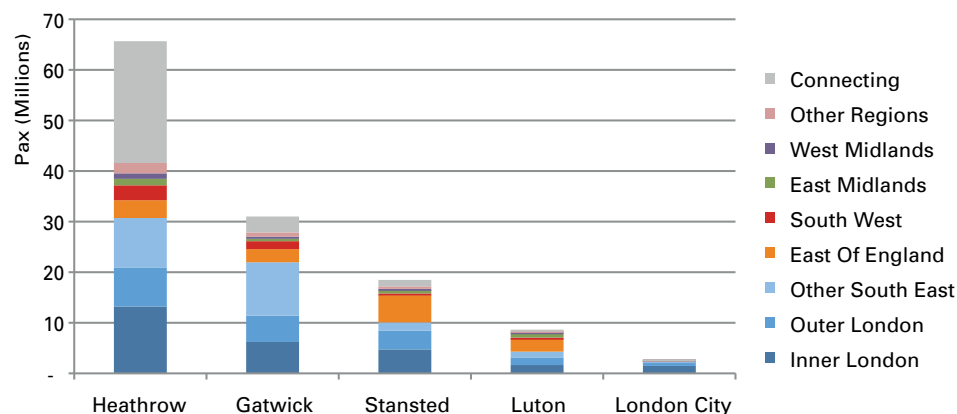
SURFACE ACCESS TO HEATHROW

11m passengers from UK regions outside the South-East used Heathrow in 2010, making up 16% of all passengers at the airport. **Figures 13 and 14** shows that many of these passengers used surface transport to reach Heathrow, making the airport a major hub on the UK's surface transport network. As well as being its busiest airport, Heathrow is also the UK's busiest bus station with over 1,600 bus and coach services each day.

REGIONAL AIR CONNECTIONS TO HEATHROW

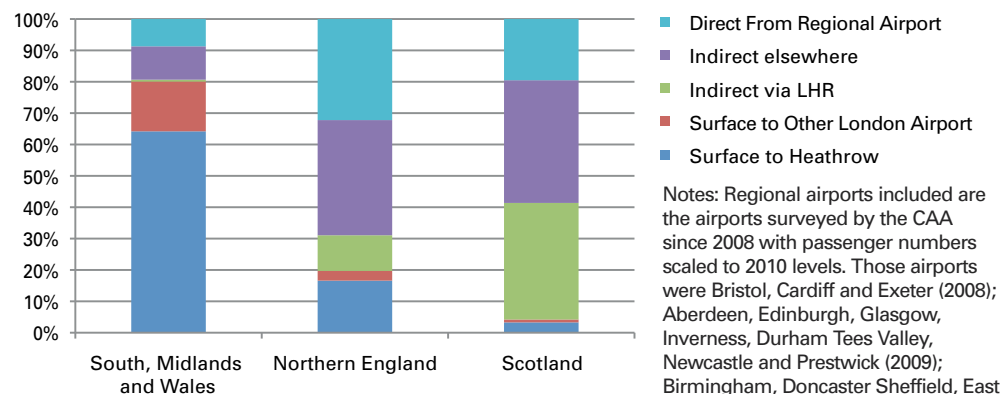
For consumers in the north of England, Scotland and Northern Ireland, surface access distances and journey times to Heathrow are greater. These consumers are more likely to fly from a local airport, even if this involves connecting at a transfer airport. **Figure 14** shows that where domestic connections to Heathrow are available, a significant proportion of passengers transfer through London. Depending on their final destination, other hubs (in Europe or beyond) can represent an attractive alternative.

Figure 13: Origin of Passengers at London Airports



Source: CAA Passenger Survey 2010

Figure 14: Regional Passengers with a Long-Haul Destination by Region by Routeing



Source: CAA Passenger Survey (several years scaled to 2010 levels)

Notes: Regional airports included are the airports surveyed by the CAA since 2008 with passenger numbers scaled to 2010 levels. Those airports were Bristol, Cardiff and Exeter (2008); Aberdeen, Edinburgh, Glasgow, Inverness, Durham Tees Valley, Newcastle and Prestwick (2009); Birmingham, Doncaster Sheffield, East Midlands, Humberside, Leeds Bradford, Liverpool and Manchester (2010). "South, Midlands and Wales" excludes the South East Planning Region.

CAA INSIGHT NOTE:

AVIATION POLICY
FOR THE CONSUMER

PART 2: UK AVIATION CONNECTIVITY – CURRENT PERFORMANCE

Passengers from UK regions who fly indirectly to reach their destination have a choice of transfer airports. Heathrow is one option, but foreign hubs are alternatives.

GLOBAL ACCESS FOR UK REGIONS

Many UK regional airports experienced significant growth following liberalisation of the European aviation market. However, this development has largely been limited to short-haul routes, principally within Europe.

A limited number of long-haul routes operate from some of the larger regional airports. These tend to be focused on a limited number of destinations, principally in North America and the Middle East, leisure destinations in the Caribbean, and routes where the UK has particular cultural ties, such as parts of South Asia.

As a result, passengers in the UK regions need to use a transfer airport to access the majority of global destinations: either Heathrow, accessed by surface transport or a domestic flight, or a foreign airport.

There is evidence of airlines and alliances at some of the major European transfer airports, including Heathrow, specialising their networks to focus on particular world regions. This specialisation tends to be driven by geographical advantage, as well as economic, historic and cultural links.

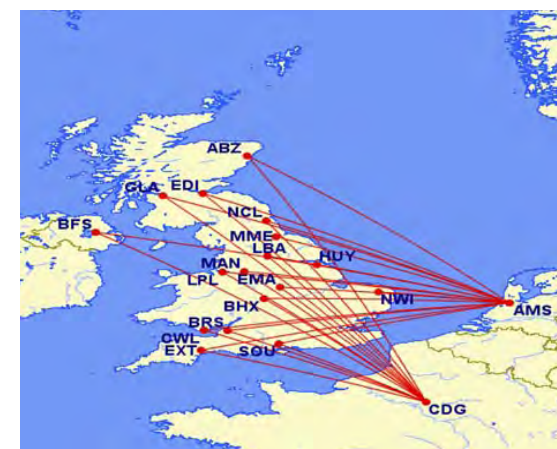
Where passengers fly indirectly via a transfer airport, their decision will tend to be based on the factors set out in Part 1, in particular route choice, frequency and journey time as well as affordability.

As **Figure 15** shows, there is a particularly rich network of connections between regional airports and the hubs at Amsterdam and Paris Charles de Gaulle^{ix}. For some of the smaller regional airports, these routes account for a significant share of traffic and income.

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Figure 15: UK regional airports with direct connections to Amsterdam (AMS) and Paris (CDG)



Source: CAA Airport Statistics. Mapped with www.gcmap.com. Includes all routes with more than 5 weekly departures.

PART 2: UK AVIATION
CONNECTIVITY –
CURRENT PERFORMANCE

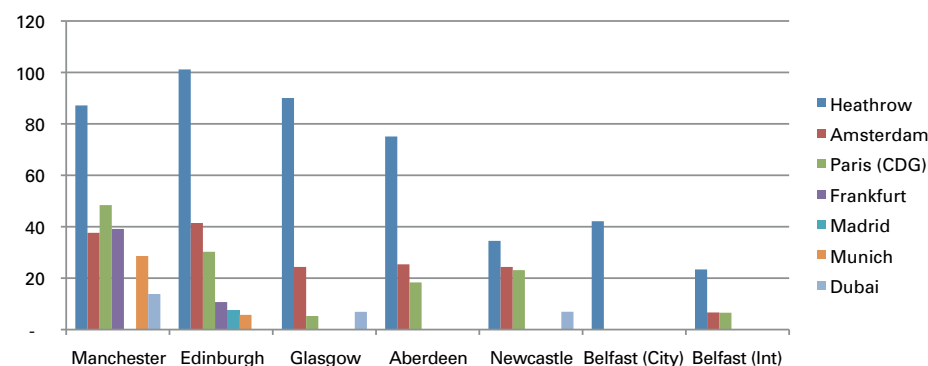
In terms of frequency, **Figure 16** shows that regions which still have domestic air connections to Heathrow tend to benefit from frequent services as connecting traffic is supplemented by point-to-point business demand.

Overall journey time is clearly an important factor in consumers' choice of transfer point. Journey time is made up of a combination of how direct the overall routing is, as well as the stopover time at the transfer airport.

The UK's geographical position on the North-West of Europe means that airlines operating at Heathrow can offer competitive journey times for connections to North America compared to other European hubs. Geography would suggest that other European airports might represent more convenient transfer points for routes to other world regions such as Asia, Africa and South America.

Connection time at a transfer airport will be affected by airlines' ability to sequence flights into alternating inbound and outbound 'waves'. In the absence of capacity to optimise departures and arrivals in this way, service frequency on the feeder leg will become more important, as it will maximise the range of convenient connections.

Figure 16: Weekly scheduled departures between UK regional airports served by Heathrow and selected airports in 2010



Source: CAA Airport Statistics 2010

PART 2: UK AVIATION
CONNECTIVITY –
CURRENT PERFORMANCE

Figure 17 compares overall journey times on a number of routes from UK regional points via Heathrow and Amsterdam. It shows that all these factors tend to apply to differing degrees on the various routes with no clear pattern emerging.

However, **Figure 18** gives some evidence of a degree of specialisation emerging at the main European transfer airports.

While Heathrow dominates on long-haul routes to most world regions as a result of its size, its 'comparative advantage' on transatlantic routes to North America is apparent. Similarly, Madrid is the leading airport for connections to Latin America and Charles de Gaulle has the greatest number of flights serving Africa.

This 'specialisation' by the airlines and alliances operating at these airports would appear to be influenced by geography, but economic and cultural factors also seem to be important. For example, One World members British Airways and Iberia have well developed route networks to North and Latin America respectively from their home airports. A similar pattern is repeated within the Star and SkyTeam alliances.

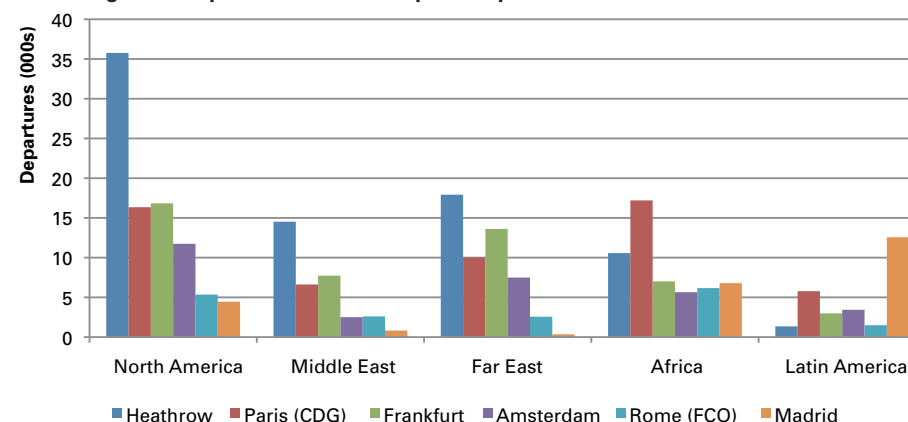


Figure 17: Shortest Elapsed Journey Times from UK regional points to long-haul destinations (on-line connections via Amsterdam relative to Heathrow in minutes)

	Edinburgh	Aberdeen	Newcastle
Los Angeles	-10	-60	+10
New York	+45	+20	+35
Singapore	-20	+20	-15
Tokyo	-60	-40	+25
Johannesburg	+40	-5	+20

Source: Expedia. Data extracted on 24/11/2011 for travel on 13/12/2011. Positive numbers mean that transfer via Heathrow is quicker

Figure 18: 'Specialisation' of European Airports



Source: OAG Year to March 2010

PART 3: IMPLICATIONS
OF FORECAST
DEMAND GROWTH

Despite the current economic uncertainty in the UK and Europe, growth elsewhere in the world is forecast to stimulate significant growth in demand for aviation over the next 20 years.

Demand growth may lead to increased route choice for consumers at some regional airports.

Capacity constraints at many UK airports, particularly in the South-East, will increasingly limit the choice and value available to consumers.

PART 3: IMPLICATIONS OF
FORECAST DEMAND GROWTH

The latest demand forecasts, published by the Department for Transport in August 2011^x, show demand growth becoming restricted by capacity constraints at all airports in London and the South-East before 2030. **Figure 19** illustrates this. In addition, some of the larger regional airports are also forecast to become capacity constrained by 2030.

Long-term demand forecasts are, by their nature, always subject to considerable uncertainty. This is especially true in the current economic climate.

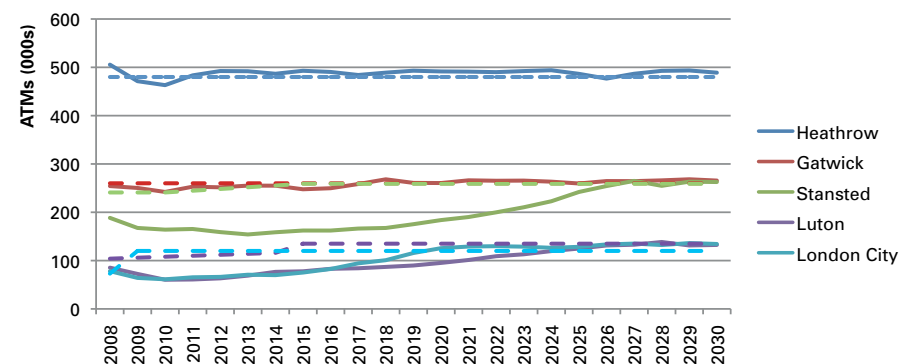
However, we recognise that the Government is looking to put in place a sustainable framework for aviation that takes a long-term view of the challenges facing UK aviation.

CHOICE

While London is well connected now, capacity constraints at London's airports may already mean that they are less able than airports in other European cities to adjust as global economic activity shifts to emerging markets such as China, India and South America. This trend is likely to become more pronounced:

- Capacity constraints will increasingly shape network configuration, reinforcing the trend towards focusing on the most profitable, high-yield routes;
- At Heathrow this is likely to lead to further specialisation on long-haul routes, in particular those serving North America for which Heathrow offers a geographical and economic advantage;

Figure 19: Air Transport Movements vs. Capacity at the five major London airports



Source: DfT, Aviation Forecasts, 2011. Solid Line - ATM Forecasts; Dashed Line - ATM Capacity

PART 3: IMPLICATIONS
OF FORECAST
DEMAND GROWTH

- However, a short-haul network will still be needed to sustain long-haul routes by providing feeder traffic;
- The additional 'opportunity cost' of launching new routes may result in airlines being less likely to 'take a chance' on launching services to emerging markets from Heathrow, especially where UK-based demand does not generate a sufficient volume of premium traffic.
- The lack of available capacity at Heathrow is already affecting the UK's ability to liberalise Air Services Agreements with foreign states, which would potentially open up routes into emerging markets. This trend is likely to become more acute as London's airports become more congested.

Heathrow has already been operating at or close to capacity for approximately 10 years. Experience at Heathrow over this period may offer a useful insight as to the trends which might emerge at other airports in the future as they become increasingly congested.

The trend at Heathrow has been to enhance 'slot productivity' by allocating scarce capacity to the most profitable routes. These routes tend to be operated at a higher frequency than at other airports, as shown in **Figure 20**, but with the total number of destinations served from Heathrow declining over time.

Figure 20: Range and Frequency of Direct Destinations – selected European airports

Airport	International Routes	Daily International Departures/Route	Non-European Routes	Daily Non-European Departures/ Route
Heathrow	144	3.9	84	2.6
Paris (CDG)	193	3.0	98	1.6
Frankfurt	196	2.6	92	1.4
Amsterdam	187	2.6	70	1.2
Madrid	117	2.7	46	1.4
Rome (FCO)	107	2.2	38	1.3

Source: OAG

Note: A route is defined as an airport served non-stop by more than 100 scheduled departures in the year to March 2010



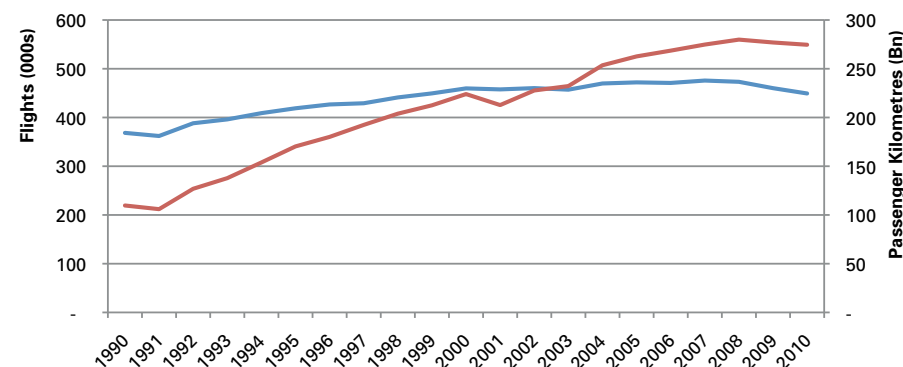
Figure 21 shows that there has also been faster growth in total passenger kilometres than in flights at Heathrow. This indicates an increasing focus on high-yield, long-haul routes, which are typically served with larger aircraft. A further feature of operations at Heathrow is that, as a result of liberalisation, there is often competition between multiple airlines on some of the most profitable routes.

As Part 2 showed, Heathrow differs from other UK airports in a number of important ways and one should therefore be careful not to stretch comparisons. Heathrow's relative specialisation on long-haul routes has, in part, been facilitated by the ability of airlines to use other London airports to serve different markets.

Similarly, many airlines operating at other UK airports follow different business models to those employed by the network carriers who are the major airline customers at Heathrow. It does not necessarily follow that airlines route networks will adapt to congestion at these airports in the same way as has occurred at Heathrow.

It is clear that airlines will be incentivised to focus on operating the most profitable network and schedule. More marginal and less profitable routes and services will tend to get squeezed, restricting choice for consumers that value those services.

Figure 21: Evolution of Flight Numbers and Total Passenger Kilometres at Heathrow



Source: CAA Airport Statistics

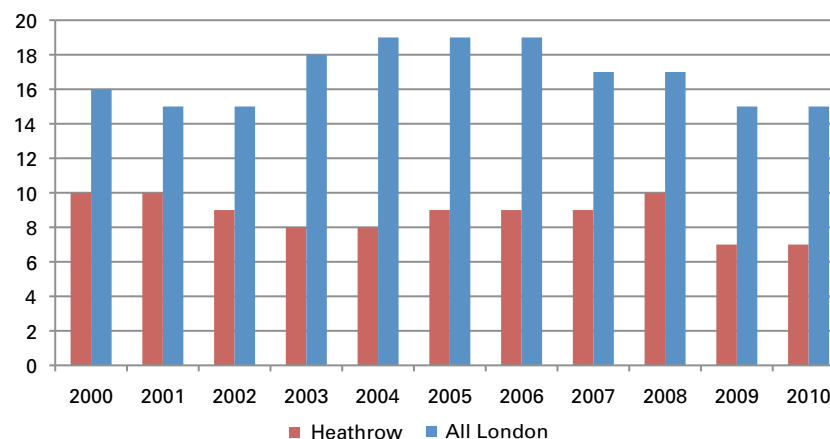
PART 3: IMPLICATIONS
OF FORECAST
DEMAND GROWTH

Increasing congestion is also likely to limit competition. The difficulty or cost of obtaining take off and landing slots at capacity constrained airports will create higher barriers for new entrants and may encourage consolidation of existing competitors. This is likely to further affect the choice and value available to consumers.

A further trend which is likely to be driven by capacity constraints at Heathrow is the reduction in the number of domestic airports with connections to Heathrow.

Figure 22 shows that between 2000 and 2010 the number of domestic airports served from Heathrow fell from ten to seven.

Figure 22: Domestic Points served Daily – Heathrow vs All London Airports



Source: CAA Airport Statistics

However, as **Figure 17** showed, service frequency on the remaining regional connections to Heathrow is high, as are load factors, suggesting a pooling or concentration of demand into a more limited number of domestic airports.

It is worth noting that business travel accounts for a much higher share of domestic traffic than on other short-haul routes. This might suggest that travel time differences are an important determinant of modal decisions on domestic routes, as well as fares.

Another frequently cited impact of capacity constraints at Heathrow is that it is not possible to launch new routes to emerging markets. While London is well connected now, some have asked

PART 3: IMPLICATIONS
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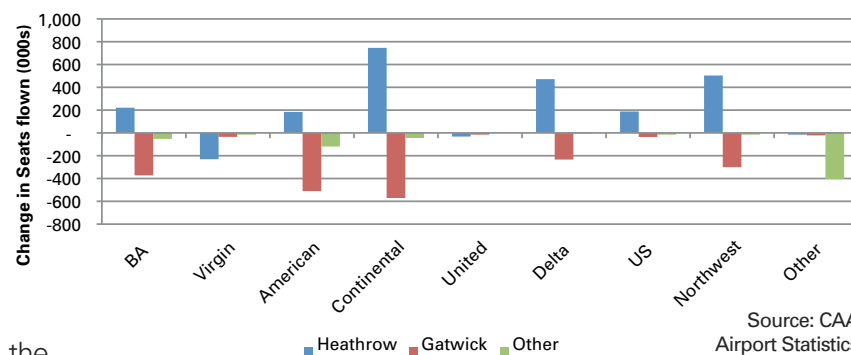
whether London airports can respond as quickly as other major airports as global economic activity shifts to emerging markets such as China, India and South America.

Our analysis does not fully support this view. Experience following recent liberalisations (EU-US Open Skies, and UK-India liberalisation) suggests that airlines are able to meet sufficiently strong demand for new routes. As an example, **Figure 23** shows the change in capacity offered on routes between the UK and the US between 2008 and 2009 following implementation of the EU-US Open Skies agreement.

As a result of slot constraints at Heathrow, airlines looking to start a new service must either acquire additional slots on the secondary slot market or sacrifice an existing service. This 'opportunity cost', which is higher at congested airports, increases the profitability threshold which airlines need to expect to meet in order to launch new routes.

In addition, the lack of additional capacity at Heathrow has already had a negative effect on the UK's ability to liberalise Air Services Agreements with foreign states. This trend is likely to become more acute as London's airports become more congested, further threatening the UK's ability to access restricted markets in rapidly growing parts of the world.

Figure 23: Change in capacity between 2008 (year to March) and 2009 (year to March) on routes to/from the US at Heathrow, Gatwick, and regional airports ('Other').





PART 3: IMPLICATIONS
OF FORECAST
DEMAND GROWTH



Figure 24 suggests that while the route mix at Heathrow is forecast to further shift towards long-haul routes, part of this growth is likely to be on routes serving Heathrow's traditional North American market. Traffic growth on other long-haul routes, while potentially significant, is forecast to be much lower than overall demand growth on routes to these markets. The graph also shows that the short-haul feeder traffic required to sustain service frequency on long-haul routes will remain an important part of the route mix at Heathrow.

Given that Heathrow already acts as a major transfer airport for connecting passengers, other London airports will not tend to be attractive alternatives for services that rely on a significant volume of connecting traffic at the UK end. This might be less important for a foreign carrier operating a UK route as a spoke from its home base. However, such home bases are only likely to exist at the primary airports in a country (such as capital cities), and it is less likely that direct routes to secondary points in those countries will be established.

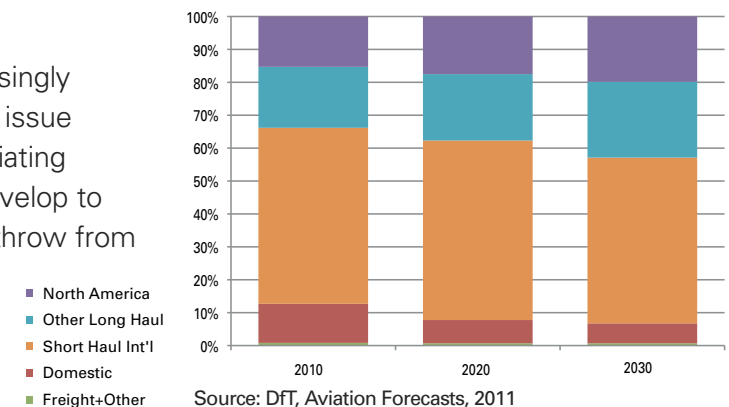
Regional passengers may benefit from capacity constraints in the South-East if this leads to increased choice of direct routes, although routes to London are likely to be squeezed further. The development of significant hub-and-spoke networks at regional airports seems unlikely.

As **Figure 7** showed, traffic at regional airports has fallen significantly over recent years, largely as a result of the economic downturn. However, the DfT's demand forecasts predict that there will be significant growth at regional airports over the next 20 years, driven by a combination of economic recovery and capacity constraints at airports in London and the South-East.

While a number of regional airports are forecast to become increasingly congested by 2030, demand constraints are likely to be less of an issue over much of this period. Regional airports may play a part in alleviating demand pressures at South-East airports; in particular, if routes develop to enable some of the 11m passengers who currently travel via Heathrow from regions outside the South-East each year to fly from airports closer to home.

However, surface access journey times to and from the South

Figure 24: Forecast change in route mix at Heathrow



PART 3: IMPLICATIONS
OF FORECAST
DEMAND GROWTH

East are likely to limit the extent to which passengers from the South East will be prepared to travel in order to access onward flights from regional airports.

Figure 25 shows that there is a large difference between the number of long-haul scheduled routes served from London airports and those offered in the regions.

Significant growth of long-haul route networks at regional airports would require:

- access to a sufficiently large local market (airport competition limits catchment areas);
- the ability to generate significant volumes of premium class traffic; and,
- the ability to attract network airlines or alliances who would supplement local demand with connecting passengers.

It is unlikely that all these conditions will be met and so we do not foresee the development of significant hub-and-spoke networks at regional airports. It is more likely that medium and long-haul routes serving the home bases of foreign carriers may continue to develop at regional airports, increasing the choice available to local consumers.



Figure 25: Long-Haul Scheduled services operated from selected UK airports in 2010

	>250 Departures	>100 Departures
Heathrow	62	83
Gatwick	11	20
Manchester	10	12
Birmingham	2	5
Glasgow	2	4
Luton	1	1

Source: OAG, 2010

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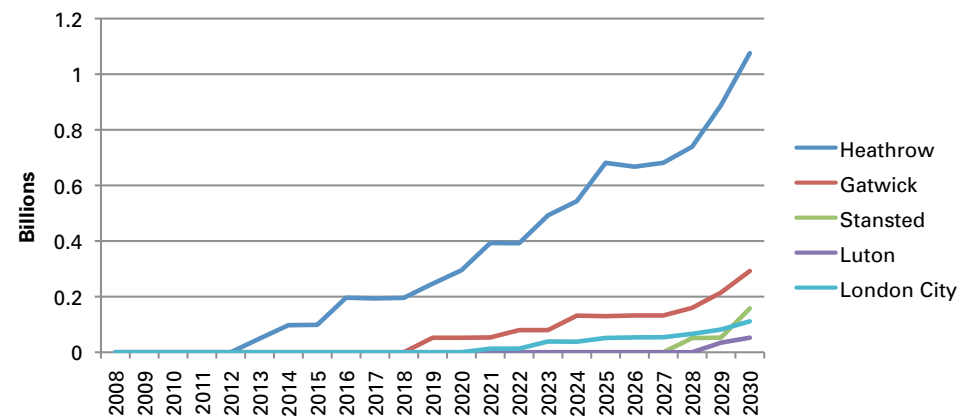
Fares at congested airports are predicted to increase significantly as a result of capacity constraints. The value of fare premiums resulting from capacity constraints at UK airports is predicted to total £1.7bn in 2030.

FARES

The Department for Transport's forecasting model generates a 'premium' on fares to simulate the additional costs to passengers where capacity constraints become binding. **Figure 26** shows that assuming the level of demand growth predicted by the 2011 forecasts, the value of fare premiums resulting from capacity constraints at UK airports is predicted to total £1.7bn in 2030^{xi}.

Spreading this equally across the 330m terminal passengers predicted to use UK airports in 2030, this equates to £5 per terminal passenger or £10 per return journey. There is much variation in how this impact is distributed with significant increases at some airports and very little impact at others. The implied 'premium' per one-way trip at Heathrow would be £12 with the maximum predicted increase being £17 per terminal passenger at London City. In contrast, the model suggests that there would be virtually no price impact at many airports.

Figure 26: 'Shadow' cost of fare 'premiums' generated by congestion at UK Airports (£ Billions)



Source: DfT, Aviation Forecasts, 2011

PART 3: IMPLICATIONS
OF FORECAST
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Resilience issues will become more widespread as an increasing number of airports become congested, if appropriate mitigations are not put in place.

RESILIENCE

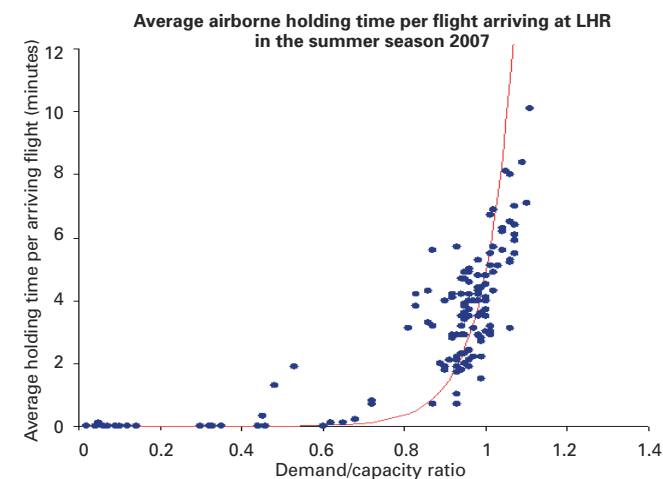
As noted above, the Department for Transport's demand forecasts suggest that an increasing number of UK airports are likely to be approaching theoretical maximum capacity by 2030. In addition to potentially restricting choice and value, increasing congestion could also affect punctuality and resilience at UK airports. It is possible that airspace conflicts between airports could further limit the maximum capacity which could be achieved at some airports.

Where there is effective competition between airports, airport operators are incentivised to take account of the importance of delivering levels of resilience that are acceptable to their users, although Government should be mindful of the commercial incentives that may lead to throughput being set at a level where resilience suffers.

Analysis carried out for the CAA in 2008^{xii}, and updated in 2011 for the South-East Airports Taskforce, demonstrated the trade-off between throughput and delay as airport utilisation approaches capacity. As **Figure 27** highlights, this relationship becomes increasingly severe as congestion grows.

The analysis suggested that the optimal level of capacity utilisation, beyond which the congestion cost of adding additional services outweighs the consumer benefits of the additional flights, is likely to be significantly less than an airport's technical capacity.

Figure 27: Throughput-delay curve for Heathrow, summer season 2007



Source: XPX / Helios, based on airline data

PART 3: IMPLICATIONS
OF FORECAST
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Heathrow already operates above optimal capacity for much of the day, and Gatwick and Stansted (the other airports considered in the study) also experienced severe congestion at certain times of day. While operational performance, in terms of punctuality, delay and resilience, at these airports is at a similar level to comparable European airports, the lack of breathing space particularly affects the airports' ability to withstand and recover from adverse operating conditions, such as the snow or volcanic ash episodes experienced in 2010.

As demand grows and other UK airports become increasingly congested, a lack of runway and airspace resilience could become a more generalised issue.

Through the work of the South-East Airports Taskforce and the Airport Performance Facilitation Group, a number of measures to improve punctuality and operational resilience are being developed, including performance charters and capacity guidelines. While these measures have some potential to mitigate the resilience issues experienced at some South-East airports, they will have limited medium or long-term impact.



CONCLUSIONS

Aviation Policy for Consumers is the first in the CAA's series of three Insight Notes intended to inform the development of a Sustainable Framework for UK Aviation.

In this note we have:

- Examined connectivity from the consumer perspective, concluding that development of the Sustainable Aviation Framework offers an opportunity to refocus the aviation policy debate and develop a framework that is more consumer-focussed at all levels.
- Reviewed the extent to which the UK aviation sector currently delivers choice and value to consumers. We conclude that while UK aviation consumers are currently very well served in terms of the choice available to them, capacity constraints at airports in London and the South-East may already limit the scope to adjust as global economic activity shifts to emerging markets such as China, India and South America;
- Considered the likely implications for consumers of forecast demand growth. We conclude that choice, value and resilience are all likely to be affected in the absence of additional aviation capacity.



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- ⁱⁱⁱ 'Demand for Outbound Leisure Air Travel and its Key Drivers', CAA 2005
- ^{iv} CAP 787 'International Relations - The growth in air travel to visit friends or relatives', September 2009
- ^v World Economic Forum, Global Competitiveness Report 2011-12
- ^{vi} International Passenger Survey, 2010
- ^{vii} City of London Corporation, Aviation Services and the City – 2011 update
- ^{viii} City of London Corporation, Aviation Services and the City – 2011 update
- ^{ix} This may be partly due to the fact that the alliance to which the major carriers at these airports, Air France and KLM, belong – SkyTeam - does not have a strong network presence at Heathrow.
- ^x DfT, UK Aviation Forecasts 2011
- ^{xi} It should be noted that in order for the fare premium to be completely cleared, all capacity constraints at all UK airports would need to be cleared.
- ^{xii} Both reports can be accessed at www.caa.co.uk/apfg

CAA
INSIGHT
NOTE:

02 AVIATION POLICY FOR THE ENVIRONMENT



KEY INSIGHTS

KEY INSIGHTS

- The aviation sector will need to address and mitigate its environmental impacts in the areas of climate change, noise and local air quality if aviation consumers are to continue to enjoy current levels of choice and value.
- The development of the Sustainable Aviation Framework creates an opportunity to develop a policy framework based on a clearly defined set of desired outcomes in terms of each of the environmental challenges faced.
- Government should ensure that intervention to address environmental challenges takes place at the level where it is most effective and proportionate.
- Where policy intervention is appropriate, measures should be designed in a way which maximises their effectiveness and efficiency.

- The Framework should be based on robust information and recognise the trade-offs inherent in the formulation of policy to address environmental challenges.

CLIMATE CHANGE

- Further improvements in the CO₂ emissions performance of the sector remain a priority.
- The aviation sector faces strong commercial incentives to reduce CO₂ emissions, both through the cost of fuel and the internalisation of the environmental costs of carbon emissions through the inclusion of aviation in the EU Emissions Trading System (EU ETS). Nevertheless, more could be done to encourage further improvements in performance.
- The effectiveness of any policy measures will continue to be dictated by their design and the UK's success in building consensus on the desirability of action at the global level.
- The provision of trusted, reliable information to consumers and other stakeholders may have an important role to play in influencing consumer behaviour and incentivising improved performance.
- Climate change is a global challenge. The Government should continue to promote and pursue a coordinated global solution for the aviation sector;
- There is considerable debate about the merits of including aviation in EU ETS and an ongoing need to provide objective information to help inform these discussions.
- Despite the challenges to the inclusion of aviation in EU ETS, this offers the next-best solution.



KEY INSIGHTS



- Setting national carbon targets for aviation or mandatory targets for the uptake of biofuels in addition to UK participation in EU ETS would be likely to limit the efficacy of pan-sectoral incentives and could lead to a net increase in carbon as a consequence.

- However, technical and operational measures, in particular the modernisation of UK airspace, offer significant potential to improve the UK's performance on aviation emissions.

AVIATION NOISE

- Aviation noise is, in many ways, the converse of climate change. As the impacts are often concentrated on local populations, any policy measures should ideally address local conditions and seek to engage local decision-makers.

- Heathrow accounts for more than one quarter of people affected by aviation noise in Europe, based on the European standard measure of 55_{LDen}. There are issues related to aviation noise at a number of other UK airports.

- Recent decades have seen considerable progress in reducing noise generated by aircraft. This trend has been driven by technological improvements and controls on the expansion of aircraft operations at selected airports.

- The development of the aviation policy framework presents an opportunity to develop a new, twin-track approach to noise policy focused on two high-level outcomes:
 - o seeking continued reductions in the number of people affected by noise; and
 - o encouraging better engagement with communities in order to achieve greater consensus in support of sustainable development of the sector.



- Technological improvements are expected to contribute to further reductions in UK aviation's 'noise footprint' in the future.
- The complexity of the available information on aircraft noise and its impact is one of the significant barriers to better engagement on noise issues.
 - o Measuring and modeling aviation noise in order to assess its impact is a challenging task but one that is essential to developing robust policy and sound decision-making.
 - o Improvements in the information that is provided to the public about noise impacts may have an important part to play in facilitating more constructive debate between the aviation sector and communities affected by aviation noise, as well as incentivising progress in aircraft noise performance.
- It may be possible to define or set a 'noise envelope' within which aviation growth would be permitted, as technology and operations reduce noise from aircraft. It would be fundamental for clear outcomes to be established in order to ensure that the design of the 'noise envelope' sets appropriate incentives.
- Policy decisions on the approach to airspace regulation can have a significant impact on the way that noise is distributed. The decision on whether to favour dispersion or concentration of flight paths is of particular importance. The Government has an opportunity to clarify its policy in this area.
- The operational procedures employed by airports and airlines can have a considerable influence on the level of noise created, the impact of the noise and the populations affected. A number of alternative practices could be employed to reduce noise emissions.



- Economic instruments could play a greater part in dealing with noise, consistent with the 'polluter pays' principle.
- The aviation policy framework offers an opportunity to explore new ways of encouraging improved engagement between airports and their local communities.
- The policy framework should therefore look to generate a solution that offers more effective channels of recourse to those that remain affected by aircraft noise.

LOCAL AIR QUALITY

- The current legislative framework governing air quality is generally considered to be credible and robust. There does not appear to be any merit in proposing amendments to the existing arrangements.
- Indeed, there may be lessons learned from the outcome-based, non-sectoral approach to air quality that could be useful in addressing other environmental impacts, for example as part of an alternative approach to noise policy.

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INTRODUCTION**INTRODUCTION**

Environmental concerns are central to the aviation policy debate. The Government has made it clear that aviation will only be allowed to grow further if the sector is successful in tackling its environmental impacts.

The CAA is committed to contributing fully to the development of a policy framework which meets the needs of current and future aviation consumers, tackles the environmental effects of aviation and provides a stable platform for the industry to deliver the investment that will meet these goals.

In the CAA's response to Government's scoping consultation¹ we set out how we



INTRODUCTION



consider that clarity and durability can best be achieved by formulating the policy framework at two distinct levels:

The strategic level: the Government should set broad objectives and the outcomes it is seeking to achieve.

The implementation level: the Government should then set out steps that it intends to take to achieve the outcomes; ensuring the Government only intervenes where it has the ability to drive forward strategy.

The CAA committed to publish a series of three Insight Notes to build on its initial consultation response:

- *Aviation Policy for the Consumer* considers the issue of connectivity from the perspective of current and future consumers. In particular, it addresses the implications of forecast demand growth for the choice and value offered to UK consumers;
- *Aviation Policy for the Environment* is the second document in the series. It considers how UK aviation can grow without unacceptable environmental consequences, focusing on the key challenges of climate change, noise and local air quality:

Part 1 examines the environmental challenges facing the aviation sector and establishes some principles that should be considered in developing an outcome-based policy framework for addressing these challenges;

Part 2 focuses on climate change and considers the balance between the need for a global



framework to tackle a global challenge and the scope for operational and technical measures to be taken forward at a national level;

Part 3 highlights the potential for development of the Framework to establish a new approach to address aviation's noise impacts, based on pursuing the twin outcomes of further noise reduction and an improved relationship between the aviation sector and local communities;

Part 4 looks at local air quality and notes how the current outcome-based, non-sectoral approach to managing air quality issues may offer some useful insights for tackling other environmental challenges.

- *Aviation Policy for the Future: Creating a Sustainable Framework* considers a number of the challenges that will need to be addressed to ensure that the framework provides a robust strategic platform for successful delivery of the investment and improvements to the UK aviation system that will be needed to meet the needs of aviation consumers and the UK economy.

The Scoping Response and all three of the Insight Notes are available on the CAA website: www.caa.co.uk/sustainableaviationframework



The aviation sector will need to address and mitigate its environmental impacts in the areas of climate change, noise and local air quality if aviation consumers are to continue to enjoy current levels of choice and value.

PART 1: THE ENVIRONMENTAL CHALLENGES

AVIATION AND ITS CONTRIBUTION TO CLIMATE CHANGE:

- **Global aviation** accounts for around 2 per cent of global CO₂ emissions^{II}. As other sectors decarbonise and as more and more people want to travel, aviation's share of emissions will grow proportionately unless significant action is taken.
- **UK aviation CO₂** emissions account for around 6 per cent of UK CO₂ emissions. This share could rise to up to 25 per cent^{III}, even if aviation emissions return to 2005 levels by 2050 and UK carbon budgets are met^{IV}. Aviation is due to enter the EU Emissions Trading System (EU ETS) from January 2012. With emissions capped at 95 per cent of 2004-06 levels from 2013 to 2020, the sector is forecast to rely on allowances to meet this target – as a consequence of expected demand growth in the latter part of the decade. Reducing emissions is, therefore, a matter of priority for the sector.
- **Non-CO₂** There are potentially significant non-CO₂ effects from aviation which arise from the emissions of gases and particles including contrails and induced cloudiness. Considerable work has been undertaken in the past decade to attempt to quantify these effects and to assess potential policy options for reducing non-CO₂ impacts, for example through a multiplier or a flanking instrument. Notwithstanding these efforts, further work is required to develop scientific understanding in order to improve the accuracy of quantification of effects and better judge the most appropriate policy measures.

NOISE AND ITS IMPACT:

- The noise generated by aviation activity can have a significant impact on the quality of life of those living close to airports or under flight paths. As many as 725,000 people around Heathrow and under its flight paths are affected by aircraft noise, based on the European standard measure of 55_{L_{Den}}.

PART 1: THE
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- Within the range of noise impacts, night noise is generally considered to be the most contentious issue.

LOCAL AIR QUALITY AND AVIATION:

- Many specific locations across the country, most frequently at roadsides, have been assessed as having levels of nitrogen dioxide that exceed European limits. Road transport is the major source of air pollution at most hotspots. Aviation contributes to local air pollution near airports through a combination aircraft engine emissions, ground operations, and surface access road transport.

AN OUTCOME BASED FRAMEWORK

The Framework should set out the outcomes that will guide the actions of the aviation sector, as well as those to be taken by Government and other regulatory bodies. Outcomes should be capable of standing the test of time, in order to provide clear and robust investment signals to key actors in the sector such as infrastructure operators, service providers and private investors.

The development of the Sustainable Aviation Framework creates an opportunity to develop a policy framework based on a clearly defined set of desired outcomes in terms of each of the environmental challenges faced.



PART 1: THE
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Government should ensure that intervention to address environmental challenges takes place at the level where it is most effective and proportionate.

Where policy intervention is appropriate, measures should be designed in a way which maximises their effectiveness and efficiency.

One of the key challenges for Government will be to determine the appropriate level for intervention, recognising that, in many cases, action may be more effective if taken by others.

In developing a strategic national level framework, the Government will need to ensure that the framework encompasses environmental impacts which are either global, in the case of climate change, or highly localised in the case of aviation noise and air quality. The challenge is compounded by the need to balance these impacts against economic benefits for which governance is primarily national.

The appropriate level of intervention to achieve the desired outcomes will be a function of where it is most effective and proportionate. The Framework has, as its starting point, the current, layered regulatory structures (local, national and international) for tackling the main environmental challenges faced by aviation.

In line with the outcome-based approach that we recommend for the framework, we have identified a series of principles for effective policy intervention. Policy measures should:

- Set clear policy outcomes;
- Create a 'level playing-field';
- Use a mix of incentives and penalties – in order to create appropriate incentives for innovation and over-delivery;
- Be set within a credible, robust and sustainable framework which creates a platform for potential aviation growth, subject to the sector being successful in mitigating its environmental impacts.

PART 1: THE
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The Framework should be based on robust information and recognise the trade-offs inherent in the formulation of policy to address environmental challenges.

In addition to the challenge of developing a framework which takes account of the appropriateness of interventions at multiple governance levels, the Government continues to face the problem of how to measure the net costs and benefits of different policy options, particularly given the broad range of results generated by different ways of estimating environmental impact such as public survey data, estimates of health or economic productivity impacts or hedonic pricing approaches^v.

Robust, credible and impartial information may also be desirable in areas where there are disputes over the seriousness or nature of the impacts or where there are concerns over the impartiality of the information source, such as in the case of noise.

Linked to the desirability of a better understanding of environmental impacts, the Government should recognise, and where possible, factor into its decision-making, the potential for unintended consequences. For example, where the effect of adhering to a policy measure aimed at reducing aviation noise would lead to an increase in CO₂ emissions.

At the same time, such trade-offs are only relevant to UK aviation policy to the extent that national level intervention can influence behaviour. For example, while decisions on airframe and engine development are likely to be driven by global trends, national policy may have some impact on the uptake of these technologies.





PART 2: CLIMATE CHANGE

FURTHER IMPROVEMENTS IN THE CARBON PERFORMANCE OF THE SECTOR REMAIN A PRIORITY

UK aviation emissions of CO₂ have doubled since 1990 to 35 MtCO₂, reflecting increasing demand for aviation driven by income growth and industry deregulation. UK aviation CO₂ emissions now account for around 6 per cent of UK CO₂ emissions.

The aviation sector faces strong commercial incentives to reduce CO₂ emissions, both through the cost of fuel and the internalisation of the environmental costs of carbon emissions

through the inclusion of aviation in the EU Emissions Trading System (ETS).

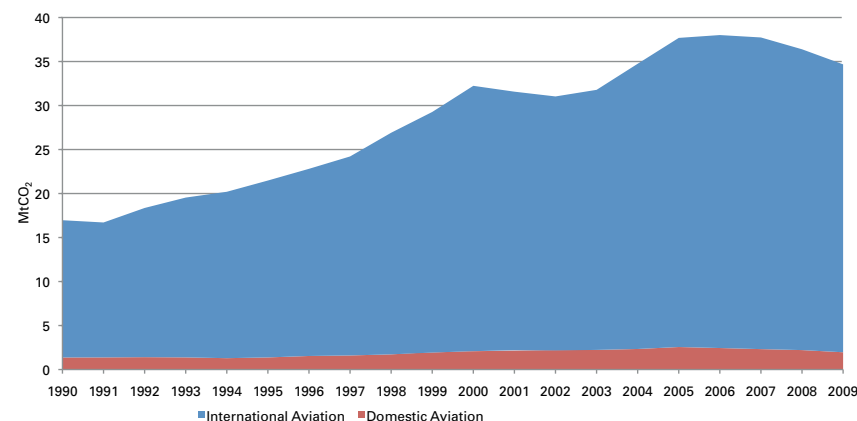
Nevertheless, more could be done to encourage further improvements in performance

The aviation sector continues to make progress in terms of improvements in the efficiency of its aircraft, for example through purchase of more efficient aircraft that harness improvements in both airframe and engine technology; new aircraft are typically 15-20 per cent more fuel efficient than the previous generation. In addition, more efficient operational procedures have an important role to play in improving overall industry performance.

Pan-industry initiatives, such as Sustainable Aviation, have made some progress in this area. Sustainable Aviation's work on 'The Perfect Flight' and its 'Aircraft on the Ground CO₂ Reduction Programme' are positive examples of industry-led initiatives. Increasing fuel costs and entry into the EU ETS mean that the incentives to improve technology and the operational environment further are likely to be even greater in the future.

Given the scale of the sector's challenges, it is likely that further, faster progress will need to be made over the coming decades. Figures published by Sustainable Aviation^{VI} suggest that

Figure 1: UK Aviation Emissions have doubled since 1990



Source: CCC, Progress Report, 2011. Emissions calculated on bunker fuels basis.

its member airlines achieved a fuel efficiency improvement per route tonne-kilometre (a standard unit of aviation productivity), of approximately 5 per cent since 2000, equating to an annual efficiency improvement of approximately 0.6 per cent per annum. To put this in perspective, ICAO adopted a resolution at its 37th Assembly to work with States to achieve a global annual average fuel efficiency improvement of two per cent until 2020 and an aspirational global fuel efficiency improvement rate of two per cent per annum from 2021 to 2050.

The effectiveness of policy measures will continue to be dictated by their design and the UK's success in building consensus on the desirability of action at the global level.

At the strategic level, the CAA believes that the Framework should seek to ensure that the UK approach to addressing aviation's climate change impacts is consistent with the following principles:

- **Overall CO₂ emissions are reduced.** Measures which result in carbon leakage by shifting aviation activity from the UK to other countries will not lead to an overall reduction in CO₂ emissions;
- **The approach to non-CO₂ emissions is adapted as scientific understanding improves.**

There remains a high level of uncertainty on the impact of non-CO₂ emissions such as contrails. The Framework should recognise the evolving nature of the debate in this area, by continuing to support international work to understand non-CO₂ effects.

- **Choice and value are maintained as far as possible.** It is appropriate that consumers should bear the costs of the environmental impacts that their travel choices generate. However, unilateral measures which place a greater burden on the UK than on our international partners risk affecting UK competitiveness and imposing a disproportionate cost on UK consumers;

- **The potential for future aviation growth is incentivised.** Measures which are consistent with potential growth in aviation activity – either as a result of reduction in aviation's CO₂ emissions, trading with other sectors or a combination of these – create positive incentives for the sector to improve its performance and are likely to be more successful than measures that focus entirely on restricting activity.

CAA INSIGHT NOTE:

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The provision of trusted, reliable information to consumers and other stakeholders may have an important role to play in influencing consumer behaviour and incentivising improved performance.

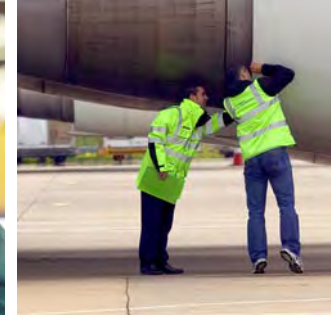
There may be more that could be done to monitor industry performance and facilitate informed consumer decisions through the provision of information. Research undertaken by the CAA^{vii} found that almost two fifths (38 per cent) of consumers thought that having access to information about the environmental impact of the flight they were booking, including carbon emissions, is 'very or quite important'. Making environmental information available to consumers may result in better informed passengers choosing better performing airlines and airports.

Although some parts of industry already provide environmental information, it is not standardised, leading to difficulties in assessing the overall progress made by the sector as well as the relative performance of different companies. Furthermore, the absence of external validation can lead to a lack of trust in the data. There is therefore a strong case for better provision of objective information; the measures in the draft Civil Aviation Bill^{viii} would provide the means for a comprehensive approach to the collection and publication of objective information on environmental performance.

Climate change is a global challenge. The Government should continue to promote and pursue a coordinated global solution for the aviation sector.

There is greatest potential for overall emissions reduction if policy action is taken at the global level. An appropriately designed multilateral solution would minimise competitive distortions and should mitigate carbon leakage between countries.

The CAA considers that the UK should continue to push for a global solution. The current debate around the implementation of the EU ETS potentially creates a window of opportunity to move the global debate forward as non-EU countries make their positions clear, for the first time in some cases. Progress towards a global solution is likely to require a combination of both political and technical approaches.



There is considerable debate about the merits of including aviation in EU ETS and an ongoing need to provide objective information to help inform these discussions.

Despite the challenges to the inclusion of aviation in EU ETS, the European Union Emissions Trading System (EU ETS) offers the next-best solution.

There is considerable international opposition to the inclusion of aviation in the EU ETS. This is largely centred on a legal debate as to whether international agreements, including the Chicago Convention, permit EU-led action to cover emissions generated beyond European territory.

The opposition to EU ETS appears to be unfortunate when considered alongside the lack of progress on a meaningful global alternative at the ICAO level.

In addition, many stakeholders are concerned around the potential for competitive distortions and carbon leakage as a result of implementation of the EU ETS. The absence of objective data contributes to these concerns. Further work is needed to ensure that the policy debate is based on reliable evidence.

Co-ordinated action by all of the present and future major generators of CO₂ emissions offers the best approach to tackling aviation's contribution to climate change. However, progress on a universal accord of this kind has been limited and the medium-term prospects for a binding agreement that incentivises the kind of improvements needed appear limited.

In light of the strong case for immediate action to tackle aviation's CO₂ emissions and the challenge of achieving multilateral consensus, the EU ETS, which will cover approximately 25 per cent of global aviation emissions when it comes into force, offers a next-best solution. The CAA, therefore, continues to believe that the EU ETS remains worth pursuing as a medium-term solution to reducing aviation's carbon emissions. However, EU ETS is, and was always envisaged as, an interim solution and should not be seen as an alternative to a full global agreement.

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Setting national carbon targets for aviation or mandatory targets for the uptake of biofuels in addition to aviation's participation in EU ETS would be likely to limit the efficacy of pan-sectoral incentives and could lead to a net increase in carbon as a consequence.

However, technical and operational measures, in particular the modernisation of UK airspace, offer significant potential to improve the UK's performance on aviation emissions.

The options for intervening at the national level in response to a global challenge such as climate change are extremely limited. Where multilateral measures are in place, for example through the EU ETS or the development of a global solution, it is not necessary to set a national target. Moreover, a national target is likely to distort behaviours, leading to more limited emissions reductions than a cross-sectoral approach that optimises reductions across the economy as a whole.

However, there are a number of technical and operational improvements that can be taken forward at a national level or on which the UK can take a leading role.

Airspace modernisation has particular potential to improve the efficiency with which UK airspace is utilised. The CAA is driving the implementation of airspace modernisation through the Future Airspace Strategy as well as taking a leading role in implementation of the European Single European Sky (SES) and Single European Sky ATM Research (SESAR) programmes.

As part of this modernisation programme, it may be necessary to re-design existing departure procedures, some of which have been in place since the 1960s and which are predicated on terrestrial navigation aids. Modern Flight Management Systems are able to deliver a navigation





solution that meets the requirements of Performance Based Navigation and this provides some flexibility in the design; however, this may result in a change to some existing routes to deliver the anticipated benefits.

These airspace initiatives, which are highlighted in the case study overleaf, have the potential to deliver significant environmental benefits, as well as improvements in safety and increased capacity. This reinforces the importance of policy makers taking a holistic approach to aviation policy that encompasses measures in the air as well as on the ground.

International co-operation in these areas is still relatively under-developed. There is even greater scope for the UK and the CAA to cooperate with international partners in the future, for example through the SES project and associated platforms such as Functional Airspace Blocks (FABs). The scale and scope of the benefits that could be delivered by the major international initiatives demonstrate the need to fully understand the interface between UK policy and actions taken forward in conjunction with our international partners.


CASE STUDY: Airspace Modernisation is crucial to reducing the industry's carbon footprint and fuel burn.

The airspace system encompasses all aspects of the airspace operation including: overall airspace design; the route structure linking the major airports; the ability to manage the flow of air traffic; the communication between all participants in the system; and the systems that increase awareness of all the participants.

Modernisation of the UK, and European, airspace system will reduce the negative environmental impacts of aviation through enabling more efficient use of the airspace and enable aircraft to operate in more environmentally efficient ways, as well as reducing overall fuel costs.

- **Future Airspace Strategy for the UK 2011 - 2030:** The CAA's Future Airspace Strategy (FAS) aims to establish safe, efficient airspace that has the capacity to meet reasonable demand, balances the needs of all users and mitigates the impact of aviation on the environment. The Strategy will drive the implementation of Air Traffic Management (ATM) improvements that reduce greenhouse gas emissions from aircraft and contribute to minimising aviation's environmental impact.
- **UK/Ireland Functional Airspace Block (FAB):** Working with the Irish Aviation Authority (IAA), the CAA established a regulatory framework to support the delivery of a number of projects through the FAB, many of which have significant environmental benefits. It is estimated that over the next five years savings of over 50,000 tonnes of CO₂ will be made annually through more direct routings for airspace users. A rolling four year plan for the FAB is produced by the Air Navigation Service Providers, and approved by the regulators. The plan for 2011-2014 sets out over 25 projects, many of which will have environmental benefits.
- **Single European Sky:** The Single European Sky (SES) Package, being driven by the European Commission, is aimed at creating a harmonised regulatory framework for the European Air Traffic Management (ATM) system in order to enhance current safety standards, to contribute to the sustainable development of the air transport system and to improve the overall performance of ATM and Air Navigation Services.
- **SESAR (Single European Sky ATM Research):** SESAR is a European Commission led research and development programme to develop a modernised ATM system for Europe. SESAR aspires to ensure that this future system will ensure the safety and fluidity of air transport over the next thirty years. It also aspires to make flying more environmentally friendly and reduce the costs of ATM. One of the four high-level goals for SESAR is to enable a 10 per cent reduction in the effects flights have on the environment compared to 2005.

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**PART 3:
AVIATION
NOISE**



Aviation noise is, in many ways, the converse of climate change. As the impacts are often concentrated on local populations, any policy measures should ideally address local conditions and seek to engage local decision-makers.

Heathrow accounts for more than one quarter of the people affected by aviation noise at the European level. There are issues related to aviation noise at a number of UK airports.

PART 3: AVIATION NOISE

Policies to mitigate the impact of aviation noise have led to considerable reductions in noise levels over recent decades, but do not appear to have improved public perceptions of the scale of the aviation noise issue. Aviation noise continues to be a politically sensitive issue, as evidenced by the strength of local opposition to proposed expansion of capacity and operations at Heathrow and other UK airports, or changes to flight paths. Within the wider noise debate, night noise is particularly sensitive.

Aviation noise affects considerable numbers of people living near airports across the UK. Partly as a result of the UK's relatively high population density, the top 15 UK airports account for more than one million of the 2.5 million people affected by aviation noise across the European Union (41 per cent of the total), based on the European standard

Figure 2: The top fifteen airports in the UK account for over one-third of the population affected by noise at the European level using standard measurements.

Airport	Designated by the DfT for noise purposes	Population Impact	Population as a percentage of the total number of people affected across the European Union
Heathrow	*	725,500	28.5%
Manchester		94,000	3.7%
Glasgow		63,600	2.5%
Birmingham		47,900	1.9%
Aberdeen		16,300	0.6%
Edinburgh		15,000	0.5%
London City		12,200	0.5%
Southampton		12,100	0.5%
Gatwick	*	11,900	0.5%
East Midlands		10,500	0.4%
Stansted	*	9,400	0.4%
Luton		8,600	0.3%
Leeds Bradford		8,400	0.3%
Newcastle		5,900	0.2%
Liverpool John Lennon		5,700	0.2%
Totals		1,044,300	41.0%

Source: European Commission, CAA. Figures based on the populations affected by noise using the standard measure of 55 LDen- 2006 figures

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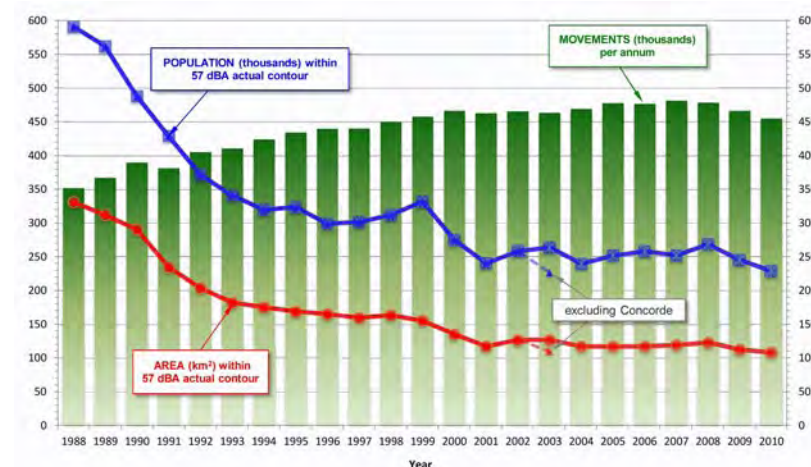
Recent decades have seen considerable progress in reducing noise generated by aircraft. This has been driven by technological improvements and controls on the expansion of aircraft operations at selected airports.

measure of 55_{LDen} . The impact is heavily concentrated around Heathrow, which alone accounts for 28.5 per cent of the European population affected. Three airports are designated for the purposes of noise regulation: Heathrow, Gatwick and Stansted. Designation gives the Secretary of State the power to put in place certain noise mitigation measures at these airports.

Technological advances in airframe and engine design have led to quieter aircraft. These advances have led to a dramatic reduction in levels of aircraft noise despite an increase in the number of movements. At major airports such as Heathrow, the number of people affected by aircraft noise has reduced significantly as a result of technological change, together with enforced adherence to specified flight paths (so called 'noise preferential routes').

The UK's high population density, combined with the tendency for airports to be located near population centres, means that noise is likely to remain an issue irrespective of the pattern of future airport development. Considerable numbers of people remain affected by noise disturbance, despite the fact that the technological progress achieved during recent decades has led to a significant reduction in both the population and area around airports that are adversely affected by aviation noise.

Figure 3: The population and area affected by aircraft noise produced at Heathrow has fallen in recent decades despite increases in the number of movements.



Source: CAA

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The development of the aviation policy framework presents an opportunity to develop a new, twin-track approach to noise policy focused on two high-level outcomes:

- **seeking continued reductions in the numbers of people affected by noise; and,**
- **encouraging better mitigation of noise effects as well as enhanced engagement with communities.**

A national policy response to noise that focuses exclusively on further noise reduction is unlikely to be successful. The policy framework should examine ways of achieving the twin outcomes of encouraging further reductions in noise levels and better mitigating the significant remaining noise impact.

Outcome 1 - Noise reduction. We expect there to be a continuation in the trend for improvements in technology to drive down aircraft noise. This note outlines a number of additional policy options that are available to Government, the regulator and industry to reinforce this trend through changes to regulatory or operational approaches, potentially backed-up by economic instruments.

Outcome 2 – Improved mitigation of noise and community engagement: Even with the projected reductions in aircraft noise, a significant number of residents near airports will continue to be seriously affected by aircraft noise. Noise policy should seek to give greater consideration to mitigating the affects of noise and finding ways for residents and airport owners to engage constructively on the issue.

While there has been significant progress on noise reduction, the second outcome has received relatively little attention. However, there is potential to generate improved outcomes for local communities through more constructive engagement.

Given the complexity of the aviation noise challenge, a package of measures is likely to be required, potentially including some innovative approaches. The rest of this section explores some examples of ideas which could deliver progress against either or both of these outcomes.

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PART 3: AVIATION NOISE

■ OUTCOME 1: NOISE REDUCTION

The measures which could be used to encourage further reductions in aircraft noise and its impacts broadly fall into six categories:

- Technological improvements;
- Information;
- Noise envelopes;
- Regulatory approaches;
- Operational measures; and
- Economic incentives.

The following sections explore a non-comprehensive set of the options available in each of these categories in more detail.

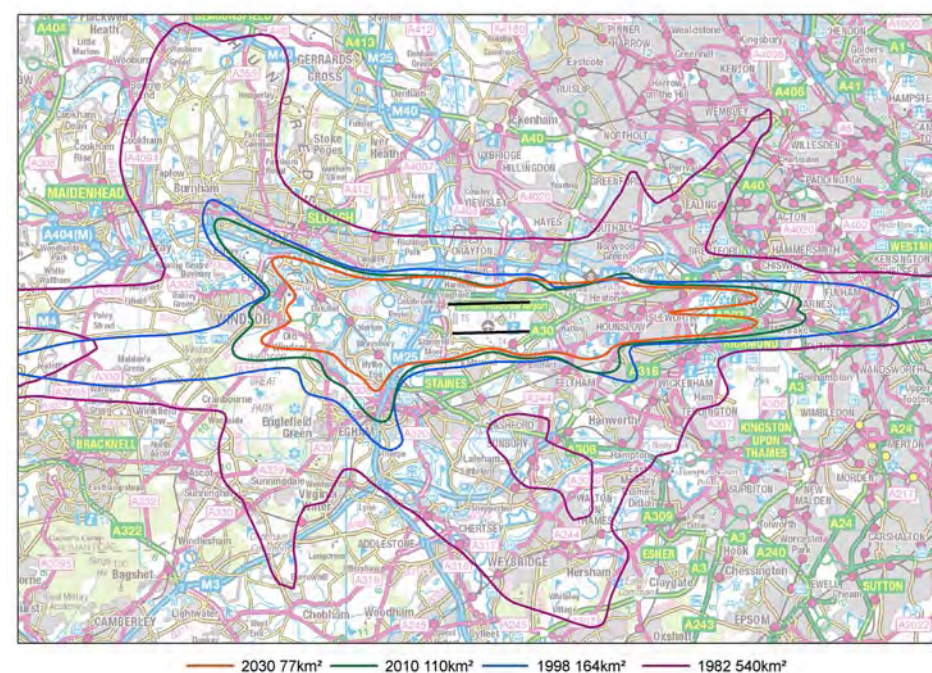
TECHNOLOGICAL IMPROVEMENTS

As aircraft fleets are renewed, and new and re-engined aircraft numbers increase, the noise footprint is projected to continue to fall, potentially by as much as 40 per cent by 2030.

The speed of development in technological developments is likely to be driven by manufacturers responding to global trends. However, action at the local level, involving regulatory, operational or economic policies, has the ability to accelerate the uptake of these technologies at specific airports.

Technological improvements are expected to contribute to further reductions in UK aviation's 'noise footprint' in the future.

Figure 4: Past improvements in the area affected by airport noise are expected to continue over the next few years



Source: CAA. The modelled 57dB Noise Contour at Heathrow for 1982, 1998, 2010 and 2030. 2030 contour based on 2007 forecasts of a two-runway airport operating in segregated mode with a movement cap of 480,000 ATMs.

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Measuring and modelling aviation noise and assessing its impact is a challenging task but one that is essential to developing robust policy and sound decision-making.

INFORMATION

The measurement and modelling of noise issues is a complex discipline. The standard method of measuring aircraft noise is to take into account the number of noise events (i.e. arrivals and departures) combined with the sound levels and duration of those noise events over a given period to give an equivalent continuous sound level. Noise exposure contours can be used to provide a graphical demonstration of the distribution of noise in the vicinity of an airport, with the contour limits often based on an understanding of what constitutes the onset of annoyance due to aircraft noise, derived from research.

Based on research the UK Government has used $57 \text{ dBA}_{\text{Leq } 16\text{hr}}$ as the level of daytime noise marking the approximate onset of significant community annoyance. This contrasts with the $55 \text{ dBA}_{\text{Lden}}$ level used for the purpose of compliance with



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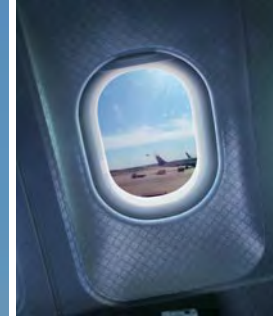
The complexity of the available information on aircraft noise and its impact is one of the significant barriers to better engagement on noise issues. Improvements in information may have an important role to play in incentivising progress in aircraft noise performance and facilitating more constructive debate between the aviation sector and communities affected by aviation noise.

the EU's Environmental Noise Directive. The relationship between noise and annoyance is not exact, and varies according to individuals and locations.

However, statistical models, based on dose-response relationships derived from research, can be used to predict the impact on local populations at differing levels of aircraft noise. This impact can be portrayed graphically by means of noise exposure contours. The impacts of noise include annoyance, sleep disturbance, effects on children's learning and various health effects.

Many airports provide information on the noise impacts of their operations. However, where information is made available, residents and local authorities frequently complain that it is unclear, inconsistent or insufficient to understand impacts, or that the data cannot be trusted because it has been supplied by the airport itself.

In common with other environmental challenges such as climate change, the provision of robust information about aviation noise that can be readily understood could help to encourage further improvements in industry performance and facilitate the search for negotiated solutions, by helping local participants at the level of the airport and local community to develop a better understanding of the noise problems.



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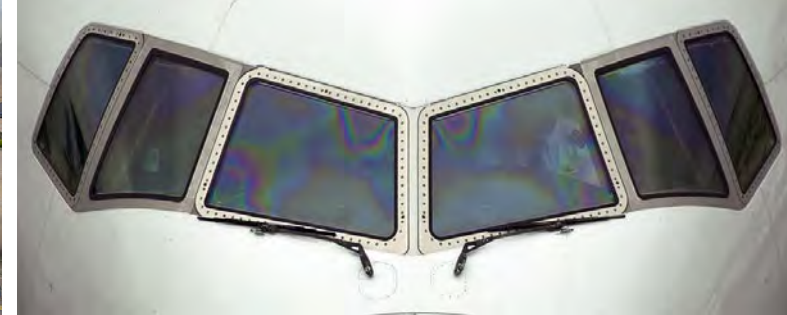
It may be possible to define or set a 'noise envelope' within which aviation growth would be permitted, as technology and operations reduce noise from aircraft. It would be fundamental for clear outcomes to be established in order to ensure that the design of the 'noise envelope' set appropriate incentives.

NOISE ENVELOPES

Subject to the desired outcomes, a noise envelope could be implemented according to a number of approaches:

- **In terms of the inputs that contribute to noise created:** Input measures can be used as a proxy for the amount of noise created. Other things being equal the greater the level of inputs the more noise will be created. Measures such as numbers of air transport movements (ATMs) or passengers are in general relatively easy to understand and measure, objective and for the most part trusted by local residents and politicians;
- **By measurement of the noise itself:** Noise exposure contours can be used to provide a graphical demonstration of the distribution of noise in the vicinity of an airport. Setting a limit on contour area contains the extent of the noise impact but does nothing to minimise the number of people affected or put any restriction on the severity of the impact experienced by individuals within the contour area;
- **In terms of the impact created by noise:** Noise exposure contours and other metrics can be used to form dose-response relationships, which are statistical models that enable the impact of a given amount of noise to be predicted. The impacts of noise range from annoyance, sleep disturbance, effects on children's learning through to health effects. In principle, it would be possible to establish a noise envelope based on these impacts.

The three approaches could also be combined in different ways to give a composite metric. One option would be to assess the amount of environmental detriment per unit of aviation activity. For example, measurement of the noise exposure contour area divided by the number of air transport movements provides a relative measure of environmental efficiency.

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Policy decisions on the approach to airspace regulation can have a significant impact on the way that noise is distributed. The decision on whether to favour dispersion or concentration of flight paths is of particular importance. The Government has an opportunity to clarify its policy in this area.

REGULATORY APPROACHES

Both concentration and dispersion have advantages in terms of the distribution of impacts and disadvantages in terms of operational delivery. In the more densely utilised airspace of the south-east, there is a limit to the degree of dispersion that can be delivered safely, due to the extent of the airspace and complexity of the operation.

Future navigation performance capabilities will allow aircraft to fly chosen routes more accurately in most weather conditions. This increase in accuracy potentially permits the design of an airspace structure that has a number of routes that are flown precisely and as a consequence are closer together, although the complexity of managing UK airspace does not permit an infinite number of routes to be available that could lead to a dispersion effect through the switching on and off of routes in a systemised way – this would be neither practical nor optimal.

The development of airspace management technology, which forms the basis of the CAA's Future Airspace Strategy and the European Single European Sky initiative, creates a window of opportunity for the Framework to define policy on the issue of concentration versus dispersion.

A menu of approaches could be examined:

- **Trend towards concentration:** In the absence of policy intervention, new navigation technologies, which increase navigational accuracy and enable aircraft to keep to the 'centre-line' of existing flight paths would lead to a continuation of the current trend of concentration on existing Noise Preferential Routes (NPRs).
- **Full dispersion:** Under this approach, the burden of noise would be spread across the population, but with defined periods of relief. This option could potentially increase operational



complexity significantly, and may impact on capacity.

- Dispersion within each route:

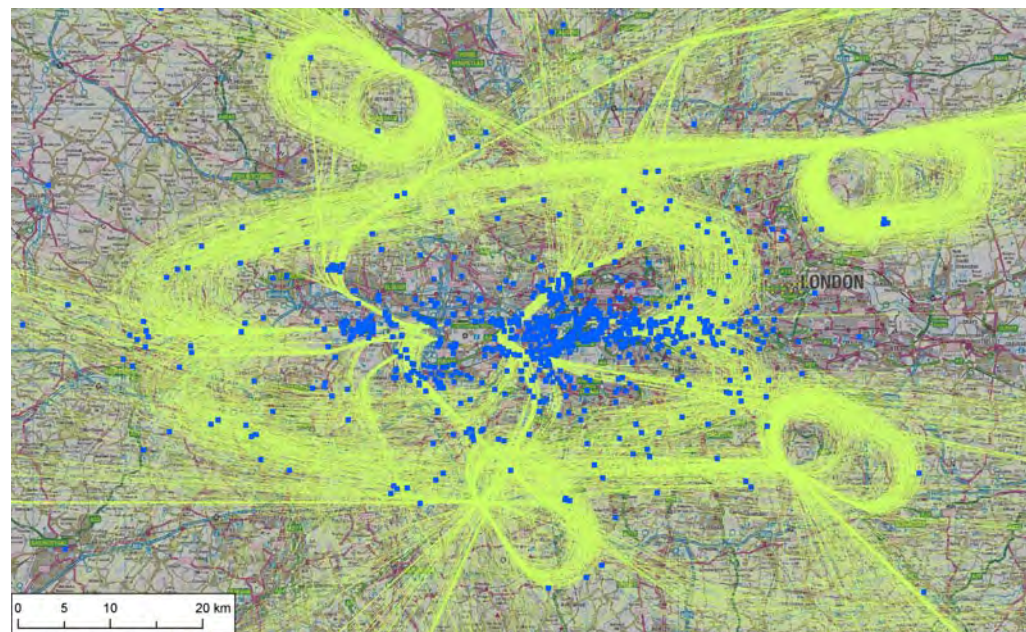
Improvements in navigational technology enable aircraft to fly with increased accuracy within existing NPRs. Accordingly, it would be technically feasible to designate multiple flight paths within a NPR and combine a policy of concentration with alternation between these paths. However, complexity may become the limiting factor in terms of the number of options that may be available.

- Alternation of airspace system:

Sydney airport alternates between ten distinct airspace arrangements. Flight paths are concentrated within each configuration, but local residents benefit from predictable periods of relief from noise disturbance. In the heavily utilised airspace over the South-East of the UK, the complexity of operations may preclude the viability of this option.

It should be noted that a fully dispersed option would have an adverse impact on airspace capacity and the CAA would not be in favour of such a policy.

Figure 5: Complaints are heavily correlated with the distribution of flight paths



Source: Heathrow Airport Ltd. Sources of noise related complaints received by Heathrow Airport, 2010



The operational practices employed by airports and airlines can have a considerable influence on the level of noise created, the impact of the noise and the populations affected. A number of alternative practices could be employed to reduce noise emissions.

OPERATIONAL MEASURES

Potential measures which could be implemented in order to reduce noise emissions include:

Landings:

- **Continuous descent approaches (CDAs)**. In contrast to a conventional airport approaches, aircraft using CDAs descend continuously from the level of the bottom of the holding stack (or higher if possible). A continuous descent requires significantly less engine thrust than prolonged level flight.
- **Steeper approaches** work by changing the standard angle of approach for landings so that the aircraft is at a higher altitude for longer, thereby reducing noise for some local residents.
- **Displaced thresholds** work by shifting the runway landing threshold to a point further along the runway and thus further within the airport boundary.

Take-offs:

- **Continuous climb departures (CCDs)** are the take-off equivalent to continuous descent approaches, with aircraft allowed to climb at a consistent rate of ascent up to the cruising flight level instead of only being allowed to climb in stages, which generates a greater noise impact as well as increased CO₂ emissions.

Some of these options would be easier to apply than others. For example, continuous descent approach procedures have been in place for a number of years at Heathrow, and an industry code of practice is well established^{IX}. In contrast, ideas such as CCDs are less advanced and may even require considerable changes to standard international operating protocols and/or airport configurations.

The fundamental requirement to ensure safety protocols, as well as the need to ensure that all aircraft are appropriately equipped, prevents an immediate change in operational practices. Certain operational measures may also involve a trade-off between aircraft noise and other environmental impacts, such as CO₂ emissions.

CASE STUDY: Case study: Steeper approaches vs Displaced thresholds

One potential way to reduce aviation noise in the immediate vicinity of airports is to introduce steeper airport approaches or by applying displaced thresholds operations. As **Figure 6** below suggests, both operational changes have the effect of increasing the altitude at which aircraft over-fly local communities. Both alternatives would benefit local residents. However, displaced threshold operations have the additional advantage that those living closest to the airport, who are currently worst affected by aircraft noise, would enjoy the greatest benefit.

In common with the other operational changes listed above, both steeper approaches and displaced threshold operations would need to satisfy a number of safety tests before being introduced and require changes to established international operating protocols. Furthermore, dependent on current configuration, airports may need to undertake significant re-engineering work in order to accommodate the altered landing procedures necessary to execute these operational changes.

By way of illustration, **Figure 7** and **Figure 8** give an indicative view of the noise reductions that could be achieved with a 1000m displacement of the landing threshold at Heathrow. Such a change would benefit those living closest to the airport that are currently worst affected. For those residents who live within 3km of the airfield boundary, the noise reduction benefits would be equivalent to a step change in aircraft technology.

Figure 7: Displaced thresholds can have significant benefits for both the number of people and area affected.

Leq Level	Change for 1000m displacement	
	Area	Population
>57	-2%	-5%
>60	-2%	-8%
>63	-1%	-12%
>66	-2%	-31%
>69	-3%	-47%
>72	-4%	-66%

Source: CAA. Change in area and population affected by noise disturbance (various levels)

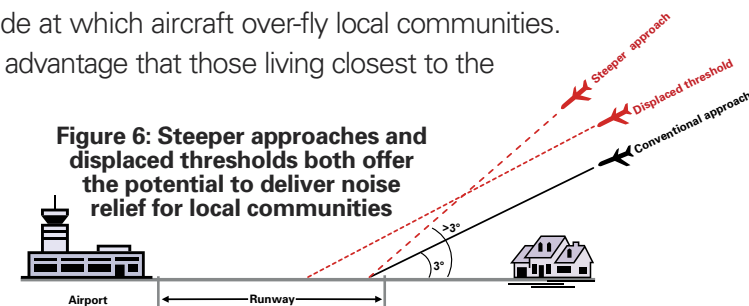
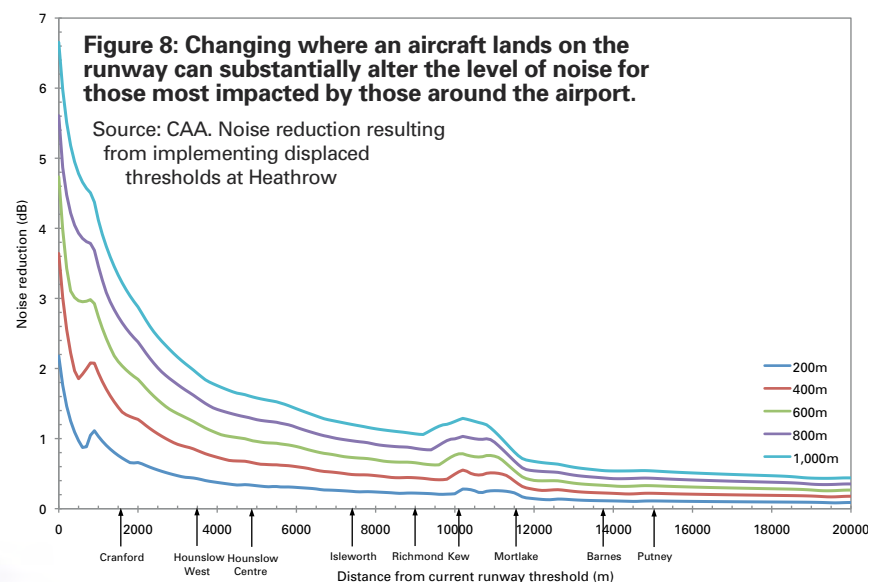


Figure 6: Steeper approaches and displaced thresholds both offer the potential to deliver noise relief for local communities





Economic instruments could play a greater part in dealing with noise, consistent with the 'polluter pays' principle.

ECONOMIC INCENTIVES

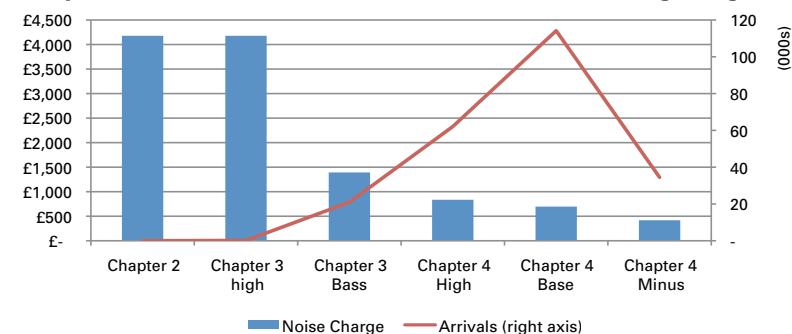
Noise-based charges - Economic instruments have been applied in aviation in an attempt to reduce noise emissions. Noise-based charging is a well-established part of the pricing structures at a number of airports in the UK, including the three noise-designated airports, Heathrow, Gatwick and Stansted. However, Air Navigation Service Providers (ANSPs) currently make no distinction in their charging structures to account for variations in the noise performance of different aircraft.

Where airports levy noise charges, these are typically heavily differentiated between the different "Chapter" noise categories of aircraft established by ICAO^x. The vast majority of modern aircraft operating in Europe fall within the quieter end of Chapter 3 to Chapter 4 noise categories. Airports are increasingly sub-dividing their charges within individual Chapter categories to encourage quieter operations. An illustration of the breakdown of charges at Heathrow is provided at **Figure 9**.

Applying the cap-and-trade approach to noise - Using a similar concept to the 'cap and trade' approach used in emissions trading systems, a 'noise trading system' could be adopted. As with other 'cap and trade' systems, the benefit of such an approach is that it would lead the aircraft operators who generate the noise disturbance to internalise the impact of the disturbance caused to local communities.

Such economic instruments would be complex to implement in practice and further work would be required to establish the feasibility of such approaches.

Figure 9: The majority of aircraft at Heathrow meet the quieter Chapter standards for aircraft noise, and face lower landing charges.



Source: CAA, Heathrow Airport Limited.



However, for the purposes of illustration, we provide a stylised example of how such a system might work:

- The primary capacity cap at airports would be expressed in terms of noise emissions, rather than aircraft movements as at present;
- A 'noise emissions envelope' or quota would be set for each airport level, for example based on modelled estimations of the population affected at a given noise level (see 'noise envelopes' section under regulatory approaches);
- Initial 'noise allocations' would be given to airlines operating at each airport. These allocations would be made on the basis of past performance;
- The size of the overall cap would be reduced over time, for example in line with the long-term trend of technological improvement. This ensures residents get continued benefit from technological improvements.
- As capacity caps are no longer expressed in terms of aircraft movements, aircraft operators who outperform the cap can potentially benefit from increased throughput at an airport, subject to satisfying safety requirements. Airlines are therefore incentivised to address fleet noise performance in order to generate additional flights, subject to infrastructure and operational constraints. Alternatively, noise-efficient airlines can sell surplus quotas to other operators.

PART 3:
AVIATION
NOISE

The aviation policy framework offers an opportunity to explore new ways of encouraging improved engagement between airports and their local communities.

■ OUTCOME 2: IMPROVED COMMUNITY ENGAGEMENT

The experience of recent years suggests that a policy approach based exclusively on noise reduction is likely to fail. Despite the positive trends towards noise reduction, the strength of feeling of those affected by noise has, arguably, increased.

There are a number of potential reasons for this:

- **Subsidiarity:** Previous policy frameworks have not given sufficient clarity or generated consensus about the appropriate balance between national strategic interest and the concern of local communities;
- **Lack of trust:** The relationship between many local communities affected by aviation noise and the aviation sector is complicated by a lack of trust. Local communities are often highly sceptical of both airports and the authorities. Rebuilding this trust, and getting interested parties to engage in a mutual search for solutions appear to be key to a more constructive dialogue on noise;
- **Incomplete institutional arrangements:** The current institutional framework offers limited channels for local communities to express their concerns about aviation noise. Accordingly, local citizens' concerns are heavily skewed towards the national political process via complaints to Members of Parliament.
- **Mismatch between costs and benefits:** The highest volume of complaints about aircraft noise does not necessarily come from the area subject to the greatest noise impact. Communities closest to an airport often benefit from significant local employment which may offset the impact of noise disturbance. In contrast, in other areas, residents may not perceive a direct benefit from being located close to the airport.
- **A conflict of interests:** In the main, airlines and airports face relatively weak incentives to agree ways of reducing their noise impact on local populations. Similarly, affected communities may feel that an airport's ultimate interest is to expand its operations, suggesting that they have little interest co-operating with an airport on noise.

PART 3:
AVIATION
NOISE

The policy framework should therefore look to generate a solution that offers more effective channels of recourse to those that remain affected by aircraft noise.

Improved engagement and communication between the aviation sector and local communities would appear to be a prerequisite for a framework which aims to generate lasting consensus around aviation policy. Given the starting point, it will clearly be challenging to achieve such consensus. However, there do not appear to be any reasons, in principle, why the aviation sector and civil society should not be able to engage more effectively on noise issues. This could take the forms of collective processes of engagement at the community level, or institutional arrangements that allow space for debate and develop confidence among local communities in the information supplied by industry players.

The aviation sector has a mixed history with regard to the assurances made by airports to local populations. Many residents in communities around Heathrow cite commitments made at the time of the Terminal 5 planning process, the spirit of which was subsequently broken when runway expansion was proposed, as a reason for the erosion of trust in the industry. However, other legal or political assurances, such as the Cranford Agreement and the commitment not to build an additional runway at Gatwick until at least 2019, have remained robust over time.

There may be potential to explore legal or quasi-legal agreements such as contracts between airports and local residents, or restrictive covenants on properties in exchange for compensation or mitigation measures. Similarly, formal political commitments such as undertakings or local agreements have been shown to have considerable weight.

COULD THOSE IMPACTED BY NOISE ALSO RECEIVE MORE TANGIBLE BENEFIT?

As noted above, those communities that tend to complain most about noise disturbance often do not perceive direct benefits from being located near the airport.

It follows that a reformed institutional framework should allow the debate to focus on bespoke solutions for individuals or specific communities. Given the need to tailor solutions to local needs, the menu of potential options is necessarily very broad. Some illustrative examples that could be worthy of consideration:

- a council tax rebate scheme funded through a levy on airport charges;
- direct compensation schemes to those that face the greatest noise impact;
- improved noise insulation programs for those who face the greatest impact;
- preferential arrangements for local residents using the airport, (for example free or discounted airport parking, access to fast-track security lanes, discounts applied in airport shopping precincts, access to premium airline lounges when travelling or preferential benefits linked to airline loyalty schemes);
- airport engagement in community projects, for example providing funding for community facilities or services.



■ MOVING FORWARD

In light of the sensitivity of aviation noise, the policy framework will need to develop an approach which meets a number of criteria, in order to move forward on noise:

- Political credibility and sustainability;
- Operational efficiency;
- Create appropriate incentives for both the aviation sector and local communities.

This may involve a combination of measures across one or more of the following areas:

- **Technical** – to deliver further improvements in noise performance;
- **Economic** – to create appropriate incentives on the aviation sector to manage the aviation noise issue efficiently, and to deliver improvements where there is an economic case for doing so; and also to consider whether there is potential to design compensation schemes which internalise the noise problem and unlock local opposition;
- **Institutional** – to address the trust deficit between local communities and the aviation sector, and also to generate greater convergence of local and national priorities and also to narrow the gap between across institutional frameworks, technical measures.

PART 4:
LOCAL AIR
QUALITY

The current legislative framework governing air quality is generally considered to be credible and robust. There does not appear to be in any merit in proposing significant amendments to the existing arrangements.

Indeed, there may be lessons to be learned from the outcome-based, non-sectoral approach to air quality that could be useful in addressing other environmental impacts, for example as part of an alternative approach to noise policy.

PART 4: LOCAL AIR QUALITY

The UK has adopted an outcome-based, non-sectoral approach to addressing air quality, based on the implementation of European legislation.

The Government's National Air Quality Strategy provides the Government's policy framework for air quality management and assessment in the UK. It identifies air quality standards and objectives for key air pollutants which are designed to protect health and the environment.

Of these pollutants, levels of particulate matter (PM₁₀) and nitrogen dioxide (NO₂) continue to exceed the national air quality standards and objectives in some areas, especially in and around London. Aviation activity causes emissions of both pollutants, in particular nitrogen dioxide:

- **Particulate matter (PM₁₀ and PM_{2.5}):** Most PM emissions in the UK are caused by road traffic, with engine emission and tyre and brake wear being the main sources. Construction sites, with high volumes of dust and emissions from machinery are also major sources of local PM pollution, along with accidental fires and burning of waste. However, a large proportion of PM comes from natural sources, such as sea salt, forest fires, sometimes originating far from the UK as is the case with Saharan dust.
- **Nitrogen dioxide (NO₂):** All combustion processes, including aviation, produce oxides of nitrogen (NO_x). In the UK, road transport and heating systems are the main sources of these emissions. NO_x is primarily made up of two pollutants - nitric oxide (NO) and nitrogen dioxide (NO₂).

PART 4:
LOCAL AIR
QUALITY

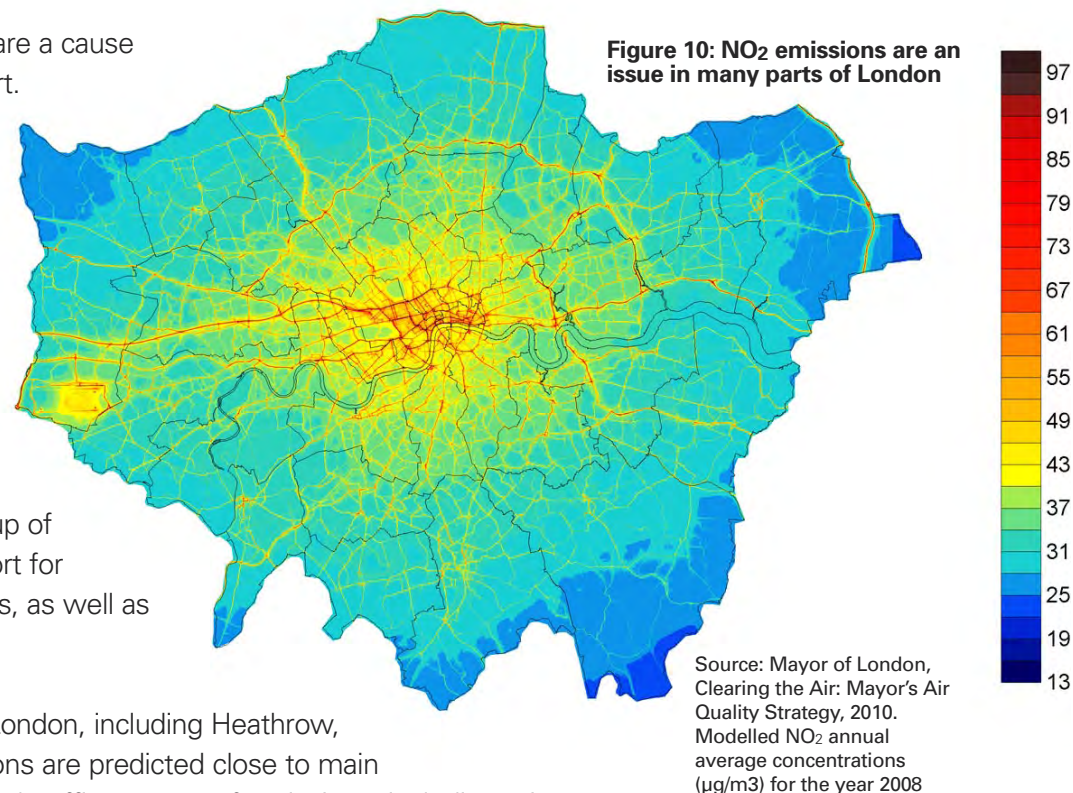
As **Figure 10** shows, NO₂ concentrations are a cause for concern at and around Heathrow Airport.

The highest concentrations beyond the airport boundary occur close to roads in the vicinity of the airport.

The primary causes of NO₂ emissions around Heathrow airport are:

- Ground-level aircraft operations emit large amounts of NO_x,
- Landside vehicles including cars, taxis, coaches, and freight, which will be made up of a combination of traffic accessing the airport for both passenger and freight related journeys, as well as other general traffic.

Modelling of NO₂ concentrations in west London, including Heathrow, clearly shows that the highest concentrations are predicted close to main roads. It is important that airport-related road traffic sources of emissions, including private cars and freight are tackled. However, concentrations of NO₂ are also predicted to be high within the airport boundary and it is important to continue to work to reduce emissions from airport operations in order to improve local air quality.

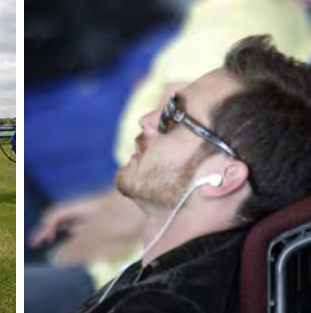


CAA INSIGHT NOTE:

AVIATION POLICY
FOR THE ENVIRONMENT



PART 4:
LOCAL AIR
QUALITY



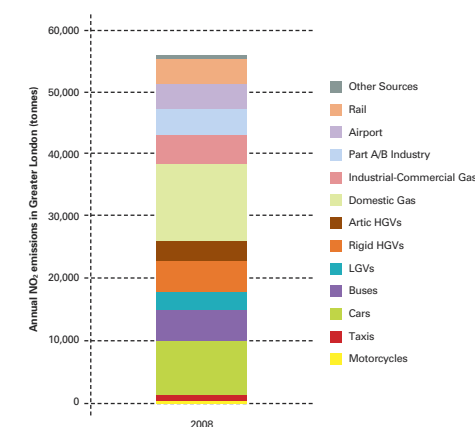
NO_x EMISSIONS FROM ALL SOURCES IN GREATER LONDON IN 2008

The European Union's air quality Directive (2008/50/EC) sets standards for a variety of pollutants that are considered harmful to human health and the environment. These standards, which are based on WHO guidelines, include limit values, which are legally binding and must not be exceeded. The Directive, including the emission concentration limit values, has been transposed into English law by the Air Quality Standards Regulations 2010.

These limit values comprise a concentration value for the pollutant, an averaging period over which it is measured, the date by which the limit values are to be achieved and in some cases an allowable number of exceedences of the value per year. The Directive also includes target values, which are set out in the same manner as limit values, but which are to be attained where possible by taking all measures that do not entail disproportionate costs.

By adopting a non-sectoral approach focused on an overall target for tackling NO_x emissions, the legislation enables reductions to be made in the most efficient manner possible across sectors.

Figure 11: Aviation activity is one of many sources of NO_x emissions.



Source: Mayor of London, Clearing the Air: Mayor's Air Quality Strategy, 2010. Modelled NO₂ annual average concentrations (µg/m³) for the year 2008. NO_x emissions from all sources in Greater London in 2008



CONCLUSIONS

Aviation Policy for the Environment is the second in the CAA's series of three Insight Notes intended to inform the development of a Sustainable Framework for UK Aviation.

In this note we have:

- Considered the environmental challenges facing the aviation sector and identified some overarching principles that should guide Government in determining when and how to intervene;
- Examined the climate change challenge, concluding that, while the overall policy framework should ideally be set at a supranational level, there are significant technical and operational measures that can be taken forward at a national level to improve the UK aviation sector's emissions performance;
- Looked in detail at the issue of aviation noise. We conclude that a twin-track approach is required to deliver significant progress: the sector should continue to seek a reduction in the number of people affected by noise; but a new approach to engagement with local communities is also required. The development of the policy framework presents an opportunity to develop a new, more constructive approach to noise policy.
- Reviewed the existing framework governing local air quality issues. We consider that the current approach is generally seen to be credible and robust. There does not appear to be any merit in proposing amendments to the existing arrangements. Indeed, the outcome-based, non-sectoral approach to air quality may offer a useful case study that could be applied to other environmental impacts.



REFERENCES

- ⁱ http://www.caa.co.uk/docs/589/UK_CAA_Response_To_Sustainable_Aviation_Framework.pdf
- ⁱⁱ Committee on Climate Change (2009), Meeting the UK aviation target – options for reducing emissions to 2050
- ⁱⁱⁱ Committee on Climate Change (2009), Meeting the UK aviation target – options for reducing emissions to 2050
- ^{iv} Committee on Climate Change (2011), Meeting Carbon Budgets - 3rd Progress Report to Parliament
- ^v ‘Hedonic pricing’ is a technique based on the idea that external factors such as environmental impacts are captured in the prices paid for goods or services. For example, in the context of noise, hedonic pricing theory assumes that, all other factors being equal, the impact of noise on communities should be reflected in property prices.
- ^{vi} <http://www.sustainableaviation.co.uk/2011/progress-report-2011/>
- ^{vii} Accent Research into Consumer Preferences,
<http://www.caa.co.uk/docs/2107/2131ConsumerResearch06122011.pdf>
- ^{viii} <http://www.dft.gov.uk/publications/civil-aviation-bill>
- ^{ix} ‘Noise from Arriving Aircraft: An Industry Code of Practice, 2nd edition. November 2006’ Ref:
<http://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/pgr/aviation/environmentalissues/arrivalscodeofpractice/noisefromarrivingaircraft.pdf>
- ^x International Civil Aviation Organisation website: <http://legacy.icao.int/env/noise.htm>

5th March 2013

Mrs. Caroline Pidgeon, AM, MBE,
Chairman, London Assembly Transport Committee,
Greater London Authority,
City Hall,
The Queen's Walk,
London SE1 2AA

Dear Caroline,

Thank you for your letter of 14th February 2013, and for giving me and Richard de Cani the opportunity to give evidence to your Committee on Wednesday 13th February.

We discussed a number of very important aspects of aviation policy and I wanted to write to emphasise some of the points which I feel are of critical importance.

The importance of a hub

London will always have access to a healthy Origin-Destination (OD) market because it is able to draw on a catchment area that is home to a very large population of comparatively well-off residents and workers. However, it is still the case that there are many flights at Heathrow which are dependent on transfer traffic for their viability. In some cases, for instance, the proportion of OD traffic on a route is as low as 20 per cent. Without transfer passengers, approximately 80% of long haul routes from Heathrow would suffer a reduction in frequency or be lost altogether. In 2010 there were 39 routes at Heathrow where more than 50% of passengers were transferring, including Hyderabad (80%) and Mexico City (62%).

An argument is sometimes presented that London's catchment area is so strong that it does not need to compete internationally for transfer traffic. Gatwick, for example, have recently begun using International Air Transport Association (IATA) ticket sales data in what appears to be an attempt to support this theory. However, it will always be the case that an airport which can attract transfer traffic in addition to OD traffic will be capable of supporting a wider range of routes with a higher level of frequency. It can only be beneficial to the UK's economy if we have comprehensive access to as

broad a selection of countries as possible and, conversely, they are able to travel directly to us and invest in our cities.

In particular, the use of IATA ticket sales as a measure of transfer traffic at the UK's airports is, we believe, somewhat disingenuous. As was discussed in the Committee meeting on 13th February, the standard and accepted method for assessing levels of transfer traffic is a survey of passengers conducted by the Civil Aviation Authority (CAA). This method is preferable to analysis of ticket sale data because it is a direct measurement of passenger behaviour; Gatwick's analysis of the IATA data does not capture so called 'self-connectors' (who build their own transfer journeys from separate tickets) and does not give transfer passengers the proper weighting in terms of the capacity they require and the aeroplane seats they fill at an airport. It also attempts to drag down the figure for existing transfer demand by including in the analysis those airports serving London which have no ability to cater for substantial transfer traffic, such as Stansted. The key figure, which is accepted by the CAA as accurate, is that 35% of Heathrow's users are transfer traffic. It is these passengers which make Heathrow so overwhelmingly attractive to the airlines, and allow Heathrow to support routes to critically important new economies which airports like Gatwick and Stansted simply cannot reach in an economically viable fashion.

Airspace over London and the South East

At the Committee's meeting on 13th February we discussed views that had been expressed to the Committee in January about how a new airport on the eastern side of London could affect the management of airspace in the south east. It is undoubtedly the case that the construction of a new, four-runway hub airport at a site where an airport was not previously located would require some remapping of the existing airspace configuration. But, as Mr. Osborne from the CAA made clear on 13th February, this remapping will be required whatever course of action we decide upon because as things stand our airspace is already full. As for the impacts that such a remapping could have on Schiphol – or on airports in Germany or France, for that matter – I do not quite see how that is our concern. I am confident they would have a similar attitude when it came to consulting us about airspace implications of airport expansion in their own countries.

While commenting on airspace, I would like to take the opportunity to emphatically refute any suggestions made by National Air Traffic Services (NATS) that a new airport located on the eastern side of the capital would lead to a greater population being adversely affected by aircraft noise than is currently impacted upon by operations at Heathrow. This would patently not be the case: even a brief study of the flight patterns in and out of Heathrow shows that, were they to be transferred to a

location in the inner estuary such as the Hoo Peninsula, aircraft would adversely affect radically fewer residents.

I do acknowledge that there is a need to carry out detailed analysis to bottom out the environmental impacts of specific airport locations on population centres. Transport for London and their consultancy team will be conducting this work over the coming months. Meanwhile, NATS readily admit that they have not carried out any of this work and that the statements they have made are not grounded in firm evidence. My personal feeling is that we should be extremely careful about ruling out airport expansion options on the 'hunch' of an organisation which, it is worth noting, is majority-owned by private shareholders and has its own interests.

The economy of west London

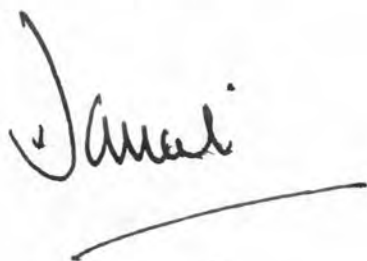
There was a suggestion during the Committee meeting that the effect on west London of building a new hub airport on the eastern side of the capital would make "closing down the pits look easy". I understand that this was a quote from London First's comments at a previous session of the Committee.

London's development to the west has historically been driven by a range of factors, not just Heathrow airport (e.g. access to skilled and deep labour markets, attractive housing markets, the canal, road and rail network and access to local and central London markets – there are 1.5 million people in west London). As a result west London has a diverse range of long term and enduring economic strengths including creative industries (ICT and digital media), the food industry, tourism, recreational and cultural activities. In fact, Heathrow airport only accounts for around three per cent of jobs in west London.

Should there be a new hub elsewhere and Heathrow become smaller, London would have a fifteen year planning horizon to put in place a transition plan. Following that, firms currently located in west London will have excellent surface access to a more reliable and more effective hub airport serving a wider range of international locations. In addition, east London would have the benefits of closer access to the jobs and growth a major new airport would generate. Since aviation is an industry set to grow (as continues to be supported by the most recent Department for Transport growth forecasts), I am confident that east London's gain is not an equivalent loss to other parts of the capital.

Aviation policy is a huge and fraught subject, which is one reason why we as a country have failed to reach any substantive decision on it for a number of decades now. Our discussions on 13th February and this letter only scratch the surface. Should your Committee require any supplementary evidence then please do let me or the Mayor know and we would be very happy to oblige.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Jamie', with a long horizontal flourish extending to the right.

cc. Mayor of London
cc. Michèle Dix, Transport for London
cc. Richard de Cani, Transport for London

FAO Caroline Pidgeon Chair of the Transport Committee

London Assembly

By email transportcommittee@london.gov.uk

Date: 27 February 2013

Dear Ms Pidgeon

LONDON ASSEMBLY AIRPORT CAPACITY IN LONDON

Thank you for the opportunity to respond to the London Assembly's airport capacity study.

We present a brief summary of our interests.

We would look for any new airport proposal for London or the South East to be consistent with government's current Draft Aviation Policy Framework (APF) consultation. The draft APF was published in July 2012 and sets out government's draft sustainable framework for UK aviation and the high-level policy parameters within which any new proposals for airport development may be considered.

The final APF is expected to be adopted by the end of March 2013.

If a proposal were to be submitted it would, as with any major infrastructure project, have to be accompanied by an Environmental Statement to identify any potential impacts and how they will be mitigated. It is not just the airport terminals and runways that will have to be considered but also the impacts of the considerable support infrastructure such as utilities, freight depots, ancillary services, roads and other transport networks.

Selection of the appropriate environmental criteria to measure the impact of proposed airports on local communities and the natural environment is key to the environmental assessment. Criteria and metrics related to climate change, noise, air quality, and impacts upon wildlife and biodiversity are important and high profile issues for airports. We suggest any chosen metrics should be adequate to demonstrate compliance with environmental legislation and demonstrate how airports affect air, land and water and how this impacts on people and the natural environment. These could usefully be covered under headings such as:

- Air quality.
- Noise.
- Carbon emissions.
- Surface and ground water quality.
- Use of natural resources (energy, water quality, water use and waste management).
- Climate Change adaptation and mitigation.
- Flood risk.
- Biodiversity.

- In terms of London and the Thames Estuary key issues for consideration would be:
- London and the Thames Estuary are located between the UK's two driest regions – the south-east and east of England which currently experience periods of water stress. The future water needs of a new airport and mainland facilities would need to be built into the water supply strategies for these 2 regions and a sustainable source agreed before the development goes ahead.
- we would expect any proposal to be designed to comply with EU air quality limits.
- we would expect any proposal to enable appropriate surface and ground water quality environmental quality standards to be met along with the objectives of the Water Framework Directive.
- the impact of any purpose built island on the hydrology of the estuary, potential erosion of the mainland, and fisheries and fish nursery grounds would need to be assessed.
- a flood risk assessment would need to identify the current and future likelihood and consequences of flooding, along with how the development would manage the risk of flooding from tidal storm surges. The assessment would also need to consider the support infrastructure located on the nearby mainland, much of which is in the tidal floodplain, and any impact on local flood risk. The assessment should take into account the proposed policies in our Thames Estuary 2100 Flood Risk Management Plan.
- we would expect any proposal to be compliant with the EU Habitats Directive and assess, mitigate or compensate the impact on European, National and Local Conservation sites within the estuary marshes and mudflats, which are home to thousands of migratory birds.

At this time, without specific detailed proposals (location, size etc.) and proposed mitigation measures, it is impossible to determine the significance of any environmental impacts. A more detailed response will therefore be provided when we receive more comprehensive information on the location and extent of any development, including projected passenger numbers and air traffic movements.

We welcome early engagement with any organisations developing or discussing airport proposals. Our early engagement with other organisations on similar large infrastructure projects has helped to identify any environmental problems at an early stage, increase certainty over planning or permitting requirements and help deliver the projects on time.

For your information we are currently engaged with TfL to input into the Mayors Airport Capacity Study. We are also happy to work with the Assembly to find sustainable solutions for London's aviation capacity issues.

Do not hesitate to contact me to discuss our comments further if this would be of assistance.

Yours sincerely

Ian Moxon

Account Manager
London Environment Team
Eastbury House, 30-34 Albert Embankment,
London, SE1 7TL
Tel 0207 091 4078

Submission by Gatwick Airport Limited to the London Assembly Investigation into airport capacity in London

Executive Summary

Gatwick's vision is for a competitive network of three two runway airports serving London at existing sites. London's airports are not full today, but a new runway will be needed by the mid-2020s. We believe that Gatwick may be the most practical and environmentally sustainable capacity option. It will give passengers real choice and could meet projected demand up to 2040. Stansted could grow after that point. Heathrow should not expand at all. **Passenger demand for a single, dominant 'hub' airport with three or four runways - either at Heathrow or elsewhere - has been greatly exaggerated.** Gatwick's vision may better connect London to the world, whilst reducing fares, boosting competition between airports and promoting a better quality, better value air travel experience for Londoners and visitors to London. The environmental impact would also be far less extensive than expanding Heathrow. **Any new capacity 'option' must support how Londoners want to use their airports and where they (and those who come here) actually want to travel to and from. How best to improve their experience at airports and their quality of life at home is also critical. Gatwick's vision supports these objectives. No new runway can be constructed before the early 2020's. There are however shorter term measures that should be taken to enhance existing runway utilisation.**

- **Arguments for airport capacity expansion** include the fundamental link that exists between aviation infrastructure investment and economy. These include short term 'supply side' economic effects such as new jobs and the spending they stimulate. Long term 'indirect' benefits include increased trade and inward investment. The growing social and cultural importance of air travel to and from London is also a key reason for some form of growth in capacity.
- **Arguments against airport capacity expansion** include the environmental impact, both locally and nationally. This impact varies according to each option, and should be an important factor in assessing them. Expanding Gatwick would impact fewer people than expanding Heathrow.
- **London's airports are not full today. Only Heathrow is.** London's terminals could support 40% more passengers than they do today by 2020. Today, existing runways can already support 30% more flights. Gatwick itself could accommodate 11 million more passengers and 40,000 more flights every year.
- **Today, growing London's connectivity is not solely dependent on more 'hub' capacity.** More than 93% of demand to use London's airports is to travel to and from London only. Not to use Heathrow or Gatwick to 'transfer' or 'hub'. New routes to China and the Far East are already being supported outside of Heathrow. Short term public policy initiatives should support growth in this kind of connectivity with the capacity available today.
- **By the mid 2020's, some form of new capacity will be needed to maintain and grow London and UK's connectivity.** Serving some destinations, where demand is minimal, may require more 'hub' capacity. Serving many may not. The nature of 'network' airlines and alliances will evolve. What demand there is to 'hub' through London may be catered for in a different way than it is today. Likewise, boosting competition, rather than re-establishing market dominance, is the best way to deliver the capacity required.
- **In assessing any capacity 'options' the following issues should be focused on:**
 - a) *How passengers want to use London's airports:* The overwhelming demand is to travel to and from London.
 - b) *Where passengers want to go:* The overwhelming demand is for travel to mature, established markets and other global cities. Traffic to mainland China, although important, will remain a relatively small part of the London market.

- c) *Whether airport competition is maintained*: This is key to reducing fares and boosting the quality of experience for the passenger.
- d) *The environmental impact*: the focus must be on those options which cause environmental impacts that affect the least number of people in the smallest area.
- e) *Travel to and from an expanded airport*: New capacity will require upgraded surface transport. Options which deliver what is needed, but cost the taxpayer the least, must be focused on.
- f) *Resilience*: The future resilience of London's airport infrastructure to disruption must be a factor. Snow is a good example. A single, dominant mega 'hub' would make London more vulnerable to bad weather, with the likelihood of disruption to key routes being maximised.

1) What are the arguments for and against changing existing airport capacity in London? What is the evidence in support of these arguments?

1. The arguments both for and against changing existing airport capacity around London can be categorised in a number of different ways. However, independent evidence does suggest that some form of new capacity is needed by the middle of the next decade. Our more detailed views are set out in paragraphs 2-22.

For: The link between aviation infrastructure investment and economic growth

2. On a fundamental level, aviation enhances the productivities of economies by providing better access to markets, enhancing communications between and within business and providing access to a large labour pool¹. In assessing these basic trends, most studies focus on discussing the short and medium term effects that underlie them.
3. One of the more recent studies showed that the aviation sector contributes £53 billion a year to the UK economy, or 3.4% of UK GDP as a whole, and that the activities of the sector support 963,000 jobs². Other studies have used different definitions of what the aviation sector is. They have, for example, not included the aerospace supply chain, instead focusing solely on airlines, airports and the activities of their service providers and have tended to exclude 'catalytic' spending, such as that by inbound tourists. Even in this more isolated scenario, aviation has been shown to generate £8.8 billion of GVA every year, and 141,000 jobs³.
4. These kinds of effects are typically based on direct, indirect and induced multiplier estimates that can also be produced by other sectors of the economy. They are often termed as 'supply side' effects. The fact that they are produced to such an extent by the aviation sector reflects the level of existing and increasing demand for people to travel by air.
5. What is unique in terms of aviation's economic contribution is the longer term and permanent effects that arise from investment in, and use of, new airport infrastructure. Many have rightly focused on the degree to which the connectivity that airport infrastructure facilitates can help to support sources of growth elsewhere in the economy. For example, one recent study showed that a 10% increase in the UK's international connectivity would add £890 million a year to the UK economy⁴.
6. As such, it is not just the jobs that aviation supports, and the value that an airport's growth in traffic and passengers can add to the value to the economy today, that provides an economic rationale for growing capacity. Aviation's broader 'enabling effects', such as the trade and inward investment it facilitates, are also a major source of future growth for London's economy.
7. Figure 1 (overleaf) outlines the short to medium term, or 'direct' economic benefits (on the left) and the long term (or 'indirect') benefits (on the right) that investment in additional airport infrastructure within the London and South East region could bring:

¹ Dr. MW Tretheway, (InterVISTAS) ACED Conference, 20 September 2010

² Oxford Economics, *Economic Impacts of Air Transport in the UK* (March 2011)

³ Oxera Consulting, *The Importance of Aviation to the UK Economy* (October 2009)

⁴ Oxford Economics, *Economic Impacts of Air Transport in the UK* (March 2011)

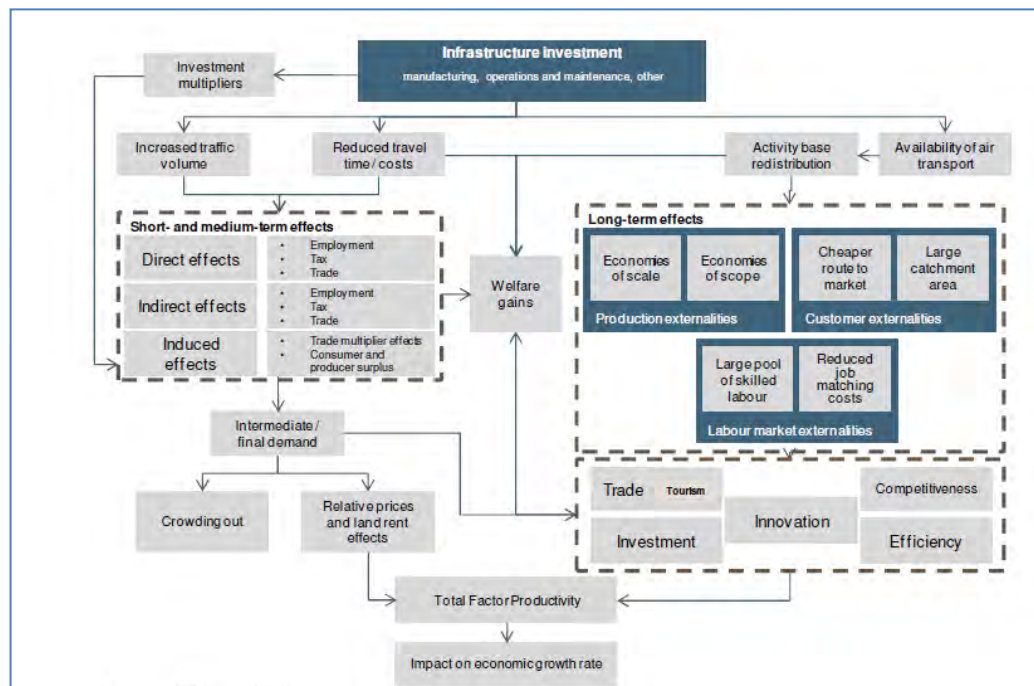


Figure 1 (Source: Gatwick Airport)

8. More recently, the Mayor has published a range of specific studies outlining the economic importance of aviation infrastructure to London and the South East. He notes that the region's airports employ around 130,000 people directly- which is approximately one job per thousand annual passengers⁵.
9. Many of the benefits that the aviation industry generates for London are related to its main subsectors and, in particular, to business and leisure travel. Air travel continues to play a crucial role in enabling commerce. Financial and business services which are geographically concentrated in London are highly reliant on it. For example, Banking and Finance accounted for £1.3bn, or 92% of the total spend, on air transport in 2008⁶.
10. Inbound tourism also generates substantial export revenue, jobs and investment. London is the most important entry point. It is the principal destination for 50% of the UK's 30 million annual overseas visitors⁷. Aviation infrastructure serving London is a critical enabler for the growth that overseas visitors bring.
11. The outbound tourism that London's airports facilitate is also a source of economic growth, accounting for as much as 1.6% of UK GDP. This is mainly through people preparing to travel abroad to go on holiday. In fact, domestic spend on outbound travel products and services in the UK is almost exactly equal to the spend by UK tourists abroad. In other words, holidaymakers spend as much in the UK on their holiday as they do when they are away⁸.

For: The growing social and cultural value of air travel

12. The wider use of London's airports and the air travel they facilitate has a direct social value for the everyday public. Today's public want to fly more. Not less. This is partly because flying is generally seen as desirable and is linked to broader social and cultural aspirations. This will continue to drive demand for airport capacity - particularly in London and the South East

⁵ The Mayor of London, *A new airport for London: part 2- the economic benefits of a new hub airport* (November 2011)

⁶ Ibid

⁷ Ibid

⁸ ABTA, *Driving Growth: the Economic Contribution of Outbound Travel*, (May 2012)

where population density is greatest. A recent study by the Fabian Society on public attitudes to flying suggested that:

“The strength of attachment to flying is an important element of public attitudes. Even participants who had expressed strong concerns over the climate impacts of flying openly stated that they held aspirations to fly more. The importance of holidays was not just the enjoyment of the holiday itself but also represented an element of lifestyle aspiration”⁹.

13. Similarly, London’s demographic make-up and multicultural history has meant that demand to fly purely to ‘Visit Friends and Relatives’ (VFR) has risen substantially in recent years. One third of London’s population was born abroad and 40% of the UK’s migrants live in London¹⁰. The fact that the number of ‘VFR’ passengers travelling through London airports grew by 14.5 million since 2000, to about 35 million a year by 2007, is undoubtedly linked to this¹¹.

For: Competition between airports is better for passengers

14. The introduction of competition into a range of infrastructure provision has led to significant improvements in the end-user experience in many sectors. It is for this reason, in part, that the Competition Commission (“CC”) mandated the break-up of BAA’s South East airport monopoly. In a 2009 report, The CC concluded that competition between the main London airports would be better for passengers’ interest than the retention of the BAA monopoly. This is confirmed by a range of independent research that shows that dominant ‘hub’ airports result in higher air fares than might otherwise be the case, especially in the absence of competition from other airports¹².
15. BAA’s failure to deliver new runway capacity at its South East airports since its 1986 privatisation was a particular feature of the CC’s conclusions. The introduction of competition into the South East airports sector is particularly relevant now that future expansion is being considered. The CC outlined that competing airports would seek to influence Government policy as to the location of the next runway and confirmed this view in 2011 when BAA lost its appeal against the sale of Stansted.
16. With the announcement of the Airports Commission, the competitive dynamic envisaged by the CC can now manifest itself. The short term measures being investigated the Airports Commission, as well as the longer term runway options, will all benefit from the main London airports seeking to influence the outcome of the Airports Commission, and then the Government of the day.
17. Innovative ways of providing the connectivity that London needs will need to be considered before any decision to expand any of the airports. Under common ownership, Gatwick would be prevented from considering alternative ways to meet the connectivity needs of London, since Heathrow’s transfer product would be the only method to be considered. Under separate ownership, Gatwick is actively considering how best to compete with Heathrow’s transfer product. Gatwick’s offering of a competitive transfer product would help to address the connectivity challenge that London may in future face.
18. Competition will not flourish to its full extent until Stansted has been sold by BAA and the airports in the South East are freed from economic regulation. Gatwick has, for some time, been clear that economic deregulation of Gatwick would be the best way for passengers’ interests to be protected. The importance of the issues facing the Airports Commission reinforce our view that competition, not economic regulation, is the best way to encourage the airports sector to maintain and deliver the connectivity that London needs. Further rationale for economic de-regulation is outlined in Appendix Four.

⁹ Fabian Society, *Everyone on Board: Bringing the public into the aviation debate*, (May 2012)

¹⁰ Migrants Rights Network, *Migrant Capital: A perspective on contemporary migration in London* (June 2010)

¹¹ CAA, *CAP 787: International Travel- the growth in travel to visit friends and relatives* (September 2009)

¹² I. Kincaid and M. Tretheway, “The Effect of Market Structure on Airline Prices: A Review of Empirical Results,” *Journal of Air Law and Commerce*, Volume 70, Issue 3, Summer 2005.

Against: the environmental impact

19. It is clear that any expansion of current airport capacity would have to be balanced against the undoubted environmental impacts that would result. We outline our assessment of these impacts in paragraphs 104-115. In sum though, the principal local environmental impacts are increased airport related noise, and an adverse effect on local air quality. There is no doubt that additional impacts would result in some form. However, improved aircraft technology will mean that the extent of these impacts will reduce relative to the increased numbers of flights that result from greater capacity.
20. More broadly, the relative extent of any environmental impact varies considerably according to which capacity 'option' is implemented. In our view, this should be a key factor in assessing their overall merits. We would expect the Airports Commission to recommend the capacity 'option' that supports the broader connectivity needs of the UK and London, whilst also impacting the least amount of people within and around it.
21. On a more national level, the potential for carbon emissions from a larger number of flights at London's airports need to be assessed. There has been a substantial amount of research undertaken on this. It has been determined that the UK Aviation sector can already maintain 2005 levels of net carbon emissions to 2050, even with the Government's projected levels of growth demand for air travel in the UK taken into account. The introduction of the EU Emissions Trading Scheme (EU ETS) within the aviation sector has the potential to cut this level further delivering a net reduction¹³.
22. **In the long term, there is a great deal of potential for sustainable biofuels to reduce carbon emissions from UK aviation.** A number of 'drop in' and fully certified alternatives to conventional jet fuels that have lower life-cycle carbon emission are now in use. They are projected to reduce net UK emissions from aviation by between 15-24% by 2050¹⁴. There is a role for Government in supporting the production of a sufficient amount of sustainable base material for biofuels to make their widespread introduction more economic. This could be done through either incentivising production, or prioritising existing supply towards aviation. This would help to increase the substantial contribution that sustainable bio-fuels could make in this area.

2) What are the current levels of airport capacity and future estimates of demand for aviation travel? What is the basis for the estimates?

Current levels of capacity across London airports

23. 'Airport capacity' can be measured in a number of different ways. First, terminal capacity - or the overall number of people in a given year (usually referred to as "mppa") that an airports terminal buildings are capable of catering for prior to, and following, their flight. Second, runway capacity- or the overall number of Air Transport Movements¹⁵ ("ATMs") that an airports runway(s) can accommodate over the course of a year. Some commentators also refer to 'peak capacity', which is the greatest possible number of ATMs that an airport can accommodate in a given hour of the day.
24. Figure 2 (overleaf) outlines that, by 2020, **there will be sufficient capacity within London's airport terminals to accommodate 40% more passengers a year than they do today.** A substantial amount of this capacity is today, and will be in future, at Heathrow Airport.

¹³ Sustainable Aviation, *Carbon Roadmap* (December 2011) It is worth noting that the European Commission have recently granted a derogation for non EU airlines to participate in EU ETS pending a 'global deal' being reached on a global carbon trading scheme through the International Civil Aviation Authority (ICAO). This may impact the overall amount of carbon savings the scheme could achieve in the short term.

¹⁴ Ibid

¹⁵ An ATM is equivalent to either one take-off, or one landing, at the airport concerned.

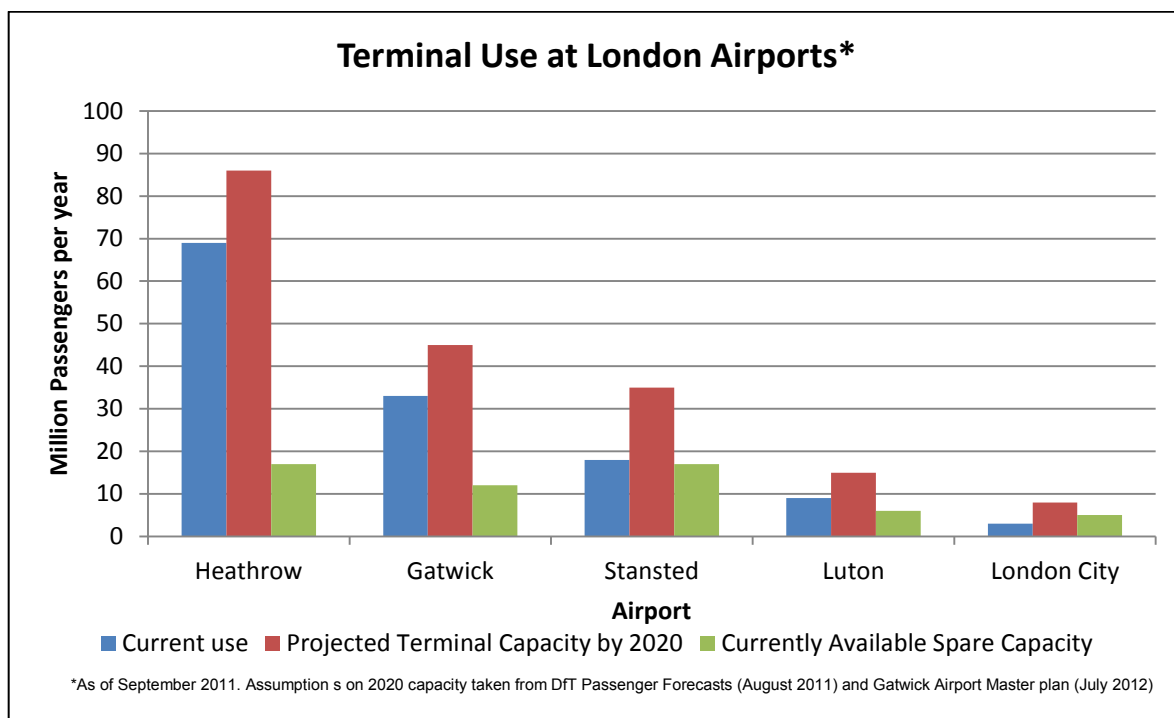


Figure 2

25. There is also a substantial amount of runway capacity available at London's airports as well. Figure 3 outlines that **today, another 300,000 flights could take off and land at London's airports every year with no new runway capacity. This is a 30% increase from today's levels.**

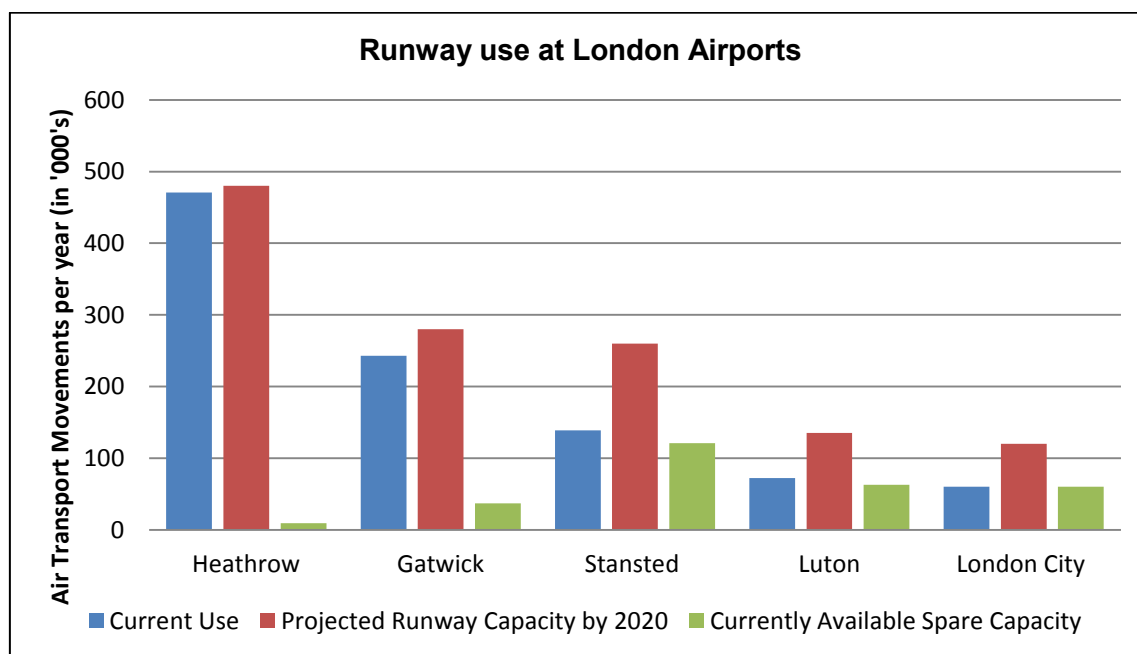


Figure 3

26. **Figures 2 and 3 demonstrate that, today, there is no capacity crisis at London's airports.** While some airports, such as Gatwick, are subject to some constraints at particular times of the day in some months of the year, only Heathrow operates at close to its permitted annual number of movements to and from the airport. **London's airports are by no means full. Only Heathrow is.**

Current capacity levels at Gatwick Airport

27. **The Mayor's office has stated that Gatwick "operates in excess of 95% capacity"¹⁶. This is not an accurate view. Neither was Gatwick consulted on its use.** In July 2012, Gatwick published its airport Master plan. In it, we clearly stated that Gatwick is operating somewhat below this level both in terms of 'terminal' and 'runway' capacity.
28. Taking today's passenger numbers as a benchmark, **we project that Gatwick could accommodate an additional eleven million passengers a year before reaching the absolute capacity** of its current one-runway, two terminal configuration. This is more than the whole annual passenger traffic of Birmingham Airport today. While it would be a challenge to achieve, the theoretical capacity of Gatwick today is approximately 45 million passengers per annum ('mppa'). **We are currently welcoming around 34 passengers per year to Gatwick.**
29. Likewise, the amount of runway capacity made available to airlines at Gatwick is actually rising, even as passenger numbers rise in parallel. Figure 4 outlines recent annual trends in the current use of runway capacity at Gatwick. It demonstrates that today, about 78% of Gatwick's current runway capacity is being used annually. During 2011, the closest we came to reaching capacity was in August, when 88% of available capacity was allocated to airlines.

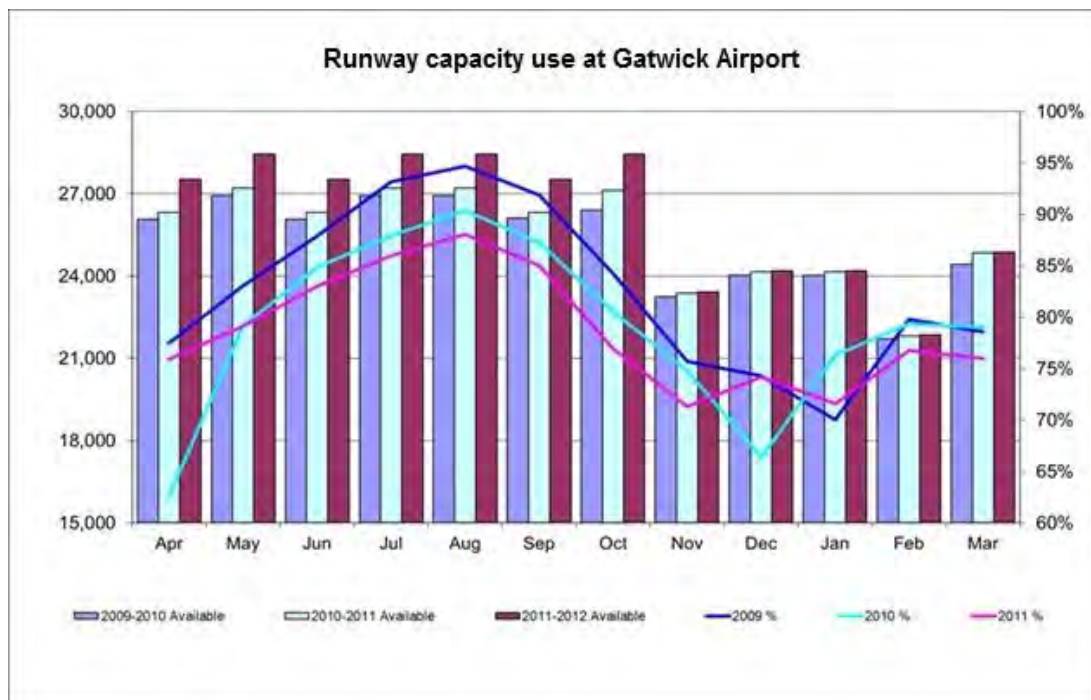


Figure 4 (Source: Gatwick Airport & Airport Co-ordination Ltd.)

30. Figure 4 also outlines that we have been able to actually increase the overall number of take-off and landing slots (and therefore runway capacity) that we make available year-on-year. This has been achieved in a number of ways. First, the efficiency of Gatwick's operations has been improved, meaning that we now have a larger 'peak capacity' than previously. Second, airport charges have been restructured to incentivise the use of larger aircraft, which carry more passengers and are fuller and encourage off-peak utilisation. These initiatives have been supported through a targeted investment programme to ensure that capacity bottlenecks do not emerge elsewhere in the system as its traffic grows.

¹⁶The Mayor of London, *A new airport for London: the case for new capacity* (November 2011).

31. Already, we have seen real results. Under its previous ownership, Gatwick's declared peak time runway throughput was 50 ATMs per hour. Under new ownership and the application of collaborative management, peak hour declared capacity has increased to 53 ATMs per hour and Gatwick is targeting to achieve 55 per hour within 2 to 3 years. We are easily the most efficient single runway airport in the world.

Forecast levels of demand for London's airports

32. A primary independent means of determining future demand for London airports as a whole are the Department for Transport's regular passenger forecasts. The most recent version of these was issued in August 2011. In Appendix One, we have outlined the basic sources of information that the Department use to determine what this level of demand could be in diagrammatic form.
33. Figure 5 outlines **the Governments current view that without new runways, all of London's major airports will be at capacity by 2030**, and will not be able to accommodate any additional passengers. The term 'constrained' refers to forecast passenger numbers where no new terminal or runway capacity is added at the airports modelled.

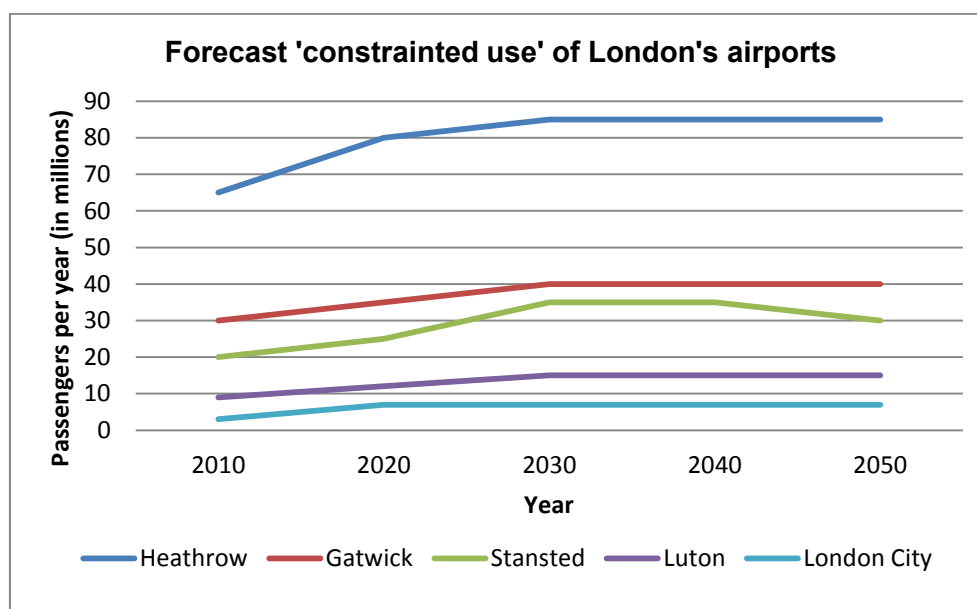


Figure 5 (Source: DfT Passenger Forecasts- August 2011)

34. The DfT forecasts also show that although demand is likely to continue to rise at London's airports after 2030, the effective 'shortfall' between demand for, and supply of capacity, would be met through greater use of regional airports by Londoners. We question whether this is in any way a realistic prospect. The majority of demand by UK residents to use airports in the UK is concentrated in London. Likewise, the majority of demand for people who are flying into the UK is to fly to London. It simply does not follow that because their demands cannot be met in London they will instead fly to and from an airport in the regions. We have set out the evidence underlying this view in Appendix Two.
35. Since the DfT forecasts have been published, various factors that shape how demand could evolve in and around London have evolved. These include assumptions on GDP growth in the UK- which is directly linked to demand for air travel. In particular, the DfT's view is based on the economic outlook as it was in 2010 and March 2011. Figure 6 (overleaf) shows that these growth assumptions have simply not materialised. Leading global organisations have successively downgraded forecast economic growth in the UK from the level it was at.

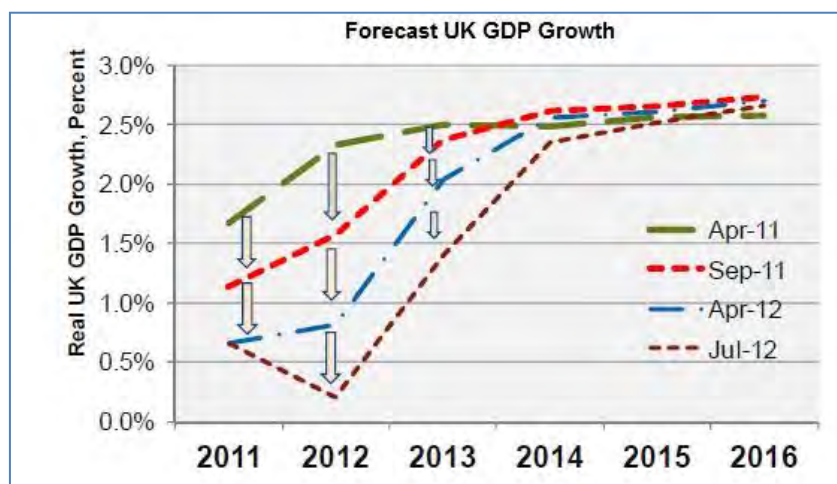


Figure 6 (Source: International Monetary Fund)

36. As such, growth in demand for air travel in London, while still expected to be substantial, might not grow at the same rate as the DfT assumed it would be in the most recent traffic forecasts. This has a direct impact on the specific timeframe for when London's airports will become full, and when new capacity may be needed. Indeed, Gatwick determined that we would revise our own internal forecasts to reflect a differing economic outlook in 2011.
37. Whilst projected growth may be lower than the DfT currently envisages, it is important to be clear that some form of additional capacity option will need to be in place prior to London's three largest airports reaching 100% utilisation of runway capacity. In the case of Gatwick (and other airports as well) as airports get close to capacity, the attractiveness of available 'slots' can lessen for airlines and the difficulty for airports of 'filling' them increases. Airline passengers may not wish to fly at the times that are available, and therefore airlines may choose not to initiate services in them even though the capacity is there. Runway capacity at the right time can be key to serving demand, as well as actual capacity itself.
38. Already, there are some capacity constraints at Heathrow, Stansted and Gatwick at times of absolute peak demand. As Gatwick and Stansted in particular grow, this issue will become increasingly apparent. This leads to our view that provision for new capacity should be made prior to all three airports reaching their absolute capacity, or in other words, prior to the Governments projected current 2030 timeframe for such as a situation to occur. The current Government commissioned review of airport capacity means that new capacity is not likely to be delivered until the mid 2020's at the earliest. Shorter term measures will be increasingly important to address the increasing constraints faced by the London airports over the next 10 years or so, if the DfT's traffic forecasts are to be delivered.

Forecast levels of demand for Gatwick Airport

39. Gatwick has published its own passenger forecasts as part of its business planning process to 2020. These include different assumptions around 'runway' capacity, which are higher than those assumed by the DfT in August 2011. We are confident that our efforts to boost efficiency (outlined in paragraph 30) may allow a single runway, two terminals Gatwick to accommodate a maximum of 45 mppa as opposed to the 40 mppa the DfT assumed. Furthermore, we project an overall total of 279,000 ATMs a year will be accommodated by 2020/21 as opposed to the DfT's assumption of a maximum ceiling of 260,000¹⁷.
40. We are currently engaging with the DfT to ensure that future forecasts they may issue reflect these assumptions. At the same time, we acknowledge that growing Gatwick from traffic levels of 40 mppa to 45 mppa would not be without difficulty. Many of the take-off and landing slots that would have to be used to move from 40 to 45 mppa would not be

¹⁷ We project that Gatwick runway could potentially accommodate more than 279,000 ATMs a year, as it moves towards supporting 45 million passengers, subject to the constraints outlined in paragraph 40

particularly commercially attractive to new or current airlines. Likewise, airspace use around Gatwick would have most likely have to be reviewed to encourage more efficient use of the runway, and there would need to be an overall trend towards airlines using a larger aircraft at Gatwick.

41. Taking all this into account, figure 7 outlines our published passenger forecasts, and our view that Gatwick will not reach a traffic level of 40 mppa before the end of the 2020/21 financial year. The forecasts we have conducted reflect a variety of different scenarios relating to the overall economic situation the UK could face over this period. 'High' and 'Low' reflecting, respectively optimistic and pessimistic assumptions. We continue to plan for developing Gatwick according to the 'base' case. **Under this scenario, Gatwick will not reach its current full capacity until the next decade.**

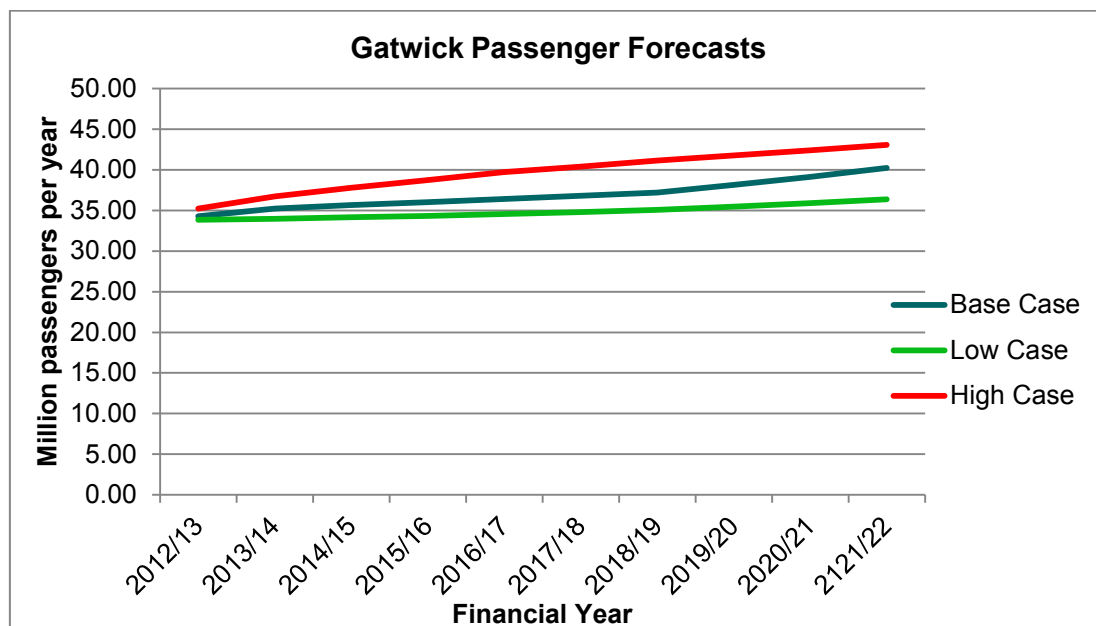


Figure 7 (Source: Gatwick Airport)

3) What are the options in the short, medium and long term for addressing the issue of airport capacity?

The short and medium term

42. **The available evidence clearly shows that the London airports will not be full for some years.** The Government's timetable for any decision on the need for new capacity means that no clear view will be taken until 2016 at the earliest. Given this, we do not believe it will be possible for any airport operator to deliver new capacity until the mid 2020's at the earliest. Shorter term measures that can help to deliver the connectivity that London needs, with the runway capacity already available, are therefore necessary.
43. Many stakeholders seek instead to suggest although London does have spare runway capacity, the UK is currently suffering from a connectivity crisis and that "London's poor connectivity means it risks missing out on a one-off opportunity to become the global service capital and European headquarters for BRIC countries and companies" because Heathrow, its largest airport, is approaching full use of its permitted runway capacity¹⁸.
44. **Heathrow's runways are indeed almost full today. However, London's connectivity is currently growing.** China, Russia and Vietnam are all now reachable directly from Gatwick. In fact, Gatwick has in the past two years facilitated direct connections to four of the eight

¹⁸ Heathrow Airport, *One hub or none: The case for a single hub airport* (November 2012)

emerging economies that Heathrow themselves forecast are likely to make the largest future contribution to world GDP growth, and already account for more than 23% of world GDP today¹⁹.

45. In the case of Vietnam, Gatwick provides the first and only direct link. More broadly, the UK and London is already one of the best connected countries in the world, with more than 360 destinations directly reachable from it²⁰. Our challenge, and we would suggest London's challenge as well, is around to how to improve connectivity to key existing and emerging markets with the capacity we have today.
46. **We are confident of securing further direct routes to emerging economies that are not currently served at all from the UK in the short-to-medium term.** Many airlines do see Gatwick as a viable airport for long-haul direct routes between the UK and these locations. A number of our long-haul routes are operated by 'away based', or non-UK, carriers. These airlines fill their planes before they arrive into the UK. They take the view that there is sufficient demand for air travel in London to fill the 'homebound' leg of the route. As such, the number of 'connecting' or 'transfer passengers' at a UK airport is not the overwhelming factor in making their route to and from the UK viable, and through that, their decision to operate a new route in and out of the country.
47. **There is a great deal of potential for Gatwick to serve routes of this nature.** This is borne out by new evidence that we have obtained from the International Air Transport Association (IATA), which outlines that the vast majority of demand that exists to use London's airports today does not actually derive from wanting to use London as a 'transfer' point and, as a consequence, is *not* for 'hub' capacity. We have outlined this evidence in more detail in Appendix Three.
48. Analysis of IATA data indicates that of 125 million passenger journeys through London's airports in 2011, approximately 116 million (or 93%) either began or ended in London. **Only 9 million passenger journeys (or 7%) were purely taken to 'transfer' from one flight to another at one of London's airports.** 8 million of those were through Heathrow and one million through Gatwick. Appendix three outlines the definitions of 'passenger journey' and 'passenger', according to IATA, as well how they give different perspectives on the level of demand there actually is to transfer through London's airports.
49. IATA data suggests whilst the UK, and London, does need 'hub capacity' in order to support some direct services, the degree of demand that exists to 'transfer' at a London airport is far less than many suggest. As a result, **the demand that exists today for more 'hub capacity' in London- whether it is through the expansion of Heathrow or a new airport elsewhere - is consistently exaggerated.**
50. A range of other industry developments are likely to mean that any growth in demand that for 'hub' capacity can be satisfied at airports that today do not have transfer passengers in as large a volume as Heathrow. In our view, **the future of 'transfer' or 'hub' traffic is one where low cost short-haul airlines feed into long-haul airlines** – whether as part of alliances, interlining arrangements or through an airport connecting service. An example might be a series of short haul easyJet flights converging on Gatwick to feed demand into a long haul Virgin Atlantic route. Indeed the CEO of Virgin Atlantic recently cited just such a development as "not a crazy idea at all"²¹.
51. We can see an existing example, "ViaMilano", at Milan's Malpensa airport. The airport, rather than airlines, facilitates the transfer of passengers and baggage, without the need for interlining of tickets. This product could fundamentally alter the degree to which airports can accommodate 'transfer' or 'hub' traffic.

¹⁹ Frontier Economics, *Connecting for growth: the role of Britain's hub airport in economic recovery* (September 2011)

²⁰ Department for Transport, *Draft Aviation Policy Framework* (July 2012)

²¹ The Economist, *Always the Bridesmaid* (September 2012)

52. Whilst we are confident that such developments will lead to changes in the way demand 'transfer' is served, it is important to be clear that Gatwick does *not* believe that *all* growth in demand to transfer through London's airports can be accommodated outside of Heathrow today. We note that there are some routes to some destinations that are likely only to be commercially viable if served from Heathrow both today, and in the future. However, these are relatively small in number and passenger volume, particularly in comparison to the large volume of routes. It is our contention that given such marginal numbers and passenger volumes, any new airports policy, and any work conclusions reached by the Airports Commission, should not be based purely on making provision to support such routes.
53. **From a public policy perspective, the short term focus must be on measures that might ensure that the capacity we already have available is used to facilitate the additional connectivity** that would undoubtedly boost short-term growth in the London and broader UK economy. Many of these measures do not require additional capacity to be created, either through new runways or through rescinding planning conditions at certain airports. Instead, they require Government to take a holistic (but free market) view of how best to create the appropriate commercial environment to encourage new links to emerge at airports that have capacity to support them.
54. **First, Gatwick believes that free and open competition between airports must be facilitated** if existing capacity in the London airports system is to be effectively used. The current structure of economic regulation impedes this. A de-regulated Gatwick could set the price of the service it offers to airlines through negotiation with them, rather than via a regulator.
55. **Gatwick would be in a better position to attract long-haul airlines away from Heathrow, and develop the airport to meet the future needs of airlines and passengers.** There is clear evidence that Gatwick can offer a credible alternative to Heathrow in this area. De-regulation would promote its anticipation of, and response to, changes in what is a dynamic and competitive industry. Freed from regulation, Gatwick could enhance its commercial proposition for new carriers. We have provided a more detailed overview of the benefits of de-regulation in Appendix Five to this response.
56. **It is also notable that the Competition Commission found in 2009 that Gatwick's previous owners systematically ensured that it could not develop into a credible competitor to Heathrow.** In their view, had competition been present, the operator of Gatwick would have a strong incentive to develop sufficient capacity to do so effectively. Competition is a vital element in ensuring the most efficient use of capacity in the South East. We have included a full breakdown of the Competition Commission's views in Appendix Six to this response.
57. More broadly though, we believe that **the promotion of competition, and the removal of economic regulation from airports, can assist in development of a dynamic competitive proposition by those airports.** This helps to incentivise the creation of new routes and encourages airlines with a variety of business models to establish themselves at airports that have capacity to grow.
58. **Second, the Government's Draft Aviation Policy makes a range of welcome proposals that would facilitate new services.** Allowing 'fifth freedoms' – or the ability for an airline to land at Gatwick, take on passengers, and fly elsewhere – is a very positive development. It will help to improve the utilisation of London's airports.
59. **There is a clear need for all airports, especially those with capacity to grow, to build the most compelling commercial proposition possible to airlines, both current and future.** Likewise in a competitive airports system, it is important for all airports to have the same potential to develop new routes as each other. The current lack of fifth freedoms at Luton, Stansted & Gatwick limits the ability of these airports to do so. As the CAA noted in its original recommendations around the grant of fifth freedoms to regional airports:

"Such a policy shift would represent a powerful signal of good intentions on the part of the UK and would send a strong message that [its airports] are "open for business...A more

liberal approach to fifths would give [more] airports an opportunity to market themselves in a more welcoming fashion to foreign airlines²²

60. **We see no reason why the grant of fifth freedoms to Gatwick, but also Luton and Stansted, should be considered any differently.** As with de-regulation, their introduction would allow these airports to better market themselves to long haul airlines from key growth economies. Allowing airlines to stop at those airports, take on passengers, and fly elsewhere will be an important element of the commercial proposition they can offer.
61. **Fifth freedoms would also promote competition on some routes between UK carriers and away based ones,** by allowing them greater access to the UK market. More competition ultimately helps to drive fares down for the passenger. Fifth freedoms also afford scope for passengers to take advantage of a broader network of destinations than might otherwise be served, improving both choice and route frequency. As well as the promotion of connectivity to and from the UK, there are clear benefits to passengers from granting fifth freedoms more widely.
62. **Third, it must be acknowledged that the manner in which London's airport capacity is allocated to, and retained by, airlines is inherently inefficient.** These regulations are derived from European Law²³. The European Commission has proposed a series of modest reforms which, if implemented in the UK, would lead to significant efficiencies in the way Gatwick's runway is used at times of peak demand. The Government should press for these measures to be enacted at EU level, and introduced in the UK, as soon as possible.
63. If these reforms had been in force during Gatwick's busiest week in Summer 2011, more than 10% of the 'slots' currently allocated to airlines would have been released for other airlines to use in Summer 2012. This translates to 371 more flights that could have taken off or landed from Gatwick in a single week or 55,000 more passengers in single week²⁴.
64. **By releasing capacity at times of peak demand, these reforms would assist Gatwick's growth.** Most new airlines want to establish full, year-round, consistent schedules. Only 60% of Gatwick's capacity is used in some months, whereas up to 88% is used in August²⁵. Implementing the European Commission's proposals would improve scope for new, long haul routes to be established from Gatwick by releasing peak time slots in the congested summer months.
65. **Fourth, improving rail access is critical to attracting new traffic at Gatwick.** 54% of business passengers cite the cost and convenience of reaching their departure airport as the most important factor in their decision²⁶. Good road and especially rail links are critical for airports. It is of real concern that of 75 rail services recently surveyed nationwide, the Gatwick Express was one of only five that saw a distinct drop in passenger satisfaction. It was one of only four to see a reduction in space available to sit or stand. Only 31% of passengers believe they are receiving a value for money service, which places what should be a premium service in the bottom quartile nationwide²⁷.
66. **Clear improvements could be delivered through a set of clear specifications around the quality and nature of service that Gatwick requires in the forthcoming Thameslink franchise,** which may operate nearly all rail links in and out of the airport from 2015 onwards, depending on the recently announced review of the franchising system. The tender should require a non-stop express service, which is dedicated to running solely between Gatwick and London Victoria, with high quality accessible rolling stock that is appropriate for air passengers. The tender should require the franchise to provide increases in capacity and frequency as demand grows.

²² CAA, *An economic assessment of the impacts of granting fifth freedom rights to passenger services from UK regional airports*, (2005)

²³ Council Regulation (EEC) No 95/93 of 18 January 1993 and subsequent amending regulations

²⁴ Analysis from Airport Co-ordination Limited (ACL)

²⁵ ACL analysis of Gatwick Capacity in 2011

²⁶ Research for the CAA, 2011

²⁷ Passenger Focus Annual Rail Passenger Survey (2012)

67. More broadly, in designing tender documents for new rail franchises which will serve major international airports, the Government should specify clear requirements of any operator to deliver high-quality air-rail services, and lay down the specific characteristics of service that airports need. They should also ensure that bids are appropriately weighted to the quality and suitability of services that franchisees provide, and not predominantly on the overall direct contribution that they propose to contribute to the exchequer over the life of the franchise.
68. Rail timetables and infrastructure have to be designed to cater for growth in air passengers and commuters. Gatwick's recent report, *Supporting UK growth and global market access: The case for high quality rail services to Gatwick airport*²⁸ outlines this concept in more detail. It includes a full time-table plan for the new Thameslink franchise from 2018.
69. **Finally**, it is sometimes suggested that mixed mode at Heathrow would be an easy way to enhance capacity in the London airports. We believe that the provision of mixed mode at Heathrow would have intolerable environmental impacts for Londoners. We do not therefore support the introduction of mixed mode operations at Heathrow.

The long term

70. **In the longer-term, a step-change in London's airport capacity will be necessary.** As we outline above, there is today real scope to use existing capacity at London's airports to create new links to key emerging and mature markets. Capacity at the city's largest airport is not the overwhelming issue. At the same time, we also concur with Government that the London airports system is likely to be at capacity by 2030 and at its largest airports potentially earlier than that. These two parallel issues will both need to be addressed in the long term.
71. **In our view, there are only three credible options for addressing them: Adding additional capacity at Heathrow, Gatwick or Stansted.** We are not aware of any other airport operator that intends to put forward detailed proposals for additional runway capacity to the Airports Commission. Indeed, the environment for Stansted's future development is uncertain. At the time of submission, there is no sense of who their future owners might be, let alone what the intentions of those owners are.
72. Likewise, a range of proposals have been put forward for a new airport in the South East. All have aspects to them which require detailed consideration. Issues to be addressed include the cost, surface access, the environmental impact, the absence of supporting infrastructure, resilience, the impact on London existing airports, as well as the degree of taxpayer funding required.
73. At the time of submission, we consider all these schemes to be entirely speculative. They have no actual private sector commercial supporter, and therefore no direct source of, or sponsor for, the necessary funding to actually construct them.
74. Even if there to be sponsor found, and the money raised, there remain real doubts about how deliverable or practical any of these schemes are. Later, we note a range of further issues that would need to be resolved over and above the question of funding before they were in any way deliverable or practical.
75. Separate to these issues, there remains the very real issue of the airspace over London and the South East, which is amongst the most crowded in Europe already. The Chief Executive of NATS recently outlined that, from an air traffic management perspective "The very worst spot you could put an airport is just about here" whilst highlighting the Thames Estuary on a map²⁹.

²⁸ Available at www.gatwickairport.com/rail

²⁹ Parsons Brinckerhoff, *Airports Study for the South East Local Enterprise Partnership* (April 2012)

4) What issues need to be taken into account when assessing each option for addressing airport capacity?

Gatwick's Vision

76. In looking at the credible options for meeting London's future airport capacity challenge, and how they should be assessed, it is important to be clear about the form of airport infrastructure Gatwick envisages is appropriate. First and foremost, our vision is in no way dependent on any form of high speed rail link between Gatwick and Heathrow being constructed. We are not, and have never been, proponents of such a scheme.
77. As we outline above, there is likely to be some form of demand for new runway capacity around London from the mid 2020's onwards. From that point onwards, the Government must look towards establishing a truly competitive network of airports for London and the South East. **This would essentially mean three, two runway airports with additional capacity being added first at Gatwick, and then (at the appropriate time) at Stansted. Expanding Heathrow would not be conducive to this vision.**
78. **Each of these airports, under separate ownership, would compete for traffic and passengers.** That competition, as it does in other sectors, would deliver the best outcomes for passengers and airlines in terms of quality of service and price. Our vision is for an airports system that delivers both connectivity and real value for the passenger. **Any new capacity option must deliver for the passenger and the economy. The expansion of Heathrow will not increase competition in the London system.**
79. Our vision for three large competing airports would rest on traffic forecasts supporting our view that one runway at Gatwick in the mid 2020's followed by another runway elsewhere (potentially Stansted) thereafter. This traffic forecasting work is underway and will be provided to the Airports Commission at the appropriate time. We believe that our traffic forecasts will show that **a single additional runway at Gatwick is sufficient to support future demand for air travel to and from London until at least 2040.**
80. **Our vision requires a reassessment of the nature of the demand to use London's airports that exists now, and is likely to exist in future,** based on the actual independent evidence available. We are concerned that the public debate thus far has not fully reflected the facts. On a fundamental level, we believe **there is no overwhelming need for a large, single, dominant 'hub' airport either in the form of an expanded Heathrow, nor some of the 4 runway "mega hubs" being considered by the Mayor.**
81. We are instead proposing the continued evolution of true airports 'system' for London, with multiple airlines, operating multiple business models serving multiple destinations- which are both 'Short' and 'Long' Haul in nature. In doing so, London would be following the model of how other global cities have chosen to develop their airport systems over time. This is neither an unprecedented nor an unlikely development.
82. **There are a range of precedents around the world where multiple large airports support the needs of the same large conurbation** and for these airports to deliver a mixture of short haul and long traffic that helps to meet the connectivity needs of the city or country they serve³⁰. Gatwick is aware of no independent evidence that suggests this could not happen in the UK or that it would be necessary to link the airports concerned by high speed rail to achieve it.
83. **The core demand for this model is clear.** The London aviation market is larger than New York's, where JFK/Newark/LaGuardia fulfil such a role for that city³¹. With a larger market size than New York, there is sufficient demand in London to support a range of airports that

³⁰ The Mayor of London, *A new airport for London: the case for new capacity* (November 2011). Appendix C lists these examples.

³¹ Ibid

cater for a blend of airline business models should the appropriate infrastructure be developed.

84. It has been suggested that New York does not wish to continue to developing this form of model³². We disagree. **Indeed, we welcome the recent recognition of the Institute of Directors that “running two hub airports does work in New York”³³.** We concur that New York is facing a capacity problem with its airports, just as London is. But to suggest that London cannot develop in the way New York has because of differences in the airline market seems to us a superficial analysis.
85. **Airlines, their business models, and the overall market can and do evolve.** Many, for example, would not have foreseen that that the ‘Low-Cost’ model developed by, amongst others, easyJet and Ryanair would today be more profitable than more traditional ‘Full Service’ airlines. As we outline in paragraphs 50-51, a range of current market developments are, and will continue to, help airline strategy all over the world to evolve.
86. In paragraphs 87-134, we set out our understanding of the issues that the Airports Commission, and hopefully a future Government, must consider in determining how best to meet the airport capacity challenge that may soon be facing London. For us, it is these issues that must be at forefront in determining which option is most appropriate to actually implement.

4a) How today’s passengers want to use London’s airports

87. **Figure 8 shows that London is the largest market for aviation in the world.** Local demand is larger than the combined total of ‘transfer’ and ‘terminating’ passengers travelling through the airports of nearly any other world city. Likewise, demand to fly is more than double that of any location in the EU apart from Paris. **London is unique. Many of the world’s international airlines will always want to serve it direct. London is therefore the hub for aviation. Not one single airport within it.**



Figure 8 (Source: International Air Transport Association)

88. The 2011 CAA annual passenger survey, and the Heathrow airport website³⁴, state that 35% of passengers using Heathrow in 2011 (or 24 million) were ‘transfer passengers’. **We have concerns that this figure overstates the proportion of Heathrow passenger traffic represented by transfer passengers.** Indeed, Heathrow have themselves acknowledged that “there is some dispute about how many passengers transfer at different airports”³⁵. We

³² Heathrow Airport, *One hub or none: The case for a single hub airport* (November 2012)

³³ Institute of Directors, *Flying into the Future* (December 2012)

³⁴ <http://www.heathrowairport.com/about-us/facts-and-figures>

³⁵ Frontier Economics, *Connecting for growth: the role of Britain’s hub airport in economic recovery* (September 2011)

outline the implications of these concerns further in Appendix Three.

89. As we note in paragraph 48, **the true level of demand that exists for 'hub' capacity, is approximately 9 million passenger journeys per year.** In some publications, Heathrow confirms that they currently cater for 8 million of these journeys³⁶. It is our view that 'passenger journeys' are the truest reflection of what both the level and nature of demand to use an airport actually is. We outline the basis for this view in Appendix Three.
90. **The overwhelming majority-93%- of demand on the part of passenger to use London's airports is therefore simply to travel to and from London. It is *not* to use them as a transfer point.** In assessing any option for addressing a future need for airport capacity, there is a clear need to focus on the nature of the demand to London airports that we know exists today. The majority of passenger demand to and from the London and the South East region today is geographically dispersed, and not best served through a single hub airport.

4b) Where London's air passengers want to travel to and from

91. **In assessing any option, it is also necessary to look closely at where those who use London's airports actually want to fly to and from.** The evidence is clear that the vast majority of passengers at London's airports want to fly to and from established, mature markets for air travel. Figure 9 outlines that demand to travel to and from Europe is more than double that of any other region. More than 12.7 million people want to travel between North America and London. About 800,000 want to go to and from China.

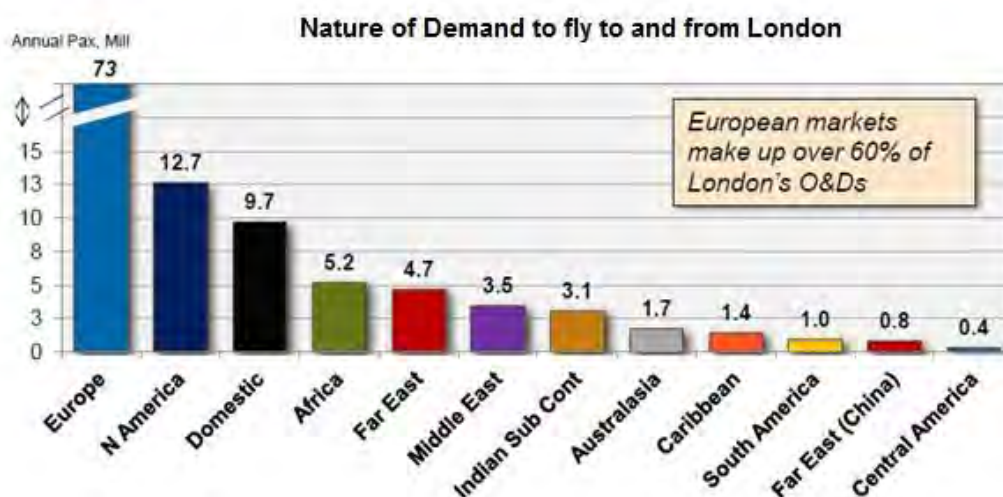


Figure 9 (Source: International Air Transport Association)

92. **Future airport infrastructure should be developed around the needs of passengers, and particularly where they want to fly to and from.** It is clear that today, that demand focused on Europe, North America, Africa, the Far East, the Middle East, and the Indian Subcontinent. All of these are well served from the UK in terms of direct connections.
93. There is concern that the lack of connectivity to secondary cities in, for example, China is leading to loss of competitiveness of the UK economy. We have work underway in this area. At this stage, we can note that the CAA's, and IATA's, data shows that current demand for travel from the UK to some secondary Chinese cities is very limited. We question whether aviation policy should be focused on a relatively small part of the overall demand for access to, and from, London. As our research programme more will seek to provide further clarity this important question

³⁶ Ibid

94. More broadly, the claim is often made that Paris and Frankfurt “boast around 2,200 more flights a year to mainland China than Heathrow do each year” and that because Heathrow is full, this gap will only get wider. This misrepresents the actual situation and how it has developed. Today, Paris has 3,076 flights a year to mainland China. Heathrow has 1,773. In 2003, there were about 1,200 flights from Paris to China. Heathrow had 900. **Today’s situation is not new. It is simply a reflection of underlying demand.**
95. By contrast, there is clear evidence to suggest that if more capacity were added at Heathrow in particular, it would *not* necessarily result in more connectivity between the UK and of destinations with marginal demand to, such as Wuhan. Analysis of how routes between Heathrow and destinations outside Europe have evolved since 2004 demonstrates this.
96. During this period the number of long haul flights from Heathrow grew by 20%. The number of destinations reachable from Heathrow grew by only 6%³⁷. This is a reality of the nature of the air travel market in London. **Generally, when provided with new capacity, airlines will simply increase the frequency of flights to existing destinations they already serve where demand is already high.** This is why there 199 flights a week between London and New York from Heathrow. It simply makes commercial sense for airlines. New links to new destinations where demand is low are very much a second choice.
97. We continue to believe that there is a huge amount of unserved demand to travel to and from London’s airports from every part of the world, and there are indeed a number of strategic markets that there is a broader economic need to ensure the UK is connected to. **However, our initial analysis is indicating a large amount of the actual demand we know exists can be met without additional ‘hub’ capacity.**
98. Likewise, the view that “a lack of slots available at Heathrow is having a direct impact on the UK’s ability to serve [mainland China] destinations”³⁸ deserves further scrutiny. There is scope for new routes to be established. They are not at the levels of other EU Member States because the demand to fly between these cities and the UK is not present to the degree it needs to be.

4d) Establishing and maintaining competition between London’s airports

99. In ordering the break-up of monopoly ownership of London’s major airports (Heathrow, Gatwick and Stansted), the Competition Commission stated that “the sale of these airports will...kickstart a process of competitive rivalry...where today there is no competition at all... We are confident that the benefits will build over time”³⁹.
100. **The benefits of competition between Gatwick and Heathrow are indeed coming to pass for those that matter most in the airports debate: the passenger.** Since becoming independent in 2009, Gatwick has become the only London airport to consistently pass all of its regulatory targets on quality of service, whilst at the same time levying some of the lowest airport charges for passengers of any major international airport in Europe.
101. New security areas, terminal forecourts, transparent performance indicators, as well as innovative approaches to baggage reclaim, check-in and working with UK Border Force have all been features of a £1.2 billion investment programme that has seen passenger complaints fall by 48% between 2009 and 2011 and compliments more than double over the same period⁴⁰.
102. The Competition Commission also looked how airport infrastructure in the South East should evolve in order to further promote the benefits of competition for both passengers and airlines. Their clear view was that as part of process of establishing true competition between

³⁷ Official Airline Guide (2012)

³⁸ Heathrow Airport, *One hub or none: The case for a single hub airport* (November 2012)

³⁹ http://www.competition-commission.org.uk/assets/competitioncommission/docs/pdf/non_inquiry/press_rel/2009/mar/pdf/11-09

⁴⁰ Gatwick Airport Records

Heathrow and Gatwick “the [Government] should give due consideration to the ambitions of the new owner of Gatwick, including the possibility of a second runway at Gatwick after 2019”⁴¹. **As we outline in Appendix Five, the Commission found that Gatwick’s previous owners had actively suppressed Gatwick’s ability to compete with Heathrow by not doing so.**

103. We believe that simply expanding Heathrow, and increasing its current dominance of the London airports system would effectively re-establish the dominance of the airports system in the South East. **The best way of maintaining and growing competition between airports, which promotes high quality services and lower air fares for Londoners, must be a factor in determining how airport infrastructure should evolve.**

4e) The environmental impact of expanding an existing airport or building a new one

104. **It is critical that any option for expanding capacity conforms with the Governments stated objective to “to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise”.** We would imagine that any future Government would seek to conform to this objective, and we understand this issue is of particular interest to the committee.
105. On this basis alone, the development of additional capacity at Heathrow would not be conducive to achievement of these objectives. Already, Heathrow is (according to the measurement used across the EU) causing a greater noise impact than nearly any other airport of any Member State. Figure 10 outlines this impact.

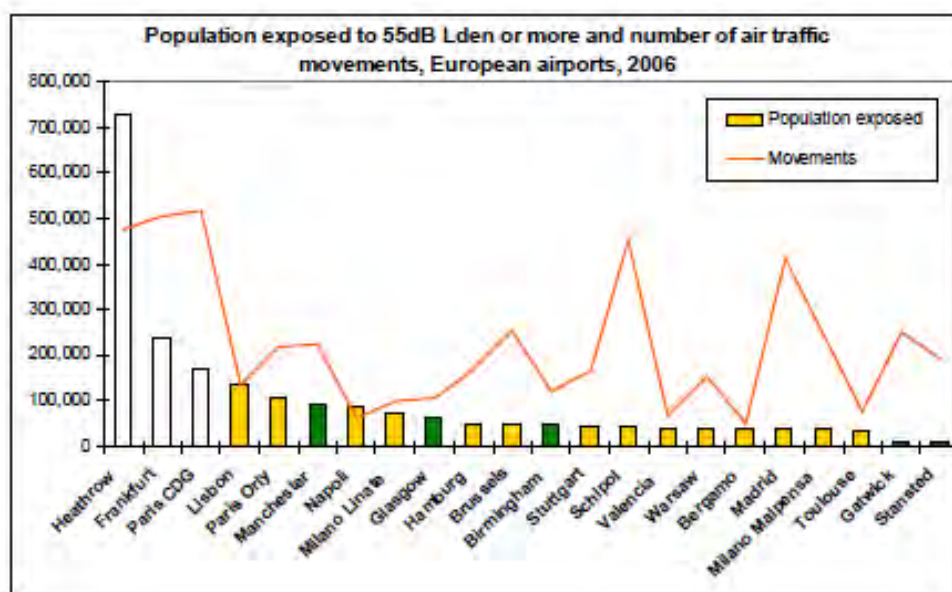


Figure 10 (Source: Department for Transport)

106. **The number of people affected by noise from a third runway at Heathrow is significantly larger than would be affected by a new runway at Gatwick.** At Heathrow at least 304,000 people will be affected within the 57 dBA contour compared with only 13,200 at Gatwick⁴². The area within which people would be affected by a third runway at Heathrow is 60 Km² greater than it would be at Gatwick with a second runway. This is the same size as Manhattan, and corresponds to 120,000 more homes than would be the case at Gatwick, a ratio of 25:1.

⁴¹ BAA airports market investigation: A report on the supply of airport services by BAA in the UK” (19 March 2009)

⁴² All comparative data listed in paragraphs 115-123 is drawn from a comparison of data from the Gatwick Airport Master Plan (2012) & Heathrow Airport Interim Master plan (2005)

107. If stricter measures are used⁴³ the total number of people affected by noise from a three runway Heathrow would be 710,600. Under the same measure, Gatwick with a new runway would affect 29,600. The number of households affected at Heathrow would be 308,800, compared with 11,900 at Gatwick. The size of the area concerned would be 254 Km² at Heathrow, and 138.6 Km² at Gatwick. The difference in area size is equivalent to one the size of Dublin. See Appendix Six for further details on this issue.
108. We note the proposal in the Government's Draft Aviation Policy Framework around "setting a noise envelope in respect of larger airports where growth might lead to a significant increase in noise impacts. The aim of such an approach would be to limit the number of people significantly affected by noise from aircraft operations".
109. Exactly what the noise level, or the geographical area, of a noise envelope should be would require further detailed study. However, an appropriate model may well be that an airport should be permitted to increase traffic, and capacity to support traffic, until its noise envelope meets these criteria. We do however support the principle and will be working to establish it.
110. The Government now envisage that an Aviation National Policy Statement (NPS) may be issued following a recommendation by the Airports Commission. **In our view, any Aviation NPS should discount an airport development that is classed as a nationally significant infrastructure project if a given noise envelope cannot be adhered to.** This would be in alignment with the stated objective of Government to limit, and where possible reduce, the number of people significantly affected by aircraft noise.
111. While it clear that the expansion of Gatwick would result in less noise impact than at Heathrow, we would commit to doing as much as possible to mitigate the impacts that it would have. Noise impacts must not be ignored. We have, for example, supported a reassessment of the metric used for the 'onset of community annoyance' from noise, in order to see if there are any alternatives which better reflect the concerns that our local communities outline out.
112. For many, noise is the most obvious local environmental impact of airport operations. However, there is no doubt that the UK's largest airports can also have a significant effect on local air quality. The Draft Aviation Policy Framework notes that air pollution costs the UK up to £19 billion per annum in terms of reduced life expectancy. Emissions from transport, including at airports, contributes to this. EU legislation sets legally binding air quality limits for the protection of human health. Air pollution is one of the indicators in the Department of Health's framework on public health outcomes.
113. **It is worth noting that Heathrow already regularly breaches the European limit for NO² emissions⁴⁴ at 3 monitoring sites around the airport.** It is very close to breaching it at several others. Another runway is predicted to expose an extra 35,000 people to levels above this limit⁴⁵. Gatwick has never breached this limit at its monitoring sites and it is not expected to with a second runway. In total, Heathrow emitted just short of 7,500 tonnes of NO² in 2010, and 340 tonnes of particulate matter. In the same period Gatwick emitted just over 2,000 tonnes of NO² and 82 tonnes of particulate matter⁴⁶. See Appendix Six for more detail on these assessments.
114. Likewise, on the issue of biodiversity and habitat management, it is clear that any location of a new airport in the Thames Estuary would face severe challenges. The entire area of one of the proposed schemes is a RAMSAR convention bird life area, an internationally designated

⁴³ This refers to a comparison of the area that would be affected by a noise level of 54 Db averaged out over a 16 Hour day, as opposed to 57Db.

⁴⁴ a noxious compound produced by engines that can cause respiratory diseases if humans are heavily exposed to it.

⁴⁵ Civil Aviation Authority response to *Future of Airport Transport White Paper (2003)*

⁴⁶ Particulate matter consists of very small liquid and solid particles floating in the air. Of greatest concern to public health are the particles small enough to be inhaled into the deepest parts of the lung

special protection area and an internationally designated special area of conservation. In our view, the impact on biodiversity alone is simply too significant to overcome.

115. **We agree with Government that any future Airports NPS must be consistent with the Government's stated policies on sustainability and environmental protection.** Any location specific proposals around future airport capacity development need to show how loss of habitat, species, landscape and significant impacts on water resources and ecosystems could be mitigated. They should only be permitted through an NPS if the benefits of the scheme clearly outweigh the costs in terms of key environmental requirements.

4f) Travel to and from any expanded or new airport

116. One of the primary considerations in determining the best option for additional capacity in London must be around how the additional passengers at the airport or site concerned travel to and from the airport, and how both road and rail infrastructure within and outside Greater London might need to evolve to facilitate that. Critically, any assessment would need to take into account the degree of tax-payer funding such improvements would require.
117. As we note in paragraphs 65-69, we believe the quality of rail links between Gatwick need to evolve in the context of help to make best use of the current capacity that we have available to support more routes and more destinations. Nevertheless, Gatwick is still the best connected airport by rail in the UK. 120 stations are already directly reachable from it, as well as 8 major rail interchanges. By contrast, only six can be reached from Heathrow. Already, 12 million passengers travel to and from Gatwick by, or 35% of the overall today. This is more than any other UK airport.
118. There has been a wide range of debate around what the 'surface access' implications of a growth in runway capacity at either an existing or a new airport might be. A third runway at **Heathrow would, at the very least, mean an extra 4.5 million people on the Piccadilly line, along with an additional 4 million standard rail trips and 25 million additional car journeys**⁴⁷.
119. It is difficult to see how this could be accommodated without a major upgrade which would need to, at least in part, be paid by for the taxpayer. The Mayor's office have publicly stated the cost of an upgrade to the Piccadilly line would be at least £2 billion. Likewise, given that (as we outline in paragraph 113) current air quality limits are being exceeded, the impact of an additional 25 million car journeys on the local environment, and through that congestion on local roads, should not be ignored.
120. Similarly, at Stansted, rail infrastructure is insufficient to support the high quality express link that is of key importance to generating sufficient passenger demand to fill any capacity provided there. Today, Airport 'Express' trains cannot pass slower trains, particularly at peak time. There are 19 Level crossings on the route. Improving the Stansted 'proposition' could involve widening some or all of the entire 35 mile line length from London, which would also entail track bed widening⁴⁸. **Likewise, the currently proposed Cross Rail 2 scheme, without an extension to Stansted that some commentators have proposed, would cost between £10-15 billion to deliver**⁴⁹.
121. We are unclear around the feasibility of nature of any new rail link to any new airport site outside of London. A wide range of requirements and costs have been quoted, but no firm plans have yet emerged. However, a representative of the Mayor's office did recently state that costs for a new airport in Thames Estuary are evenly split between "£25 billion for building the new airport and £25 billion for the road and rail links" and that "roads and rail

⁴⁷ Department for Transport, *Adding Capacity at Heathrow Airport* (2007)

⁴⁸ Policy Exchange, *Bigger and Quieter: The Right answer for Aviation* (November 2012)

⁴⁹ Crossrail 2: *Supporting London's growth: Interim report of London First's working group* (May 2012)

connections will probably have to be paid for by the public sector”⁵⁰.

122. Gatwick will be assessing the extent of local road and rail infrastructure improvements that would be required to support the surface transport needs of additional passengers that an additional runway would generate. At the same time, we note that the as a range of studies were conducted under the previous Government’s South East Regional Airport Study (SERAS) on potential new airport capacity options. They suggested that any additional surface transport requirement from an additional runway at Gatwick is not insurmountable, and would be largely focused on providing additional capacity on existing or already planned new rail infrastructure⁵¹. More broadly, we would urge any assessment to focus on the options that provide least cost to the taxpayer in terms of any additional surface transport infrastructure that may be required.

4g) Ensuring resilience to disruption at airports

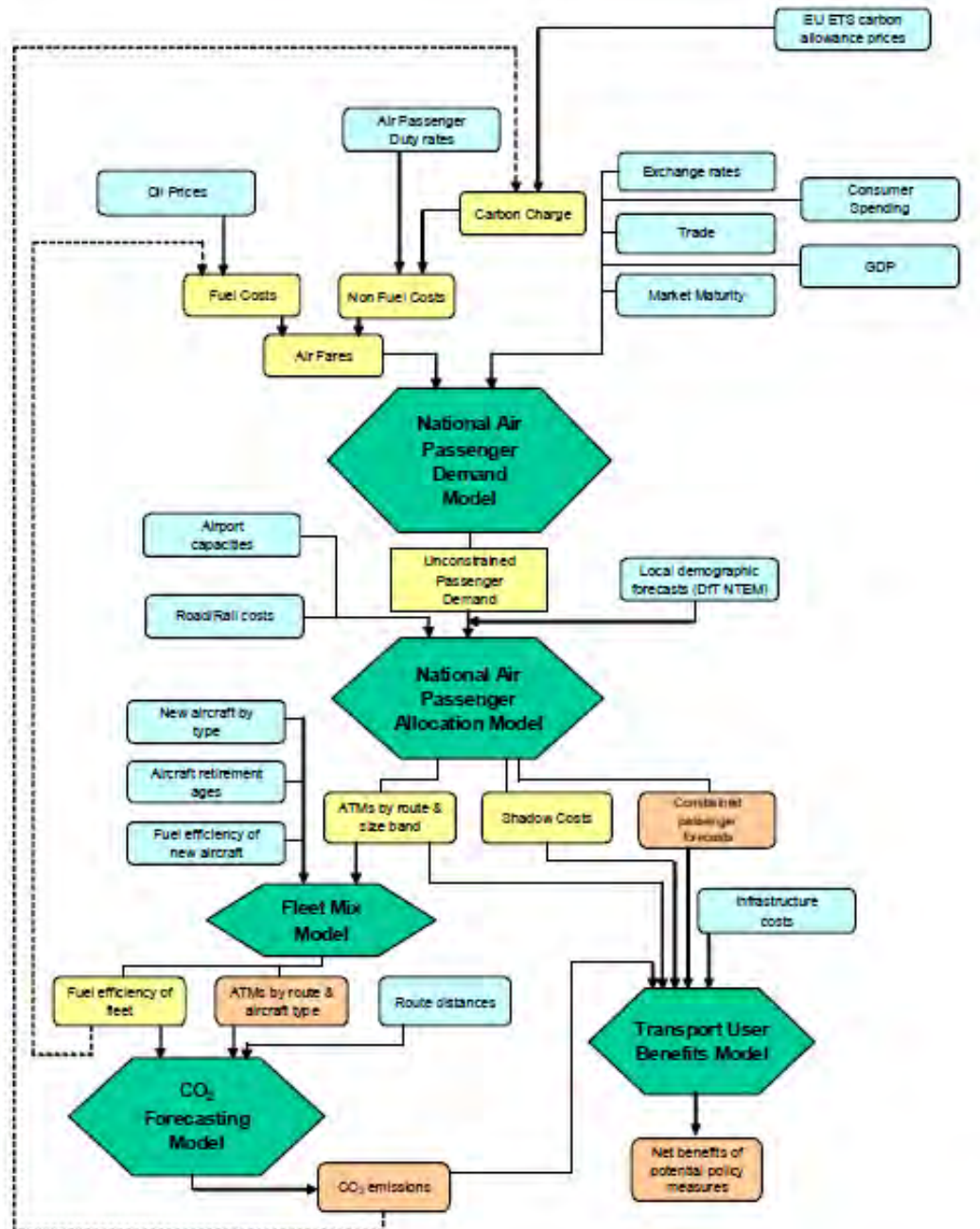
123. The operator of any expanded or new airport would face a great deal of pressure to consider airport development options that are less than optimal. It is important nevertheless that all of London’s airports are able to operate efficiently with passengers waiting as little time as possible on the airfield before taking off. Waiting times must be maintained at acceptable levels and congestion generally and especially on the airfield avoided.
124. Long waits and delays serve no useful purpose and lead to a reduction of service to airlines and passengers, more noise and more pollution. In addition, any expanded airport needs to be resilient to events that can cause unnecessary delay and lengthy recovery periods. This should be a factor in assessing any option for growth in London’s airports system.
125. This consideration could be termed as the overall ‘resilience’ of the London airport system. The snow events of 2010 showed the impact on passengers of a 5 day closure of Heathrow. At that time, passengers were still able to fly out of Gatwick (as well as Stansted and Luton). We believe that the Airports Commission should consider the implications for London of overly concentrating airport capacity in one location. It is clear to us the resilience of the network of airports of London can only be maintained by dispersing traffic more widely around it. Infrastructure needs to be developed in a way that promotes that form of resilience.

⁵⁰ Daily Telegraph, *Daniel Moylan flies to defence of ‘Boris Island’ airport* (6 October 2012)

⁵¹ Former Department for Transport, Local Government and the Regions, *SERAS Stage Two: Appraisal Findings Report* (2003)

APPENDIX ONE

FRAMEWORK FOR DEPARTMENT FOR TRANSPORT PASSENGER FORECASTING



APPENDIX TWO

SCOPE FOR REGIONAL AIRPORTS TO SUPPORT EXCESS DEMAND IN LONDON

There is currently substantial excess airport capacity outside the South East of England. Traffic demand has been flat or negative in most of the UK's regions since 2008, primarily as a result of weak consumer demand. Only a small minority of airports in the regions are actively growing. Therefore, the key issue will continue to be capacity in the South East of England, not the regions. Airports outside the South East are completely free to compete with those surrounding London. Indeed, we welcome that competition.

However, Figure 11 (below) outlines those passengers from outside the UK want to fly to London, over and above regional airports. The only condition that would change this would be some form of policy lever that changes passenger preference. This would distort competition and is not an appropriate basis on which to formulate aviation policy. Government signalled its intention to cease the artificial direction of passenger traffic to and from airports twenty-five years ago. Today, it would be very difficult to do so without contravention of relevant European law⁵².

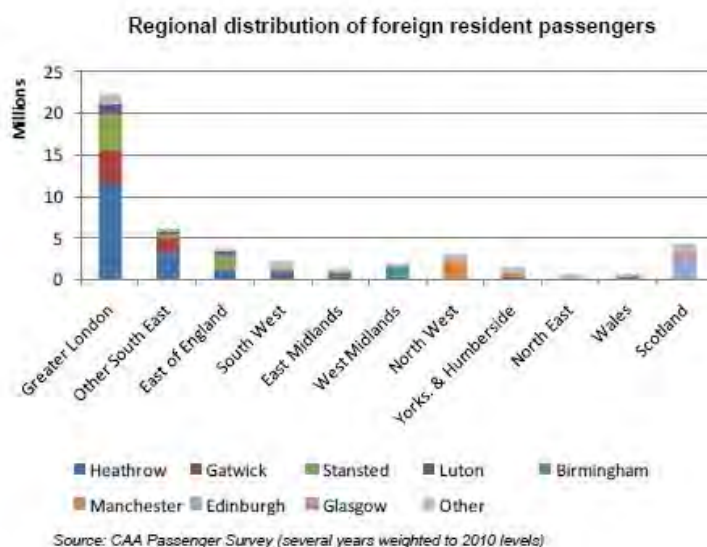


Figure 11 (Source: Civil Aviation Authority)

Figure 12 (overleaf) outlines the average number of flights residents of different regions take or, essentially, what parts of the UK the propensity of people to fly is highest. The simple fact is that airlines locate at airports in areas where propensity to fly, and therefore passenger demand, is highest. To attempt to channel demand, and the airlines that can support that demand elsewhere (even if there is the capacity to support it) is to deny this basic fundamental of airline economics.

⁵² Article 19 of Council Regulation (EC) No 1008/2008 on common rules for the operation of air services in the Community states

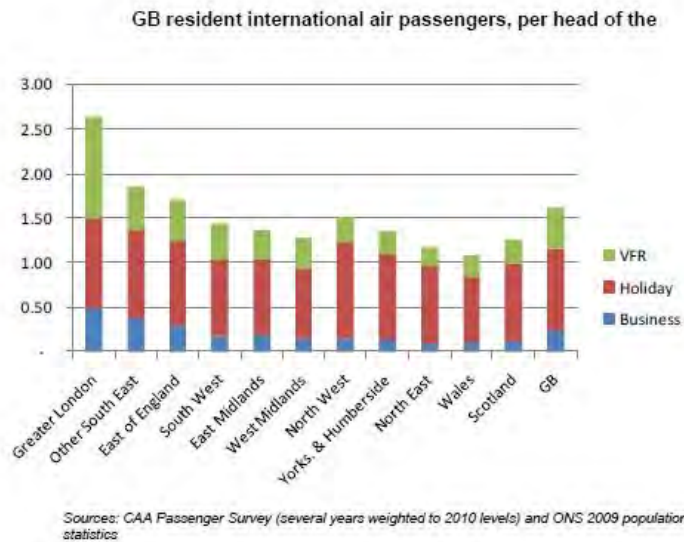


Figure 12 (Source: Civil Aviation Authority)

Although there are a range of relevant factors, the market, by virtue of the fact that there is a higher population density, is concentrated in the South east of England. Given this, we do not believe that excess capacity at regional airports can be used, as the Governments current traffic forecasts suggest, to address the fact that major airports in the South East will be full to current capacity by 2030.

APPENDIX THREE

IATA ANALYSIS OF TRUE NATURE OF DEMAND FOR LONDON'S AIRPORTS

Nature of sources

Gatwick's recent research on the true nature of demand to 'transfer' through London's airports, as well as broader demand to fly to and from London, originates from the International Air Transport Association (IATA) Passenger Intelligence Service (PaxIS). IATA refers to this as "the most comprehensive airline passenger market intelligence database available today"⁵³. The data within it is gathered through the use of the IATA Billing and Settlement Plan (BSP), which IATA describe as a "system designed to facilitate and simplify the selling, reporting and remitting procedures of IATA Accredited Passenger Sales Agents". Information gathered as part of the PaxIS system is available on subscription from IATA.

IATA's PaxIS service is commonly used to measure current demand to use airports, and individual routes operated by airlines, all over the world and is a commonly accepted planning tool within the aviation industry. IATA name a range of airlines and airports that currently make use of this information including: Airbus, Air Canada, Air China, Jet Airways, Malaysia Airlines, Southwest Airlines & United Airlines. A full list is available on request from IATA.

Frontier Economics' report for Heathrow⁵⁴, and numerous other market studies also make use of this data source.

Definitions of Key Terms

Journey: IATA define a 'journey' as "travel between an airport/city where travel commences and an airport/city where travel ultimately terminates. A journey may be comprised of one or more segments"⁵⁵. In essence, a 'journey' reflects a ticket bought by a passenger from an IATA accredited agent to fly from one location to another. This would include a passenger who may have travelled via another airport to reach their final destination. For example, a passenger that travels from London to Dehli via Dubai would be counted by IATA as having taken one 'journey'. The number of journeys will generally reflect the overall demand there is to use a particular airport or fly on a particular route.

Passenger: Simply put, this is the overall number of journeys through the airport on an annual basis, normally on an annual basis. The overall level of demand to use an airport is not necessarily the same as the overall number of journeys recorded as using it. This may appear counter-intuitive, but it is generally because a 'transfer' passenger is effectively 'double counted' in terms of 'journeys' in many assessments. Whereas a passenger starting or ending their journey at an airport would count as one 'journey', a 'transfer' passenger at that airport (who does neither) will often be counted as two. One journey on their outward bound leg, and another one on their return. This can lead to an inflated understanding of demand that may exist on the part of passengers to use an airport to 'hub'- or transfer from one plane to another.

Origin & Destination Passenger: Also known as 'O&D' or as a passenger who either starts or ends their journey at a given airport is an classed by IATA as an 'Origin and Destination' passenger. It is important to distinguish between this term and another that is often used- "Point to Point". As outlined above, an Origin & Destination passenger could have travelled 'via' another airport to get to where they want to go, or return to where they came from. A 'Point to Point' passenger would not have done. In our view, any debate about the nature of demand to use London's airports should focus on the terms and definition of passengers that are respectively 'Origin & Destination' and 'Transfer' and **not** 'Point-to-Point' and Transfer'.

⁵³ <http://www.iata.org/services/statistics/intelligence/paxis/Pages/index.aspx>

⁵⁴ See, for example Figure 8, Table 6, Figure 9 and Figure 10 of *Connecting for growth: the role of Britain's hub airport in economic recovery*. Although Frontier refer to it as IATA AirportIS, this is the same data based on bookings

⁵⁵ IATA Glossary of Terms

IATA's assessment of demand to use London's airports

The research obtained by Gatwick assesses the overall number of 'passenger journeys' through London's airports on an annual basis. This information is collected by the International Air Transport Association (IATA) and available for analysis by subscribers. According to it, approximately 125 million passenger journeys were supported by London's six major airports in 2011⁵⁶. Figure 13 shows that approximately 116 million (or 93%) either began or ended their air trip in London. Only 9 million passenger journeys (or 7%) were purely taken to 'transfer' from one flight to another at one of London's airports. 8 million of these were through Heathrow, and one million through Gatwick

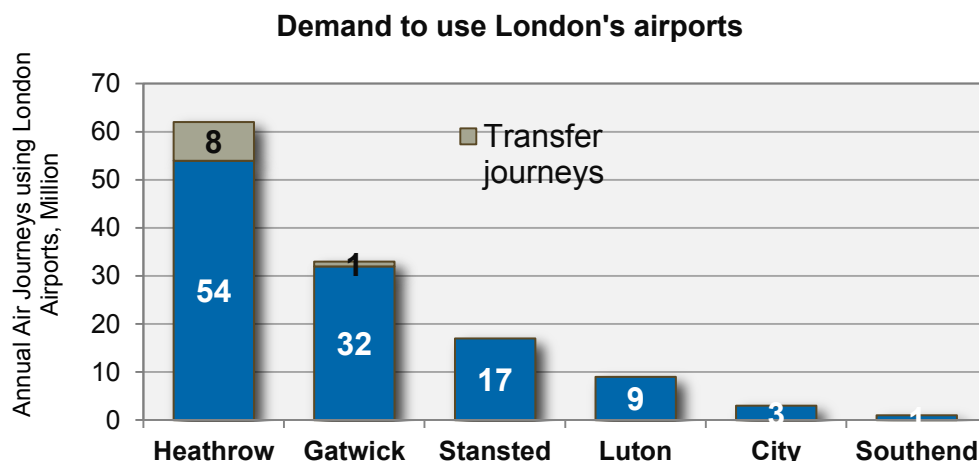


Figure 13

IATA also note there are "16 million *passengers* who transfer at Heathrow every year". This is because, as described above, a single 'transfer' passenger will be on board two flights at the transfer airport—the arriving flight into the airport and the subsequent departing flight from the transfer airport. As a result, a single transfer passenger is normally counted as two passengers in an airport's reported passenger traffic statistics. Heathrow confirms that this as their normal practice in a footnote to their above mentioned published report⁵⁷.

On this basis approximately 23% of Heathrow's total 2011 passenger traffic was comprised of transfer passengers, with the remaining 77% of total Heathrow passengers accounted for by London O&D passengers.

Alternative assessments of demand to 'transfer' at London's airports

Many stakeholders refer to the annual survey conducted by the Civil Aviation Authority (CAA) when outlining the proportion of transfer passengers using Heathrow airport every year. Heathrow Airport does the same in information that they make publicly available⁵⁸.

The 2011 CAA annual passenger survey, and the Heathrow Airport website, state that 35% of passengers using Heathrow in 2011 (or 24 million) were 'transfer passengers'. **We have concerns that this figure overstates the percentage of Heathrow's passenger traffic represented by transfer passengers.** Indeed, Heathrow have themselves publicly

⁵⁶ the difference in the total number of journeys (125 million) and the number of reported airport passengers (134 million) is due to transfer passengers being counted as two airport passengers in airport statistics.

⁵⁷ Footnote 6, Page 15 of Frontier Economics: *Connecting for growth: the role of Britain's hub airport in economic recovery* (September 2011)

⁵⁸ See <http://www.heathrowairport.com/about-us/facts-and-figures>

acknowledged that “there is some dispute about how many passengers transfer at different airports”⁵⁹.

This is because the CAA does not assess any actual data relating to air tickets actually bought by passengers. Instead, a sample of passengers is interviewed, and that sample is used to *project* what the overall number of transfer passengers at an airport *could* be⁶⁰. In contrast, the information gathered by IATA is comprised of data concerning the *actual* tickets bought by air passengers. In our view, IATA’s database provides a better and more accurate estimate of the actual percentage of passengers who are transferring at Heathrow and the other London airports. the assessments of the number of passengers ‘transferring’ at London’s airports differ depending on whether the IATA or CAA data is used. A direct comparison is shown in Figure 14.

Assessments of demand to ‘transfer’ through London’s airports

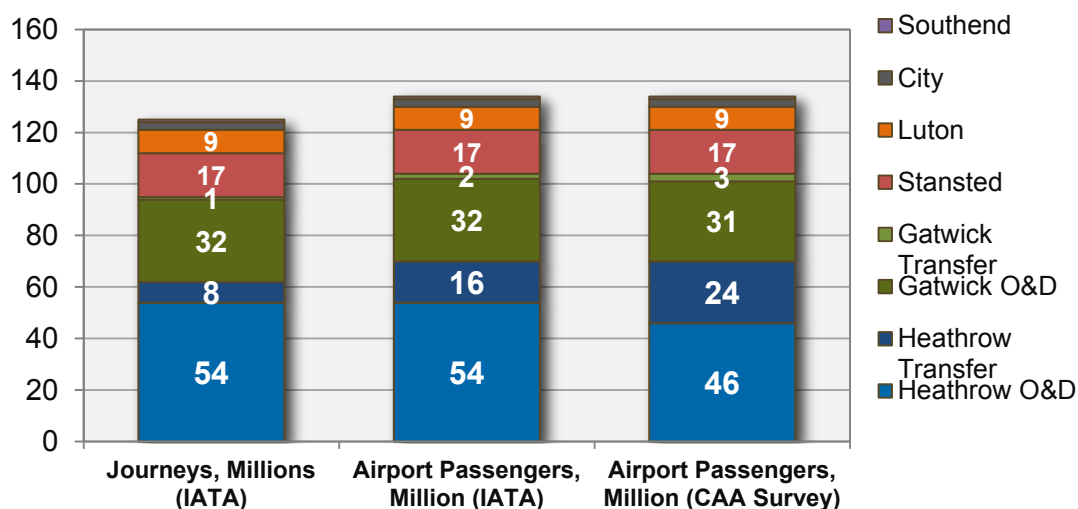


Figure 14

LHR Transfer %	13%	23%	34%
LGW Transfer %	2%	4%	9%
LON Transfer %	7%	13%	20%

⁵⁹ Footnote 4, Page 15 of Frontier Economics: *Connecting for growth: the role of Britain’s hub airport in economic recovery* (September 2011)

⁶⁰ For example, in the 2011 CAA survey around 140,000 surveys were carried out at Heathrow, Gatwick, Manchester, Stansted and Luton, airports with a total of around 150 million passengers. Thus the sample ratio is just under one percent. In contrast, the IATA data is based on actual bookings data from a much greater relative sample (over 30% at Heathrow)

APPENDIX FOUR

THE BENEFITS OF ECONOMIC DE-REGULATION

REMOVING ECONOMIC REGULATION FROM GATWICK AIRPORT

The reasons for regulation and why it should end

- Since the British Airports Authority (BAA) was privatised in 1986, London's largest airports (Heathrow, Gatwick and Stansted) have been subject to the same economic regulatory regime, designed to ensure that BAA did not abuse its 'near monopoly' position. BAA had 92% of the South East market.
- The prices that Gatwick charges airport passengers are currently capped by the Civil Aviation Authority (CAA) which sets them in accordance with a Competition Commission recommendation. The revenues from these prices often appear on passenger tickets as 'airport charges'. They are used to pay for our runway, airfield facilities, terminals, security, baggage systems and future development. Price caps are normally reviewed every five years. The Civil Aviation Act (2012) reformed this process- essentially transferring the authority around whether or not to regulate away from the Secretary of State and towards the CAA.
- Gatwick supported the broad principles behind the Act- the actual form of regulation it introduces is preferable to what has gone before. The Act outlines a series of tests that must be met in order for an airport to be economically regulated. These aim to determine whether that airport has 'substantial market power' ("SMP"). An airport which is found by the CAA to have SMP, as well as other tests, requires a licence, which may include a price 'cap'.
- Gatwick agrees with the recent Commons Transport Select Committee finding that: *"Given the greater degree of competition that now exists between airports in the south east of England... the CAA should undertake its economic regulatory duties with a relatively light touch."*
- **In November 2011, Gatwick made a substantive submission to the CAA outlining that Gatwick should not be economically regulated, as we do not have SMP.** At Gatwick there is compelling evidence of innovation and competitive behaviours consistent with the Competition Commission's and CAA's expectations when calling for the break-up of BAA's South East airport monopoly. We have at best 25% of the South East airports market. This is far below the threshold used for economic regulation in every other regulated sector. There is sufficient competition present for the market to determine the appropriate level of charges that Gatwick levies.

What de-regulation would deliver

- **The ability to set prices through negotiation with individual airlines:** Rather than the price being the same for everyone, Gatwick could discount the price of its services and cut costs for specific airlines, encouraging them to move to, and grow at, Gatwick. This could reduce the current dependence on one London airport to provide the bulk of long haul connectivity.
- **A contractual framework, like any other business:** The price of our service would be agreed through a long term contract, just as it is for many other service based businesses in the UK. This framework provides long term cost certainty for the airline, helping to make Gatwick a more effective commercial proposition, and boosting competition. It also allows us to offer other sources of income for that airline apart from the ticket prices that passengers pay.
- **Commercial innovation that helps to boost the profitability of an airline operating at Gatwick:** A contractual framework helps our efforts to use the capacity that we have available to support new, high value, intercontinental long haul routes that have traditionally been 'hub' orientated. Rather than relying on the 'transfer' traffic generated by a hub airport, an airline potentially has other sources of revenue to ensure a route is commercially viable to operate.

- **More efficient use of London's current airport capacity.** By creating the right commercial environment for airlines to grow, and creating scope for these kinds of incentives, de-regulation can allow Gatwick to build a commercial proposition that will promote even greater competition with Heathrow, Stansted and the other London airports helping to reduce London's reliance on one airport to provide the majority of long-haul direct links to key emerging markets.

Flexible investment

- **Freedom from regulation would deliver the kind of airport that passengers want, and London needs.** In a regulated world, our investment programme is shaped by the customers of today, rather than the airlines of tomorrow. If we want new links coming in and out the UK, we must be allowed to develop the airport in a way that is attractive to them. We would have been able to develop the airport far more effectively over the past three years had we been free to do so.
- The infrastructure necessary to allow passengers to walk off the plane, into the terminal from the largest aircraft (e.g. the A380) is an example. To attract long-haul airlines flying large aircraft across continents, we need these facilities in place. They soon will be. But it has taken far longer than it could have done.
- Immigration queues could be shorter. A de-regulated Gatwick would have been free to invest in equipment (eGates), in partnership with UK Borders Agency, which could cut queues. The regulatory process means airlines could delay this investment.
- There would be every prospect of Gatwick developing and improving its rail links more effectively. Deregulation would allow the airport to invest directly in its railway station to a far greater extent than today, again improving the airport's commercial proposition to new long haul airlines.
- Overall, regulation has meant that much needed facilities have taken far longer to progress than necessary. Planning consent is not an issue. But economic regulation is. We need to freedom to build the facilities we need to develop Gatwick as a competitive alternative to Heathrow, and add the new connectivity the city, and the UK as a whole, needs.

The Long term effect

- **De-regulation would not necessarily cause airlines with predominantly leisure customers to simply leave Gatwick.** We are not seeking to displace them, rather we want to ensure that our existing airlines stay and grow. We can accommodate eleven million more passengers a year, and forecast that we will be supporting 30,000 more take-offs and landings a year by 2020 than we are today. As real competition is introduced into the airports market, it may be that some airlines choose to move to other airports. That is a matter for them. Airlines can and do switch airports. It is up to the airport to create a proposition to the airline that is attractive.
- **What de-regulation can do is ensure that with the capacity we already have, Gatwick can invest, and innovate commercially,** in a way that makes the airport more attractive to the kinds of long-haul, direct connections to key markets that London needs. We want to compete to grow. Regulation stifles that.
- **Airlines, and their passengers, would not be at risk from excessive price rises or declining service levels.** Gatwick have already publicly committed to voluntary price commitments, and a guaranteed system of service level requirements. The same effect will be achieved, without the bureaucracy of the current system.

APPENDIX FIVE

COMPETITION COMMISSION

Excerpt from *“BAA airports market investigation: A report on the supply of airport services by BAA in the UK” (19 March 2009)*

“4.83 ...During the 1990s, BAA:

- interpreted the government policy of maximizing runway capacity in a way which postponed the need for runway capacity development until the time when its three London airports were full;
- downplayed the need for additional runways in the South-East...even though this was based on capacity utilization assumptions which might result in increased aircraft delays and a decrease in resilience in the air travel system generally and higher costs for airlines and passengers;
- avoided expressing a preference for runway investment at any of its airports throughout the 1990s and in response to the 2002 consultation;
- contributed to the delays that plagued the T5 planning inquiry;
- asked the Government to take full responsibility for deciding where new runway capacity should go (even though the choice was between BAA's airports) and removing any risk associated with the planning system;
- in 1998, refused to commission runway consultancy studies jointly with the Government, in order to concentrate on the incremental growth of terminal capacity at its airports;
- during the T5 inquiry, also asked the inspector to recommend that a third runway should not be constructed;
- did not take any step to seek to discharge the particularly restrictive section 52 agreement which prevented the construction of a second runway at Gatwick, even though this would have been essential to develop Gatwick as a credible hub airport; and
- planned its investments in capacity sequentially across its three south-east airports in order to minimize the duplication of spare capacity and the adverse impact on the BAA Group's profitability.

4.84 It is our view that, taken together, the above actions have significantly contributed to the current persistent shortage of runway capacity in the South-East, by holding back the possibility of a government policy supporting the development of a new runway. The above pattern of behaviour is only made possible by common ownership of the three London airports: separate owners of the three airports would have been unable to plan terminal capacity in the most profitable way across the three airports; would have been unconcerned about the negative impact of their actions on neighbouring airports' planning applications; would have been unwilling to operate at full capacity for several years and let all growth opportunities be captured by their competitors; and would have been incentivized to lobby the Government.

4.85 There is enough evidence to support the view that, under separate ownership, the operator of Gatwick would have had a strong incentive to seek government support for a second runway, in order to compete with Heathrow. We can only postulate whether the operator of

Gatwick would have succeeded in convincing the Government of the need to overturn the 1979 agreement, but we note that the Government was willing to consider the possibility of a second runway in the South-East from the late 1980s; that the CAA argued in 1990 that a new runway in the South-East would be needed in the first few years of the following century; that BA lobbied throughout the 1990s for a new runway at either Heathrow or Gatwick; that the Government asked BAA to explore the possibility of a second runway at Gatwick in 1995; and that its policy prohibiting a second runway at Gatwick only applied to the period to 1995. If government support had been secured by the operator of Gatwick, there is no reason in principle to assume that planning cases could not have been made for both T5 and a second runway at Gatwick, given that demand forecasts available at the time could support additional capacity at both airports and that each planning inquiry would have been considered on its own merits”.

APPENDIX SIX

COMPARISON OF LOCAL ENVIRONMENTAL IMPACTS OF EXPANDING
HEATHROW & GATWICK AIRPORTS

Impact	Noise metric/ Pollutant	Heathrow Today	Heathrow with a third runway	Gatwick today	Gatwick with second runway
Noise	People within 57 dB LAeq,16h	237,000	304,000*	3,050	13,200*
Air quality	EU Limits on Nitrogen Dioxide	3 locations near the airport	Additional 35,000 people§	0	<i>unlikely</i>
	Nitrogen Dioxide Emissions	7,500 tonnes		2000 tonnes	
	Pm10 Emissions	340 tonnes		82 tonnes	

* (Source: Heathrow Interim Masterplan 2005, Gatwick Master Plan 2012,)

§ As outlined by the CAA in their response to the *Future of Air Transport White Paper* (2003)

Gatwick not a suitable option

1. Many of those in the press or in the business world who call for a second runway at Gatwick have never examined the local topography. Gatwick is in fact a very small and cramped site. At 627 hectares, it is only one fifth of the area of Paris Charles de Gaulle airport. Even if extended to accommodate a second runway it would still be small and cramped. Like the former Croydon airport, it is not big enough for the modern age. Over the past sixty years various options have been put forward for a new runway but each in turn has ultimately been rejected as impracticable, or only possible at an unacceptable environmental cost.
2. The various runway options considered in the past, and the reasons why they have all been rejected, are set out below.
3. A new runway marks a step change in the environmental impact of an airport. In simple terms a new runway at Gatwick could mean twice as many aircraft, twice the level of noise that would otherwise exist, twice the amount of local pollution, twice as much traffic on the local roads, twice as much pressure on the rail link to London, and twice the amount of climate change damage.
4. That is why any such plan would result in huge opposition. That opposition would not be confined to those living within twenty miles of the airport but would be shared by all national environmental groups, and by young and old alike across Britain. As with recent runway proposals, the protesters would include both the respectable middle classes and young environmental activists. On the last occasion when an additional Gatwick runway was included in a government consultation, in 2003, it was opposed by both the Surrey County Council and by the West Sussex County Council, by every Borough and District Council, by every town and parish council in the area, and by all the local members of Parliament. These decisions were taken after careful thought and debate. In total over 80 councils and environmental groups declared their opposition.
5. In the 2003 Air Transport White Paper a new Gatwick runway was held in reserve. There was therefore no public campaign of opposition. But that relative quiescence should not fool anyone into thinking that the public would take a new Gatwick runway lying down. Any serious proposal would be met by opposition just as fierce as that seen at Stansted or at Heathrow between 2003 and 2010. More people in Surrey, Sussex and Kent care about the protection of the countryside than in any other counties of England.¹

A new runway to the north?

6. In 1952, and again in 1970, plans were put forward for a second runway at Gatwick approximately 1 km north of the existing runway. These were ruled out because of high ground to the west. The North Terminal has now been built across that line.
7. In 1993 and again in 2003 a new runway was proposed on a line 3 km. north of the existing runway.² That alignment had huge disadvantages:
 - it would have pointed straight at the town of Horley. To try to prevent an unacceptable number of people being affected by severe noise, the DfT proposed that the new runway should only operate with take-offs to the west, and approaches also from the west. That would have had a serious impact on the villages to the west, and – with the existing runway handling both take-offs to, and approaches from the east - would have doubled the number of aircraft on the existing approach path over Hever.
 - the medieval village of Charlwood would have been left isolated between the two runways and, as the DfT admitted, ‘uninhabitable’.³ Charlwood has a fine Norman church, listed grade 1, with nationally important wall paintings. The village has over eighty listed buildings. These include some 28 very ancient hall houses, dating from 1400 – 1550, more than any other village in England. Charlwood is also, however, a vibrant modern village with a large number of well supported village societies. The prospect of destroying this historic village and this active community aroused opposition across Britain.
 - the proposed runway would have needed a vast cutting through Stan Hill – 50 m. deep and 1.1 km. wide. Experts commented that the cutting might create turbulence with risks to the safety of aircraft taking-off or landing.⁴ BAA (at that time the owners of Gatwick) stated that the cutting would require the removal of 25 times as much soil as the notorious cutting at Twyford Down. That cutting attracted massive public protest, and signalled the end of the road expansion plans of the early 1990’s.
 - the Stan Hill cutting would have meant the destruction of the whole of Edolphins Copse, a 65 acre wood owned, and fiercely protected, by the Woodland Trust. The wood, a local nature reserve, is open to the public; is one of the most beautiful bluebell woods in the south of England; it contains ancient woodland and many species of flora and fauna.
8. The northern alignment was therefore firmly ruled out in the 2003 Air Transport White Paper.

A close parallel runway ?

9. The consultation paper produced in 2003 showed the option of a close parallel runway, 385 m. to the south.⁵ It was, however, found that aircraft using a new close parallel runway would be liable to dangerous wake turbulence from aircraft on the existing runway. As a CAA aeronautical instruction states: “When parallel runways separated by less than 760 metres are in use ... such runways are considered to be a single runway, for wake turbulence reasons.”⁶
10. The CAA response to the 2003 consultation killed off the close parallel runway, saying that it “would be likely only to achieve a limited increase in movements, because the required separation between aircraft ... would be such that the close parallel runway [and the existing runway] would largely need to be operated as one runway.”

A ‘wide-spaced’ runway to the south?

11. The 2003 Air Transport White Paper set out plans for a new runway 1035 m. to the south of the existing runway (to be held in reserve in case the proposed runways at Heathrow and Stansted proved impracticable). This location is also shown in the Gatwick Airport Master Plan July 2012.
12. That alignment also has huge disadvantages:
 - it would be very close to the town of Crawley. Indeed the new runway was shown as only 300 m. from the housing on the northern edge of Crawley. The airport boundary was shown only 100 m. from the housing, with little space for earth bunds or other acoustic and visual protection such as has been put in place on the northern side of the airport.
 - The noise problem would be serious. 23,000 people were predicted to fall within the 57 leq contour compared to 6,000 with maximum use of the existing runway. The number within the 54 leq contour was predicted to rise from 14,000 with maximum use of one runway to 42,000.⁷
 - the term ‘wide-spaced’ (used to distinguish this proposal from the close parallel runway) proved a misnomer. There would have been insufficient space between the two runways to allow aircraft to manoeuvre safely and efficiently. As British Airways said in their response to the consultation: “the space between the runways is inadequate for the traffic assumed.”
 - aircraft using the two existing terminals could not use the proposed new runway without crossing the existing runway. It was therefore proposed that the two runways would both operate in mixed mode, ie both handling landings and take-offs. That would have meant two parallel approach routes

and two parallel take-off routes with a need for new flight paths over much of Sussex. The prospect of two parallel approach paths, only 1,035 m. apart, at up to ten or twelve miles from the airport would have aroused considerable anxiety on the grounds of safety, especially in strong winds.

- there would have been a need for a new terminal building, as large as T5, to serve the new runway. There was, however, little space for such a large building between the runways, and certainly not enough space for aircraft to congregate round it. One plan showed the gate rooms stretched out in a line between the runways, with the furthest gate room two miles from the terminal.
- the new runway would have been short. As BAA pointed out: “the presence of high ground to the west is likely to limit the runway take-off distance.”⁸
- the runway could not have been placed further south without demolishing part of Crawley. It could not have been placed further north because ICAO rules prevent runways being closer together than 1035 m. if they are to be used for independent operation – because of the safety risks of two aircraft approaching the runway simultaneously on parallel paths.

Heathwick?

The idea of a high-speed train link between Gatwick and Heathrow has been described as unrealistic by the airport owners at both ends - BAA and Gatwick Airport Ltd. The idea is flawed because:

- a. If the line followed the M25 it would not be straight and thus not high speed;
- b. a straight high-speed train line, if over-ground, would cause unacceptable environmental damage. If underground it would involve unacceptable expense;
- c. passengers would need to pass through immigration and customs at both ends; even if they were to be locked into the coaches, an airport hub with two runways at Heathrow and two at Gatwick is unlikely to prove attractive compared to four-runway hubs on the continent.
- d. claims that the journey would only take 15 minutes ignore the time needed to get to the train station (from five terminals at Heathrow and perhaps in future three at Gatwick) and wait for the next train;
- e. as shown above, there is insufficient space for a new runway at Gatwick.

It is therefore clear that Gatwick could never provide the four-runway hub that many believe is essential to safeguard the future of London as a world class city.

On the basis of the factual evidence set out above we trust that the Transport Committee will acknowledge that Gatwick is not a suitable site for a new runway.

- ¹ Based on membership of the CPRE.
- ² RUCATSE Working Group report 1993, and The Future Development of Air Transport in the United Kingdom: South East. Second Edition. February 2003.
- ³ RUCATSE Working Group report 1993
- ⁴ Oxford Aviation Study Group report 2003
- ⁵ The Future Development of Air Transport in the United Kingdom: South East. Second Edition.
- ⁶ CAA Information Circular February 1999
- ⁷ The Future Development of Air Transport. DfT 2003
- ⁸ BAA response to 2003 consultation

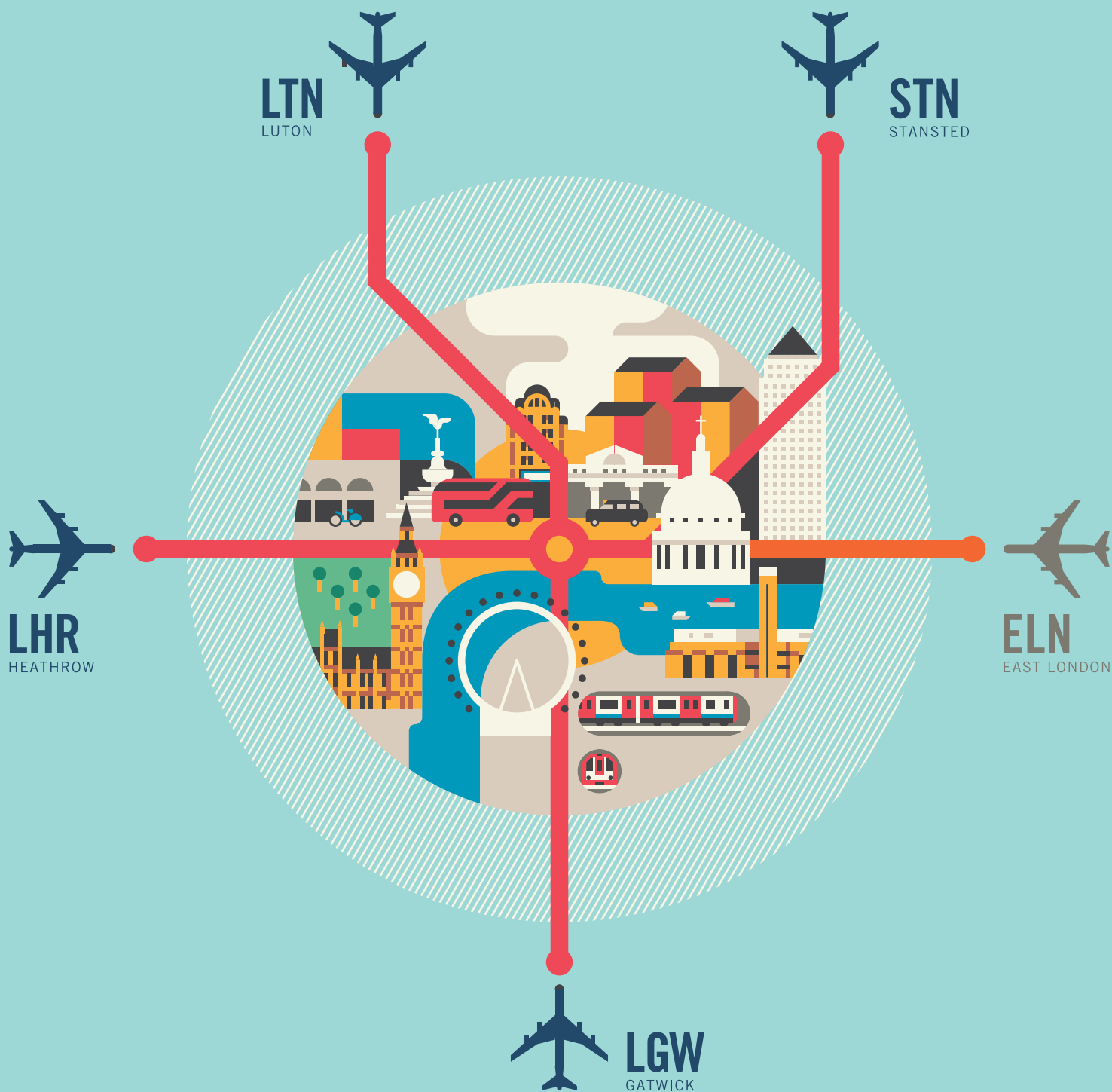
LONDON HUB CITY



Embargoed until 25th January 2013



‘London: Hub City’ sets out an ambitious and achievable vision for London as the most vibrant, vital and accessible city in the world. This vision sets the context for a new aviation strategy, a new approach to supporting London’s role as a key aviation hub, and points towards radical solutions for the capital’s transport network. It builds on Britain’s pedigree of finding ingenious solutions that are pragmatic, creative and efficient, forming the basis for inherently sustainable infrastructure. It is intended to stimulate debate and act as a catalyst for more detailed investigation, towards a specific outcome: the best future for London and the UK.



LONDON HUB CITY

Jolyon Brewis

Chief Executive, GRIMSHAW

A vision for London: the world's first Hub City

London could be the most accessible city in the world. In the decades to come London can develop an international reputation for being the easiest world city to visit; where it is possible to break a long-haul journey for less than an hour, but just as easy to choose to spend a few hours in the metropolis, knowing that London's commercial and cultural attractions can be accessed quickly and reliably.

London is already one of the most vibrant and vital cities in the world. It is an irresistible place for people to visit and, for many international visitors, the gateway to the UK. I am convinced that connectivity is central to maintaining London's position as a principal economic and cultural centre of gravity. But we need to focus on connectivity between the city, not just the airport, and the rest of the world. Our strategy for aviation needs to start with our vision for London.

Recent airport proposals

Much recent discussion about UK aviation has revolved around the best location for a single 'super-hub' airport with multiple runways and significantly expanded capacity. A number of proposed locations have emerged, with differing social, economic and environmental implications. Each existing airport is in the process of developing its own case for growth, or argument as to why it should be the singular UK hub airport; proponents of new airports, such as the Thames Hub, have emerged with the same agenda. Other proposals favour the creation of better connections between existing airports in order to make use of the potential capacity of existing runways.

In all cases, emphasis is placed on the technical capacity of infrastructure and the

economic case for hub operation. Many focus, prematurely in my view, on architectural proposals for airport plans and terminal buildings, represented by the ubiquitous aerial view at dusk. In due course the solution will require some bold building, but ahead of that, it requires bold thinking.

London first

Most of these proposals effectively ignore London. They lack a singular vision for the city, building on the best of London's attributes, around which an integrated transport strategy might be formed. At best, they indicate ways to bypass the metropolis with transport connections between airports or to other UK regions. In effect, London is treated as a spur from the hub airport, perhaps on the basis of perceived congestion within the metropolis. This runs counter to a long tradition of the city as a meeting point for commerce and culture, and ignores the importance of London as a true 'world city'.

There is an understandable focus on the needs of airlines in delivering an economic model of hub operation. What is not considered, however, is the diversity of passenger needs and what those people might be looking for when deciding on the route of their journey. If we think more about the unique qualities of London, and what can be offered to a wide variety of travellers, I am convinced that a different type of aviation hub can emerge.

Redefining the concept of an aviation hub

Heathrow Airport Limited have defined a hub airport as "an airport where local passengers combine with transfer passengers to allow airlines to fly to more destinations more frequently than could be supported by local demand alone." Much is made of the narrow

economic margins involved in airline business models. Some argue that, if a single hub model is not adopted, the UK will fail to connect to enough places around the world to support our economic well-being.

It is questionable, though, whether the current model of airline, alliance and airport economics should dominate the aviation strategy of London so completely. It is extremely difficult to predict what will happen to aviation beyond the next few years. Recent decades have demonstrated this. Stansted Airport was originally planned ultimately to accommodate four runways and a substantial proportion of long-haul, full service operation. The current situation, with a single runway dominated by budget airlines operating short-haul routes, was not the intention.

Looking ahead, we might confidently predict growth in aviation, and should provide fertile conditions for the UK to capture this growth. The operating models of aviation will change in the future as they have in the past, and will ultimately respond to passenger demand as markets always do. London has the opportunity to influence that demand by establishing a co-ordinated approach to its airports and transport connections and, crucially, project an image of accessibility to a world audience.

The right hub for London

Comparisons are made with other aviation hubs around the world and specifically in western Europe, with the inference that what is right for other locations around the world is also right for London. However, this potentially ignores a number of key commercial and cultural attributes that have made London such a powerful attractor for business and leisure travellers.

We may see two types of aviation hub developing in the future: 'Hub Airports' that are relatively remote from conurbations, offering

high throughput and quick transfer connections, and 'Hub Cities' where a variety of passenger demands is recognised, and a more integrated transport strategy is pursued. London has the opportunity to pursue the latter, and become the world's first Hub City.

Hub Airport or Hub City?

Hub Airports (Figure 1) will generally be remote from the 'host city', in order to maximise the potential for capacity growth; as a result, transport connections between the airport and the city need to be extremely efficient. Landside 'airport city' developments tend to emerge to capitalise on the economic power of the hub airport. Transport connections are often planned such that they bypass the host city altogether. The planning of a hub airport is dominated by the need to reduce transferring passenger connection times to a minimum, aiming for a Minimum Connect Time (MCT) of less than 1 hour.

Hub airports certainly deliver economic benefit, directly within the airport, indirectly through supporting greater connectivity to the rest of the world and, in the UK, through the taxation of transferring passengers. However, there is a tendency for the airport to become an independent economic centre that misses the opportunity to contribute to the city it serves.

A Hub City (Figure 2) is sufficiently attractive to persuade a significant portion of transferring passengers to extend their lay-over, leave the airport and spend time in the city. There are probably no more than a handful of cities around the world that have the right geographic location, the critical mass, and the integration of commerce and culture to work in this way.

A Hub City would prioritise fast and reliable transport connections between its airport(s) and the city centre in order that as many transferring passengers as possible enjoy the city centre. The focus would be on allowing passengers to reach the city centre less than 30 minutes after leaving the aircraft, meaning that passengers can choose a meaningful connect time that includes a number of hours spent in the city. Airports are therefore located in relatively close proximity to the city centre and, as a result are limited in their potential for expansion.

Recognising this, a Hub City is likely to

pursue a strategy where aviation capacity is split between more than one airport. Passengers are encouraged to connect through the metropolis, not around it or remote from it, and the economic benefit is delivered more directly to the businesses and people of the city.

London as a Hub City

London has the ideal characteristics to be a Hub City (Figure 3): it is geographically well-placed for aviation hubbing, commercially vital and culturally vibrant. To a limited extent, it works in this way already. Over 30% of international passengers transferring through Heathrow currently leave the airport and spend over £500 per head in central London. Making London's connections legible, fast and reliable could drive these figures much higher.

Why? Because London, like New York, Hong Kong and Singapore, is a city that large numbers of people want to be in. Virgin Atlantic recently commented on how their passengers prefer to transfer through Hong Kong rather than the Middle East. This demonstrates that airlines recognise that the city's business and leisure attractions change and increase demand.

Through adopting this vision, not only would the world's view of London be transformed, but

all of the economic and cultural benefits would be enjoyed by London, not just its airport(s). The result is a hub whose transfer lounge is no longer restricted to the airport, but includes all of central London's amenities. This would be achieved through major improvements to all modes of airport and city transport, and the design of an integrated system that is easy to use. In future, each transferring passenger's ticket could be an 'Oyster'-style smart card that also accesses all of London's public transport (Figure 4). London becomes the most accessible city in the world.

Our infrastructure capital

London is already served by a network of airports, and Heathrow Airport in particular is well-connected to the centre of London. Today, some journeys from the aircraft to the city centre take as little as 35 minutes. It is entirely possible to reduce this journey time and, critically, make it reliable. By placing a strong focus on radical improvements to transport links, other airports, existing or new, could add more effectively to overall capacity and better serve other areas of local population.

This strategy would make continued and better use of existing and planned infrastructure

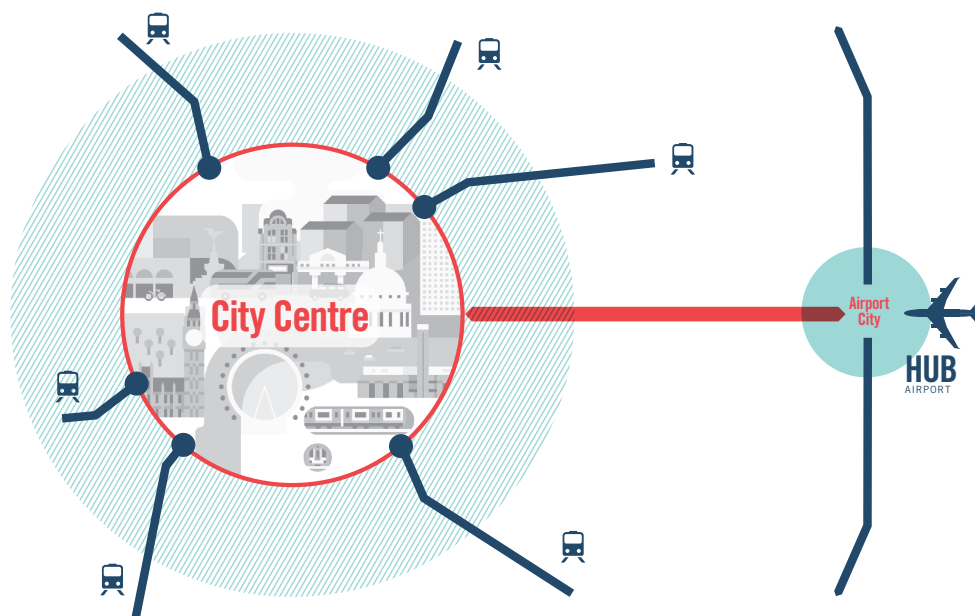
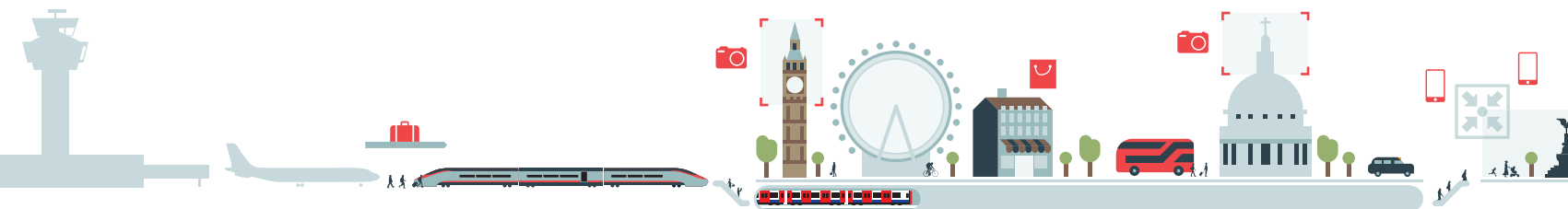


FIGURE 1: HUB AIRPORTS



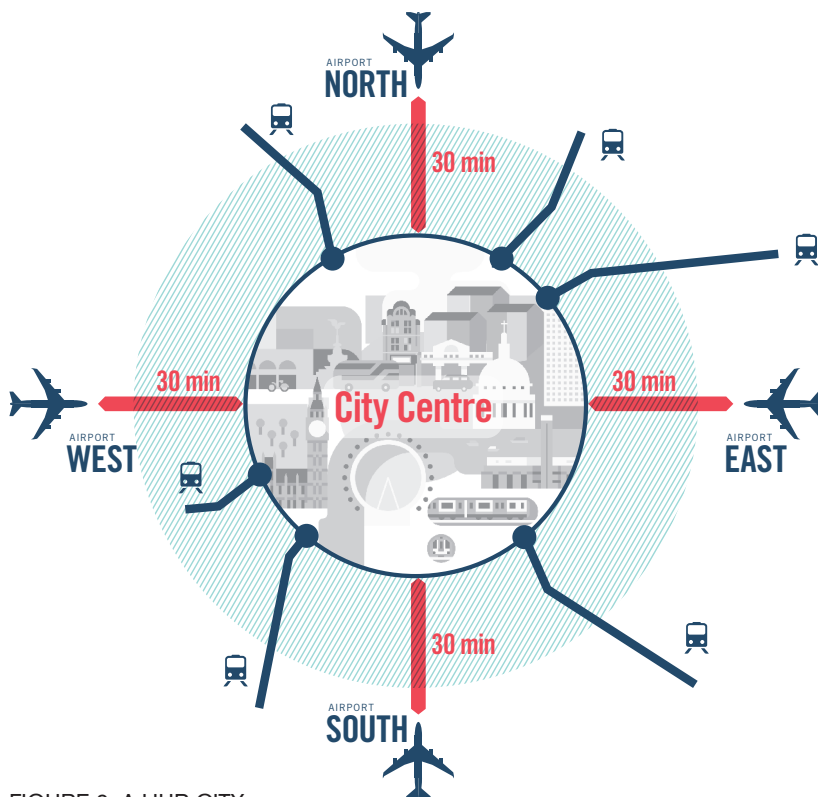


FIGURE 2: A HUB CITY

including Heathrow and potentially other airports, Heathrow Express, and Crossrail. Like much of London's existing infrastructure, the outcome is a transport system that has inherent resilience, and is not reliant on a single location for all connections.

A vision for London as a Hub City would help to direct decisions on other key infrastructure projects: connections to other transport modes (including conventional and high speed rail) should happen through Central London. Investment in improved transport links throughout London would benefit all Londoners, not just transferring aviation passengers.

The Hub City airport network

Strong arguments have been made, by Heathrow Airport Limited and others, for a single hub airport. Other cities, such as New York, operate with multiple large-scale airports. Rather than finding reasons why this cannot be made to work competitively in London, it must be worth actively trying to make our existing infrastructure

work within a renewed vision for our capital city. We need to look at whether different airline alliances could potentially be based at different airports, and whether some aviation traffic could be redistributed to better utilise all of our airports.

Undoubtedly, a significant proportion of transferring passengers will seek a short connect time to make their journey as efficient as possible. This can be accommodated by the Hub City; Heathrow already offers transfer times as short as 45 minutes, and can, with further physical improvements and dispersal of some of its current traffic, provide this for more passengers in future. Others will want to take advantage of London's improved accessibility, and enjoy extended periods in the city. Our airport system should offer passengers a range of experiences of London, with 'minimum' and 'meaningful' connections.

A likely outcome might retain Heathrow as the principal 'short connect' hub airport, within a Hub City where passengers are offered unrivalled access through central London and greatly improved options for travel that include

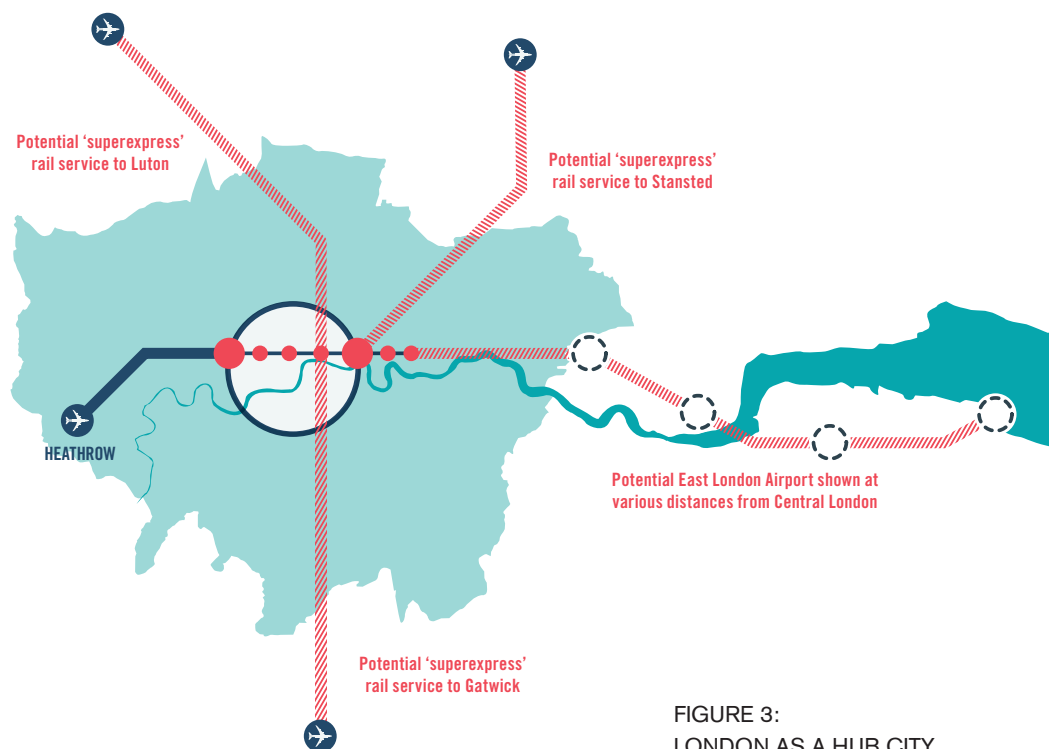
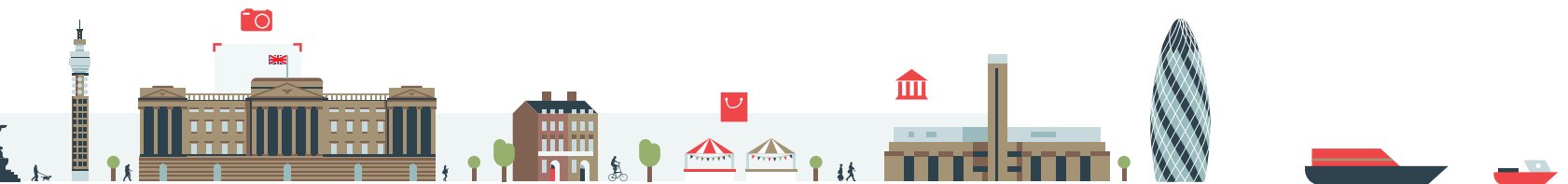


FIGURE 3: LONDON AS A HUB CITY





other airports, even a new 'East London Airport' if that proves to be the best option, and other modes of transport.

Impacts and benefits

Proposals for relocating the UK's hub airport away from Heathrow have profound implications for the people who use the airport, and for the Londoners whose livelihoods are reliant on the airport, both directly and indirectly. There are significant social and economic implications associated with airport location, and options to redevelop the land at Heathrow ignore the fact that its value is largely reliant on the airport's existence. Take away the airport, and the economic picture of West London will significantly change.

Having airports close to central London means that the impacts of aviation also remain relatively proximate. Many Londoners already feel the impacts of our airports, and may feel that a more remote airport would be better for them. It is perhaps less clear how these people would be adversely affected by the resulting economic changes. Nor is it generally understood how much better our existing airports can be.

Improvements to air quality and reductions in noise impacts are already underway, and, with the impetus of a large London constituency, could be accelerated.

Looking at London as a Hub City has the potential to disperse aviation benefits and impacts to a broader population, and avoid a wholesale shift in the socio-economic map of London. There will be greater potential for more Londoners to benefit from the economic and cultural benefits of the hub.

Typical British compromise or ingenious British solution?

It is tempting to look at 'super-hub' proposals as being inherently ambitious and visionary, whereas any proposal that 'tinkers' with existing infrastructure runs the risk of accusations of small-scale, parochial thinking. This is a gross simplification. In fact, there is a real risk that any 'super-hub' airport could become a white elephant or vanity project. Britain has a terrific pedigree of finding ingenious solutions that are pragmatic, creative and efficient. We should seek a similarly ingenious answer to our current aviation needs.

London: Hub City is an eminently achievable vision, which is inherently resilient and makes best use of existing and planned London infrastructure. It allows for incremental implementation, allowing us to build what is needed within the foreseeable future, rather than committing to enormous new infrastructure in anticipation of long-range and possibly unreliable forecast demand.

Such a holistic approach to London's needs is in itself hugely ambitious. It calls for a wide range of stakeholders to buy-in to an integrated vision for London, and a redefinition of what an aviation hub can be. However, if it is implemented within the context of a powerful unifying vision, it forms the basis for inherently sustainable infrastructure.

The Airports Commission, chaired by Sir Howard Davies, will evaluate many ideas for supporting aviation growth. Will its scope be sufficiently broad enough to include a confident vision for London's place in the world? I want London to find a unique solution that does justice to a unique city.

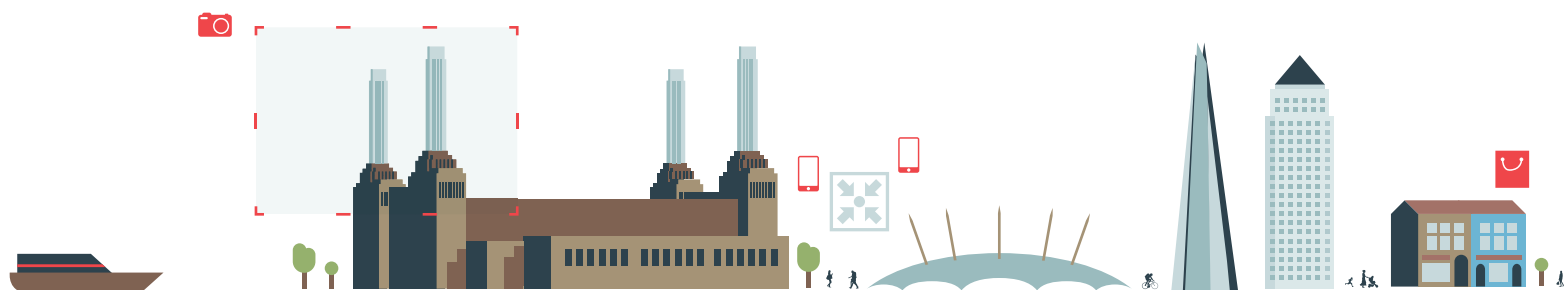


FIGURE 4:
A HUB CITY SMART CARD



IMPLEMENTING THIS VISION

Transforming London into a Hub City requires a co-ordinated and integrated approach by a number of agencies, with major investment across a number of London's transport systems.

Of our existing airports Heathrow is currently closest to operating in the right way to support the Hub City, but punctuality and reliability of service need to be improved. Relaxing current restrictions on runway operations could achieve 10% additional capacity, allowing for improved reliability of service. Increased staffing for Border Control and baggage handling would help to ensure that passengers can negotiate airport processes as quickly as possible. Whilst much of the physical infrastructure at Heathrow is excellent, further improvements are needed, including a better transport interchange

in the central terminal area, faster development of the new Terminal 2 and reduced reliance on older terminals.

Improvements to the London transport network should be made, with new emphasis given to fast airport connections and unprecedented accessibility. Heathrow Express could offer a more frequent service, with faster trains and perhaps even allowing passengers to connect directly to each satellite pier. Crossrail might allow faster connections between its central section, currently under construction, and Heathrow Airport. Improvements to the London Underground network, and better staffing of key London transport nodes, similar to the approach taken during the Olympic Games, could transform the experience of the city for aviation passengers and Londoners

alike. Investigation of whether more security and immigration processing could take place 'en-route' might further streamline the experience for transfer passengers.

Additional aviation capacity will still be required to serve London and the UK. Priority should be given to capacity that can be delivered effectively and support the Hub City concept. All alternatives should be considered, including existing airports and potential new locations. A 3rd runway at Heathrow should form part of this consideration, with a focus on further improving resilience and reliability; it might also represent the quickest way to increase overall capacity in the medium term, but should be looked at in the context of a network of airports serving London.



PROFILES

Jolyon Brewis

Chief Executive, Grimshaw

Jolyon is an architect skilled in finding creative, pragmatic solutions driven by a careful understanding of the client's requirements and the unique possibilities of each project. He has an exceptional ability to communicate ideas to a broad range of people, and win the widespread support necessary for the development of large-scale, complex projects. His architectural experience covers all of Grimshaw's principal sectors. Projects include all phases of the Eden Project, the headquarters for Rolls-Royce Motor Cars, masterplanning the expansion of Stansted and Heathrow Airports, an urban extension to the town of Harlow, and the Aerogenerator wind turbine. Jolyon believes that masterplanning and infrastructure design offer the greatest opportunities to improve the sustainability of our built environment. His work on the Eden Project exemplifies the practice's comprehensive approach to buildings, landscape and infrastructure, and has directly informed subsequent transportation and urban masterplans.

Grimshaw

Grimshaw was founded by Sir Nicholas Grimshaw in 1980. The practice became a Partnership in 2007 and operates worldwide with offices in New York, London, Melbourne, Sydney and Doha employing over 300 staff. Grimshaw's international portfolio covers all major sectors, and has been honoured with over 150 international design awards including the prestigious Lubetkin Prize. The practice is dedicated to the deepest level of involvement in the design of their buildings in order to deliver projects which meet the highest possible standards of excellence. The company's work is defined by strong conceptual legibility, innovation and a rigorous approach to detailing, all underpinned by the principles of humane, enduring and sustainable design.

Grimshaw's international reputation as transport architects and leaders in the planning and design of air projects dates from the early 1990s, beginning with the new concepts for air travel we exhibited at the Venice Biennale in 1991. Since then, Grimshaw has developed a thorough and worldwide understanding of the key drivers for airport owners and operators and is uniquely placed to deliver fast solutions to the growing needs of airports. This is characterised in the company's masterplan for the expansion of Stansted Airport and the design of the 3rd Runway at Heathrow.

Urban Research Unit

Grimshaw Architects and cultural placemaking consultants FutureCity have recently launched the Urban Research Unit (URU). URU is a one-year research project focused on issues related to urban design, masterplanning, and placemaking. Established in New York and London, this joint initiative will consider and challenge the conventional tools used to plan and build contemporary urban centers. The Urban Research Unit, in collaboration with the Fellows of the RSA, will host a series of eight events each exploring, through a targeted panel discussion, a different topic that shapes the public realm. Influential thinkers including designers, clients, academics and other industry experts will help enrich the panel discourse at each event, while relevant content will also be shared on a dedicated URU website. This project will culminate with a final document in early 2014 which will act as a toolkit of key issues and considerations to be applied as New York and London's urban environments prepare for the future.

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London Assembly Transport Committee

Investigation into airport capacity in London

Evidence from HACAN

HACAN is the long-established organisation which represents residents under the Heathrow flight paths

Questions

1. What are the arguments for and against changing existing airport capacity in London? What is the evidence in support of these arguments?

Current levels of capacity

1.1 The Department for Transport has concluded that the UK will not need extra airport capacity until nearly 2030, even in London and the South East.

1.1.2 The amount of spare capacity varies at each of the three main airports in the region – Heathrow, Stansted and Gatwick.

1.1.3 Heathrow's runways operate at 99% capacity. If mixed-mode were to be introduced, this would increase capacity from 480,000 flights a year to 560,000. However, any move towards mixed-mode would meet significant opposition. Nor would it be a quick solution since Heathrow Airport requires planning permission if it is to exceed the 480,00 limit and because NATS says it would take around two years to reconfigure the airspace in order to allow mixed-mode to operate safely.

1.1.4 Of, if needed, the current runway capacity at Heathrow could be reconfigured – for example, extra capacity could potentially become available for long-haul flights if some of the 20-25% of flights that serve short-haul destinations were removed or reallocated (1).

1.1.5 Heathrow, though, has a lot of spare terminal capacity terminal. It could accommodate another 20 million passengers a year.

1.1.6 Gatwick and Stansted have both runway and terminal capacity.

Arguments to change capacity levels

1.2 The argument made for additional capacity, particularly at Heathrow, is that the economy will lose out if it is not provided.

1.3 Our starting point is this: London is the best-connected city in Europe. Its excellent air transport links make it the top city in Europe to do business, according to global property consultants Cushman & Wakefield. Their 2011 survey of business-friendly cities placed London in first place. It retained its position for the 22nd year in a row. The influential survey, *The European Cities Monitor 2011* (2), based on interviews with the bosses from Europe's 500 largest firms, found that London had the best external transport links, internal transport and telecommunications of any European city. (It scores much more modestly in terms of noise, air pollution, traffic congestion and general quality of life).

Cushman & Wakefield commented:

“London is still ranked – by some distance from its closest competitors – as the leading city in which to do business. Paris and Frankfurt remain in second and third place respectively, although the gap between the two has widened.”

1.4 The findings of the Cushman & Wakefield study were reinforced by *International Air Connectivity for Business (3)*, published in 2011 by WWF and AirportWatch, which found Heathrow to be ‘in a class of its own’ as far as business links are concerned. It has around 990 departure flights each week to the world’s key business centres, that is more than its two closest rivals, Charles de Gaulle (484) and Frankfurt (450), combined.

1.5 And Heathrow must be looked at in the context of all London’s airports. London with 6 airports and 7 runways, has more runways than any of its European rivals, except Paris: Paris is served by 3 airports and 8 runways; Amsterdam by 1 airport and 6 runways; Frankfurt by 2 airports and 5 runways; and Madrid by 1 airport and 4 runways. London has more flights to key business destinations in every continent, except South America, than its European rivals. More passengers fly in and out of London than any other city in the world. Paris, its nearest European competitor, is in 5th place.

Rank	City	Total Passengers
1.	 London	127,353,419
2.	 New York City	107,586,717
3.	 Tokyo	98,024,708
4.	 Atlanta	89,331,622
5.	 Paris	86,203,669

1.6 It is equally important to scotch the myth about Heathrow capacity being the main deterrent to Chinese firms locating to the UK. Firstly, there is a bilateral agreement between the UK and mainland China which limits the number of flights between the two countries to 62 a week. And, secondly, the cost and difficulty of getting a visa to come to the UK is a key deterrent.

Adam Marshall, of the British Chambers of Commerce, said:

“China is a fast-growing trading partner for Britain, so we need to do our utmost to welcome both tourists and business visitors from the world’s largest country. Unfortunately, businesses trading with Chinese firms report that the process of securing UK visas is both expensive and cumbersome. If individual tourists and Chinese companies can secure more flexible Schengen visas at a lower cost, the sad reality is that many companies here in Britain could lose substantial business”.

But what of future capacity needs? That leads to the second question.

2. What are the current levels of airport capacity and the current and future estimates of demand for aviation travel? What is the basis for the estimates?
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2.1 Before any decision is taken on future capacity needs, the country needs to make as accurate an assessment as it can about future demand. This is never an easy task. (The Davies Commission is expected to publish its assessment in January). What is clear is that there will be increasing demand from the emerging economies – countries such as China,

India and Brazil. There is less clarity about the level of future demand in the developed economies. Any assessment needs to include the oil prices, the impact of a growing population, future levels of taxation, the potential of modal shift to rail, the future use of video-conferencing and the impact of any climate change and noise targets in place.

- **the impact on demand of oil prices** – this is hard to predict. It will be determined by two factors: world prices; and the ability of the aviation industry to produce more fuel-efficient aircraft. The Department for Transport's (DfT) latest forecasts allow for uncertainty, rightly in our view: "The oil price test varies the projection of oil prices within the DECC oil price projection range of \$60 per barrel to \$150 per barrel (2030 values in 2008 prices)"(4) since the DfT in the past has had a tendency to underestimate the future price of oil. In 2007, for example, it assumed oil prices (in real terms) would fall from about \$65 per barrel in 2006 to \$53 per barrel in 2030, with most of the decline occurring by 2012.
- **the impact on demand of taxation**, with perhaps the key factor being whether the tax-breaks the aviation industry currently enjoys will continue over the next few decades at a time when governments will be seeking to increase their revenue streams. It is difficult to predict what will happen but the trend over recent years has been for countries to introduce substitute taxes that go some way to recovering the money lost to the Exchequer through tax-free fuel and zero-rating for VAT. The UK of course has Air Passenger Duty. Spain has recently increased the amount of its departure tax it charges from €5 to €9. The tax is charged to the airline. Germany imposes an ecological departure tax, in 3 bands, from €8, €25 and €45 for the longest trips. Austria has two bands, of €8 for short haul and €40 for long haul. In France, air passengers pay a Passenger Solidarity tax, (around €5 - €6) which goes to Unitaids, which buys HIV/AIDS, malaria and TB drugs.
- **the impact on demand of the expected population growth in the UK.** The DfT expects the growth in population to be a key driver of higher demand.
- **the impact on demand of UK leisure travel patterns.** Leisure air travel has shot up over the last 15/20 years with the advent of budget flights. That will have been a one-off increase. The DfT says one of "the main factors driving the range in passenger forecasts are different assumptions about future....the effects of market maturity on air travel demand and the extent to which there will be a 'bounce-back' of demand following the significant reductions observed as a result of the financial crisis" (5).
- **the impact on demand of the increasing use of video-conferencing by business.** A WWF report, *Moving On – why flying less means more to business* (6), published March 2011, found 86% of companies are either reducing their carbon footprint from business travel or intend to do so; 47% have reduced the number of business flights they've taken in the last two years; 63% of companies that responded now have a policy in place to reduce business flights, or are intending to implement one; of those companies which have cut their flying, 85% do not intend to return to 'business as usual' levels of flying. From this same group, the vast majority agreed that it's possible for a company to fly less and remain both profitable and competitive. The DfT has assumed "that the increasing availability of videoconferencing facilities will result in a 10% reduction in business air travel by 2050, relative to the level of demand implied by National Air Passenger Demand Model forecasts"(7).

Our conclusion is that, given the real uncertainties in so many of the forecasts, it would be sensible to look at future capacity needs as a moveable feast, planning for a range of forecasts. Additionally, it is probable that in the more market-led, less prescriptive approach the Government is developing towards airport expansion forecasts will be less important.

3. What are the options in the short, medium and long-term for addressing the issue of airport capacity?

3.1 It cannot be assumed that, if no more airport capacity is built in London and the South-East, there will be a reduction in flight numbers to the key business destinations of the world. The market will determine which destinations are served. The likely scenario is that airlines using a constrained Heathrow will concentrate their resources on their most profitable, inter-continental routes which attract a significant number of business passengers. Many of the short-haul flights, particularly those primarily serving the leisure market, will be squeezed out (and are likely to relocate to some of the other London airports where there is spare capacity). The airlines will ditch short-haul European destinations if it is more profitable to serve Chinese cities. The trend will be towards the use of larger aircraft, each carrying more passengers, utilizing the spare terminal capacity at Heathrow.

3.2 It has been argued that fewer short-haul flights at Heathrow would reduce its ability to function as an effective hub. While its hub status has been important to business, there is evidence to suggest that that importance has been overstated. We can find no hard evidence that the London economy will lose out if Heathrow does not expand as a hub. The reason for this is London's importance as a destination to business people. This was emphasized in *Transport Statistics Great Britain 2011* (8), from the Department for Transport which showed that, worldwide, Heathrow had the largest number of terminating passengers on international flights in 2010. An earlier report from the Dutch economists CE Delft made a similar point. In *The economics of Heathrow expansion* (9) they argued that a third runway was not required at Heathrow because, for business as a whole, other factors, such as the vibrancy of London's financial centre, were of greater importance than the size of Heathrow. This is not to argue that Heathrow's hub status brings no economic advantages; simply that the links between London's economic performance and the size of its hub airport is complex and requires further assessment. It is very possible that the large number of passengers terminating at Heathrow provides the critical mass needed to make a high number of flights to a wide range of destinations commercially viable (and thus London an attractive place to locate a business) without having to rely on more transfer passengers to do that job.

3.3 It could be that further deregulation of the aviation industry is of more importance to UK plc than the provision of extra capacity. For example, as already mentioned, the number of flights between the UK and China is limited to 62 a week by a bi-lateral agreement. The impact of a more deregulated market requires further study. But it could play an important role in creating a better Heathrow which could provide excellent connectivity with the rest of the world without the environmental and social downsides expansion would bring.

A better Heathrow would require:

- An efficient border control system
- Incentives to operate full aircraft - at present planes are on average 75% full
- Reform of the slot system to allow more flexibility – and in particular the substitution of short-haul slots with long-haul where required
- Renegotiating or scrapping restrictive agreements such as the bilateral treaty between China and the UK which limits flight numbers between the two countries
- A simpler and cheaper system for all foreign nationals to get a visa to enter the UK

3.4 Much has been made of the fact that, without airport expansion, business people will not be able to fly directly to London from many of the emerging cities in Asia and South America and so businesses will locate in or relocate to European cities which may provide such direct flights. There are three points to make.

First, as stated above, it is likely that, in a constrained scenario, airlines using UK airports will respond to market forces and serve more destinations in the emerging economies, possibly at the expense of short-haul European destinations.

Secondly, it is unrealistic to think other European cities will ever have more than a limited number of flights to second-tier cities in other continents. Some interchange seems inevitable. It would take place at the hub airports which will develop in Asia, Africa and South America or at major new airports like Dubai (which are specifically designed to facilitate an easy and quick interchange for inter-continental passengers). They can provide the links between Europe and a whole range of cities in other continents. As such, they can and will enhance business connectivity. They should be seen as an opportunity, rather than a threat. In this scenario, of prime importance would be Heathrow's direct connections to these key hub airports in emerging nations rather than direct links to every second-tier city in other continents.

Thirdly, public opposition to new runways and new airports in Western Europe has become, and is likely to remain, a powerful obstacle to expansion. Plans for a third runway at Heathrow had to be scrapped. A fourth runway at Frankfurt was only built in the teeth of massive protests, including the sight of thousands of people occupying the nearby woods. And protests have continued since it opened in October 2011. Every Monday evening up to 5,000 residents occupy the terminal in protest against the impact of the new flight paths. In Munich earlier this year residents blocked a third runway by voting against it in a city-wide referendum. Plans for Nantes International Airport have faced long-term opposition, including a 28 day hunger strike by protesters. The safest assumption is that airport capacity in Western Europe will remain much as it is now over the coming decades.

3.5 Options other than a third runway at Heathrow have been put forward to cater for any extra capacity that may be required. There are 2 options:

- A two-hub solution, created by an extra runway at Gatwick or Stansted.
- A new four-runway airport, created either by an Estuary airport or by 3 new runways at Stansted.

We look at these further in response to the next question.

4. What issues need to be taken into account when assessing each option for addressing airport capacity?

There are a number of issues to be addressed.

4.1 Noise

The table below (10) shows the numbers affected by noise at UK airports. One thing stands out: one, the huge numbers affected at Heathrow – 28% of all people impacted by aircraft noise right across Europe. (It is worth noting that London City may be an underestimate as there are communities in East London impacted by both City and Heathrow aircraft and the cumulative impact, which is not measured, would change the figures).

Numbers of people living with the 55 Lden contour

Airport	No of people	% of people affected across Europe
Heathrow	725,500	28.5%
Manchester	94,000	3.7%
Glasgow	63,600	2.5%
Birmingham	47,900	1.9%
Aberdeen	16,300	0.6%
Edinburgh	15,000	0.5%
London City	12,200	0.5%
Southampton	12,100	0.5%
Gatwick	11,900	0.5%
East Midlands	10,500	0.4%
Stansted	9,400	0.4%
Luton	8,600	0.3%
Leeds Bradford	8,400	0.3%
Newcastle	5,900	0.2%
Liverpool	5,700	0.2%
Totals	1,044,300	41.0%

Source: European Commission, CAA. Figures based on the populations

Obviously there are no existing noise statistics for an Estuary Airport. But the noise footprint from a four runway airport would be considerable. Even allowing for the fact that a lot of flying would be over the sea, it is inevitable that communities at least as far as 30 miles from the airport will be disturbed. In recent oral evidence to the Transport Select Committee, the CEO of NATS said he expected Central London would be impacted by noise from an Estuary Airport.

4.2 Climate Change

The Committee on Climate Change (CCC) – the Government’s advisers - has advised that flights should not grow by more than 55% if the UK is to meet its climate change targets. (At the time of writing the Government has still to confirm these targets).

However, these figures come with significant caveats:

- The aviation industry would argue the CCC has been over-cautious in its estimation of the technological and operational improvements that can be expected.
- The CCC makes probably unrealistic assumptions about the way other industries will reduce their emissions. For example, the CCC assumes that by 2050 the power supply will be fully decarbonised, every house in the country to be so well insulated that it lost almost no heat, carbon capture to be in place and huge reductions in emissions from shipping and waste to take place.
- The current difficulties the EU Emissions Trading Scheme is experiencing add to the uncertainty surrounding future CO2 emissions.

Estimates will need to be made about the level of airport capacity could be permitted without breaking through the climate barrier. The uncertainties surrounding the CCC figures make this difficult. It is possible, even probable, that one new runway in the South East would not break the barrier but it would limit growth elsewhere in the country, should that be desired.

4.3 Air Pollution

Air Pollution from aircraft is only a significant problem in areas close to an airport. Again, Heathrow is the airport where it is a big issue. Already areas around Heathrow are in excess

of the EU legal limits. (This is partly accounted for by the huge amount of traffic in the vicinity of the airport). It would be a leap of faith to argue that an increase in flights from the current 477,000 a year to over 700,000 will allow the airport to stay within the limit, even allowing for expected technological and operational improvements in aviation and the introduction of some hybrid and electric vehicles. With the exception of London City, the EU legal limits do not appear to be under threat at other South East Airports.

4.4 Surface Access

This is not an area where HACAN has as much expertise as the local authorities. We simply flag it up as an issue which would need to be addressed.

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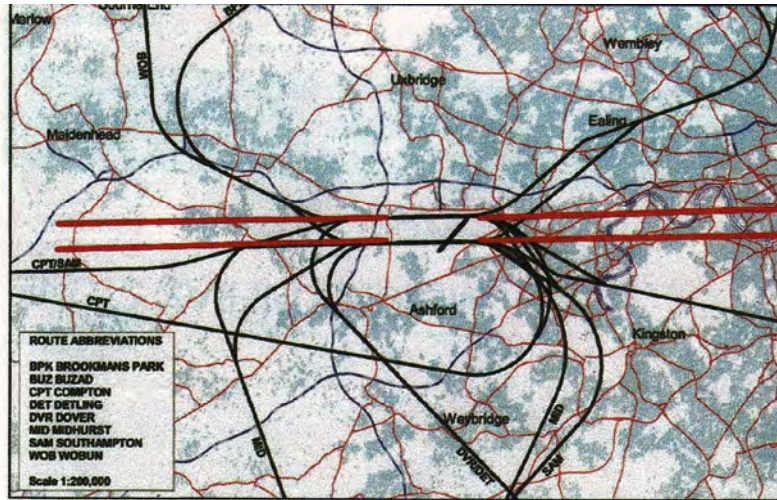
Mixed-Mode

“Mixed-mode, however, should not be introduced. It would deliver a small increase in capacity for a large increase in noise, and the planning process would take almost as long as for a third runway.”
Flying into the Future, Institute of Directors 2012



“Nobody can overstate how hard we would fight to keep our half-day’s break from the noise”
West London resident

All you ever wanted to know about mixed-mode...



Departure (in black) Routes, and Straight-in Approach Paths (in red) for Heathrow

Mixed-mode has been touted both as an alternative to a third runway at Heathrow and as a quick-fix way of increasing airport capacity in London in the short term. It is neither.

What is mixed-mode?

To understand it we first need to understand runway alternation.

Runway alternation

At present planes landing over London switch runways at 3pm to give residents under the flight path a half day's break from the noise. Over half a million people benefit from it.

Mixed-Mode

Under mixed-mode, aircraft would cease to switch runways at 3pm. They would land on (and take off from) both runways all day long. For many people under the flight paths, that would mean a plane overhead every 90 seconds for a lot of the day.

How much extra capacity would mixed-mode create?

Mixed-mode would enable flight numbers to increase from 480,000 a year (the current limit) to around 560,000 a year.

The Myths about Mixed-Mode

Myth One: It is a short-term fix

It is not. It would take many years to put in place.

There are two reasons for this:

- It would require a planning inquiry. By law Heathrow Airport requires planning permission if it wants to exceed the current limit of 480,000. Initially it would need to submit a planning application to the London Borough of Hillingdon, the planning authority. Hillingdon, implacable opponents of Heathrow expansion, are likely to refuse it in which case there would need to be a full-scale public inquiry.
- NATS (National Air Traffic Control) argues that it would take several years for the flight path and other operational changes to be put in place to allow mixed-mode to operate safely.

Myth Two: It would be less unpopular than a 3rd runway

For residents under the current flight paths, it would be more unpopular than a 3rd runway as it would mean a significant increase in aircraft numbers and, for people in the worst-affected boroughs in West London, an end to their half day's break from the noise. Many people only moved into the area because they knew they got this respite period.

Myth Three: It would be a comparatively minor change

Its impact would be felt across wide areas of London and the South East.

There are two reasons why, far from being minor, it would affect a lot of people:

- Already 725,000 people live under Heathrow's flight paths, according to EU official figures. 28% of all people disturbed by aircraft noise across Europe. Mixed-mode might mean over 200 additional flights a day many over these people
- But there would also be new areas impacted by aircraft noise for the first time: Air Traffic Control has made it clear that mixed-mode would require the final approach path to be lengthened to ensure that planes landing on the parallel runways simultaneously were separated well before they reached the airport.

Mixed-Mode: a solution not worth pursuing

“Mixed-mode, however, should not be introduced. It would deliver a small increase in capacity for a large increase in noise, and the planning process would take almost as long as for a third runway.”

That quote on the front page taken from **the Institute of Directors**, long-time supporters of Heathrow expansion, concisely sums up the problems with mixed-mode. It is significant that the Institute, such staunch backers of expansion and still supporters of a 3rd runway, have ruled out mixed-mode.



*“Mixed-mode would cause
a revolution, even in
Richmond”*

John Stewart, Chair HACAN

Briefing by HACAN, fighting noise,
representing residents under the
Heathrow flight paths.

Email: info@hacan.org.uk

www.hacan.org.uk

February 2013

Heathrow's Written Evidence for the London Assembly Investigation into Airport Capacity in London

1. What are the arguments for and against changing existing airport capacity in the London? What is the evidence in support of these arguments?

Heathrow's status as a hub airport gives the UK direct access to world markets, brings goods and services into the UK more cheaply and provides a direct route into the UK for foreign investors. There is a direct relationship between frequent air connections and improved volumes of trade and investment. According to research undertaken in 2011, UK businesses trade 20 times as much with Emerging Market countries that have a daily direct flight to the UK as they do with those countries that do not¹.

Recent figures from UK Trade and Investment show that inward investment created or safeguarded more than 112,000 jobs in the UK in 2011/12². Heathrow Airport commissioned a poll of 350 board level business travellers in November 2011 (released January 2012³). Respondents were drawn from Brazil; China; Korea; Mexico; and India. 92% said direct flights are important to inward investment decisions and 62% say they will only invest in the UK if flight connections are improved

This scale of international connectivity cannot be provided by point-to-point airports. Hub airports are not simply larger versions of an ordinary airport; they operate in a different way. There is not enough demand in a local market (even in London) to sustain a daily flight to economically important destinations such as Bangalore or Chennai. Airlines overcome this by pooling demand from a number of different locations at a hub airport. By pooling that demand from around the UK and Europe at Heathrow, airlines can keep direct flights to these destinations viable throughout the year and on off-peak days.

The impact of London losing its hub airport is significant. Being home to one of the world's most successful hub airports has been a strong competitive advantage for London over the last forty years. But Heathrow is now full and this runs the risk of reducing London's international connectivity. The UK is already lagging behind its competitors in terms of links to BRIC economies⁴ and a drop in connectivity to traditional business destinations is starting to become apparent⁵. The lack of direct flights to the UK from emerging markets is costing the economy as trade goes to better-connected competitors⁶.

In the aforementioned poll of business leaders⁷, 67% said that better air connections from their home country to France, Germany and Holland mean they are more likely to do business with those countries rather than the UK, illustrating the UK is already missing out on investment. This trend is likely to intensify as the capacity crunch worsens.

As capacity constraints at Heathrow have bitten deeper, cities across the UK have lost their links into Heathrow. In 1995, Heathrow served 21 cities across the UK; today that number has dropped to just seven. It is important that UK regional connectivity to the UK's only hub airport is rebuilt or we risk

¹ Frontier Report 2011 <http://www.frontier-economics.com/europe/en/news/1163/>

² UK Trade and Investment Inward Investment report July 2012

³ <http://www.britishchambers.org.uk/press-office/press-releases/uk-will-miss-out-on-investment-because-of-poor-air-connections120126.html>

⁴ Frontier Report 2011

⁵ Frontier Report 2011

⁶ Frontier Report 2011

⁷ <http://www.britishchambers.org.uk/press-office/press-releases/uk-will-miss-out-on-investment-because-of-poor-air-connections120126.html>

exporting our competitive advantage in transport links to our European competitors. In a BAR-UK⁸ poll, 53% of scheduled airlines have either decided to, or are preparing to, base flights in other countries than the UK because of Heathrow's lack of capacity.

The implications are only going to get more serious. China reportedly is planning to build 70 new airports before 2015⁹ and the UK will miss out on direct links to these fast growing emerging cities because Heathrow is full. This will directly impact on the UK's exporters, and potential exporters – and put them at a disadvantage when compared to firms in other economies which can provide those direct links. Furthermore, the BRIC countries and the emerging markets that follow them such as the CIVETS¹⁰, will also create booming middle classes, eager to travel abroad. If these new tourists cannot get easy access to the UK, we risk losing out. Tourism is the UK's sixth largest industry, with massive potential for growth, but without the connections tourists require, we could see the growth transferred to better connected EU cities, such as Paris.

2. What are the current levels of airport capacity and the current and future estimates of demand for aviation travel? What is the basis for the estimates?

Heathrow is 99.2% full. Whilst it is true that there is spare capacity at some other airports in the UK, none of this is hub capacity, and, as illustrated in the answer to Q1, it is hub capacity that the UK needs in order to provide frequent connections to the emerging, fast growing markets, as well as continuing our excellent links to important trading partners such as New York.

The secondary trading market for slots at Heathrow, where they can exchange between airlines for millions of pounds, illustrates the demand for slots at the UK's only hub airport. At a Transport Select Committee oral evidence session on December 4th 2012¹¹, Willie Walsh, Chief Executive of International Airlines Group (IAG) said,

"The business case to acquire BMI was that it would give us access to slots that we could use for long-haul expansion. Not all of the slots can be used, but we have estimated that it is about one third of the slots that we acquired. Maybe 14 slots will be used for long-haul growth."

Given the demand for slots at Heathrow, and the importance of these slots to allowing airlines to expand their route network, we believe this is evidence of demand for more hub capacity in the UK.

3. What are the options in the short, medium and long term for addressing the issue of airport capacity?

Britain is missing out on vital trade opportunities and handing an advantage to our competitors. That is why we support the establishment of the Davies Commission which is due to report to Government in 2015. A thorough analysis of all the options for retaining the UK's status as a world class hub should produce an option which will be a basis for cross-party consensus. The right decision is more important than a quick decision, but after this has been achieved, the solution should be pursued without delay.

It is hub capacity that the UK needs, not simply 'capacity'. This leads to three broad categories; expanding our existing hub capacity at Heathrow, building a new hub airport or a split-hub or dual-hub model.

Why aren't two hubs better than one?

⁸ BAR UK survey April 2012

⁹ <http://www.chinapost.com.tw/china/national-news/2012/06/12/344124/Beijing-unveils.htm>

¹⁰ Columbia, Indonesia, Vietnam, Egypt, Turkey and South Africa

¹¹ <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmtran/uc765-iii/uc76501.htm>

Some have suggested the answer to the aviation challenge the UK faces is not to build new capacity at Heathrow, but to have two hubs – either through a ‘dual hub’ with another hub airport operating independently of Heathrow, or a ‘split hub’ with Heathrow connected to another airport, such as Gatwick, via a rail link. Neither of these options can be a credible solution.

History shows that a dual hub in the UK does not work. Attempts to create a dual hub between Heathrow and Gatwick were tried in the 1970s and 1990s but both ended in failure because airlines were attracted back to the main Heathrow hub where they could maximise transfer opportunities. Those who promote New York as an example of a city that has more than one large airport ignore the fact that New York has three large US network airlines that operate from the city, whereas the UK only has one major network airline in British Airways.

The split hub option e.g. “Heathwick” is also not viable. Connection times would be too long for transfer passengers, and it would be prohibitively expensive to create and operate. Not only would the Government need to fund and build an expensive and complex rail connection. It would also mean Heathrow’s minimum connect time of 60 minutes would extend to at least 100 minutes. This would not be competitive with other European hubs as they all offer far quicker connection times.

The choice

There is a trend of consolidation in the airline industry. Following recent mergers there are just three major network airline businesses in Europe: IAG (which own British Airways and Iberia), Lufthansa, and Air-France-KLM. Yet there are five major hub airports in Europe: Heathrow, Amsterdam, Paris, Frankfurt and Madrid. The most efficient business model would be consolidation around just three hubs. The merger with Iberia gives British Airways an alternative European hub in Madrid at which to grow.

The choice for the UK is not between two hubs or one, but between one hub and none. Only a single airport can operate as a hub in the UK. That leaves three options for the UK Government. It can do nothing and let the UK fall behind its European competitors at the cost of lost growth and jobs. It can add additional capacity at Heathrow. Or it can close Heathrow and replace it with a new hub airport.

4. What issues need to be taken into account for assessing each option for addressing airport capacity?

To examine its options and help it decide its aviation policy for the future, the Government has established an Independent Commission on Aviation Connectivity. After fifty years of indecision on aviation by successive Governments, this is the last chance to take a policy decision before the UK loses its position as a major air transport hub for good. None of the choices is easy. All will have consequences. The pros and cons of each option should all be carefully considered and we believe each proposal for new hub airport capacity should be rigorously assessed against 12 criteria:

1 A competitive hub

Will the hub allow the UK’s network airline to operate profitably and competitively?

Will the minimum connect time be competitive?

What proportion of transfer passengers are needed to make the hub viable?

Will the hub be sufficiently resilient (structurally capable of handling operational disruption)?

How competitive will the passenger experience be?

Commercially deliverable

Can the option be privately financed or will it require subsidy from the tax payer?

What are the key risks, such as planning, construction, transition, or air traffic forecast risks?

Do they make the option unattractive for investors?

What are the construction and other costs?

What is the implied charge per passenger over time? Will this be competitive?

3 Sufficient capacity

How many flights and passengers will the UK's hub need to accommodate over time?

What are the main upside and downside demand scenarios? Is the hub option resilient to these scenarios?

4 Safe operation and airspace design

Can each option be operated safely?

What will be the airspace requirements and aircraft routes for each option?

What effect will new capacity have on existing airspace and the operation of existing airports in the UK and Europe?

What is the risk of bird strike, or other safety considerations, for each option?

5 Economic benefits

What are the total economic benefits to the UK of each option?

What would the benefits be to UK regions and the local community?

6 Timing of delivery

What would be the cost of foregone trade for each year of delay in delivering new capacity?

How quickly can each option be delivered and what damage does delay cause to the UK's competitive position?

How quickly can planning consent be delivered for each option and how long will each take to construct?

7 Environmental impact

What will be the air quality impacts of each option and can they operate within EU air quality pollutant limits?

How will each option affect the ability of the UK to meet its binding climate change targets?

What will be the CO₂ emissions associated with new roads or railways?

What impact will there be on wildlife habitats and biodiversity?

What are the impacts of passenger journeys to and from the hub?

8 Noise

How many people would be newly exposed to aircraft noise?

Which communities would be overflown for the first time?

How will new aircraft, technology and operating procedures reduce noise impacts over time?

What will the overall size be of each airport's noise footprint?

Will there still be periods of respite for those living underneath flight paths?

What flights would there be at night and in the early morning?

What noise insulation or compensation might need to be provided to communities and at what cost?

9 Location for passengers

What impact does geographical location have on a hub's ability to attract passengers?
What evidence is there on how far a hub can be from the passengers and city it serves?
Where would the ideal location be for serving UK passengers or business passengers?

10 Surface access

What new road and rail links would need to be provided to service the hub?
What will the costs of these be and how will they be funded?
How effectively would the hub integrate with the UK's existing infrastructure and plans?
What would be the impact on congestion on existing roads and transport systems?
What public transport mode share could be achieved with each option?

11 Land use and urban development

What will the likely impact be on local homes, schools, listed buildings, and scheduled ancient monuments?
What are the likely urbanisation impacts of each option?
How many new homes, roads, schools and hospitals might be needed to accommodate the influx of workers and businesses associated with the opening of a major new airport?
Can each option comply with land use policies concerning conservation areas, the green belt, impacts on countryside, landscape, open space and coastal designations?

12 Transition

How would options that involve replacing Heathrow manage the transition between Heathrow and the new hub?
What would happen to the 114,000 jobs that depend on Heathrow today?
What would the impact be on the economy around Heathrow, including on unemployment, house prices, commercial rents, and council tax income?
How would a new airport find sufficient numbers of skilled workers?
What would happen to the multinational companies that have located their global headquarters along the M4, M40, M3 corridors because of Heathrow?
What would be the clean-up and redevelopment costs of replacing Heathrow?

Kent County Council's submission to the London Assembly Transport Committee: Investigation into airport capacity in London

1. Summary

- 1.1 Kent County Council (KCC) would like to take the opportunity to submit written evidence to this inquiry into airport capacity in London and will focus its submission on the committee's terms of reference that are concerned with exploring the options for addressing airport capacity in the short, medium and long term, including the scope for more rational use of existing airport capacity. Given that some of the options that have been suggested would directly impact on Kent and Medway, KCC insists that the London Assembly Transport Committee should take these Local Authorities' views into account in setting out its written submission to the Government's independent airports commission chaired by Sir Howard Davies.
- 1.2 In making this response KCC wishes to express its full endorsement of the case presented by Medway Council for the reasons that a new hub airport in the Thames Estuary is not viable economically, socially or environmentally.
- 1.3 KCC advocates that the UK can meet its aviation needs through the connection of Gatwick and Heathrow with a high speed rail connection in order to link them operationally into a "virtual hub". This "Heathwick" link would provide both an airside and non-airside service. Better use of other London and regional airports, including Stansted, Luton, Southampton, Birmingham, Manston, Southend to a lesser extent London City and Lydd; and improved connections of these airports with London.
- 1.4 Kent County Council wishes to make the London Assembly Transport Committee aware that it recommends to Government in its discussion document *Bold Steps for Aviation*:
 - The construction of "Heathwick", a high speed rail link connecting Gatwick and Heathrow providing both airside and non-airside services.
 - Improved rail connectivity of secondary London and regional airports – Manston (which will have a new railway station and connection into HS1 in the short term), Lydd, Southend, Stansted, Luton, Southampton and Birmingham with London.
 - Significant development of those other London and regional airports with the most potential for growth such as Stansted, Luton, Southampton, Southend and Manston Airport, and to lesser extent London City and Lydd; and also those outside of the South East with good rail connections to London, i.e. Birmingham.
 - Capacity growth at Gatwick through the addition of a second runway after 2019.
 - Any proposals for a new hub airport in the Thames Estuary are not progressed any further for the reasons robustly presented by Medway Council.
- 1.5 Action to address capacity issues must be taken quickly. Better use of our existing hub and regional airports now will ensure that the UK retains its premier position as an aviation hub.

2. Making the best use of existing airport capacity

- 2.1 Table 1 shows how using the combined collective capacity, together with providing additional runway and/or terminal capacity at some of the existing airports; and

relaxing operational restrictions at Heathrow, i.e. allowing mixed mode operations; would provide sufficient capacity to meet passenger demand for aviation in the South East without the need for new hub airport.

Table 1

Airport	Current capacity (mppa)	Current usage (2011) (mppa)	Available capacity (2011) (mppa)	Potential additional capacity with new runway and/or terminal development (mppa)	Potential future additional capacity (spare) (mppa)
Heathrow	70	69	1	20 ¹	21
Gatwick	40	34	6	43 ²	49
Manston	1	-	1	5 ³	6
Lydd	0.1	-	0.1	2 ⁴	2
London City	5	3	2	3 ⁵	5
Southend	2	-	2	-	2
Stansted	35	18	17	-	17
Luton	10	10	0	21 ⁶	21
Southampton	7	2	5	-	5
Birmingham	36 ⁷	9	27	43 ⁸	70
TOTAL	206.1	145	61.1	140	198

2.2 As table 1 shows, there is potentially in excess of 198 million passengers per annum (mppa) available capacity from airports with good connections to London through more efficient use of existing airports and increasing the runway and/or terminal capacities at some of those existing sites. This compares favourably with the Thames Estuary airport proposal, which would be capable of serving 150 mppa. Furthermore, airports such as Liverpool, Doncaster and Blackpool could collectively accommodate tens of millions of extra passengers a year.

2.3 Lydd Airport, near Ashford in Kent, is awaiting the decision of a Public Inquiry to permit a runway extension and new terminal that would allow it to accommodate up to half a million passengers per annum with an aspiration to reach 2 mppa. With

¹ With 'mixed mode' operations on its two existing runways - DfT (2003) The Future Development of Air Transport in the UK: South East, 2nd Edition

² With a new wide-spaced runway in addition to the existing runway - DfT (2003) The Future Development of Air Transport in the UK: South East, 2nd Edition

³ Manston Airport Master Plan (2009)

⁴ Lydd Airport is currently awaiting the decision of a Public Inquiry to permit runway and terminal extensions to allow 500,000ppa; aspiration for 2mppa

⁵ London City Airport Master Plan (2006)

⁶ With either a relocated or realigned runway - DfT (2003) The Future Development of Air Transport in the UK: South East, 2nd Edition

⁷ Pers com with John Morris, Birmingham Airport 20th July 2012

⁸ Pers com with John Morris, Birmingham Airport 20th July 2012 - with a new wide-spaced runway in addition to the existing runway; theoretical capacity, building on DfT (2003) The Future Development of Air Transport in the UK and using the same methodology as the Gatwick proposal, for consistency.

improved connections to the high speed international station at Ashford, the airport would be within an hour's travel time of London.

- 2.4 The Stobart Group has invested significantly in Southend Airport with a new terminal and rail station providing rail connectivity to London in under an hour. The completed runway extension will now allow the airport to grow to accommodate up to 2 mppa and a major low-cost carrier has already relocated services from Stansted to Southend.
- 2.5 Stansted is also operating under capacity by 17 mppa and could therefore meet some of the demand without any need for further development. With either a relocated or realigned runway, Luton could also increase its capacity to 31 mppa.
- 2.6 Birmingham Airport should be considered as an airport that can serve London and the South East through improved rail connectivity. Birmingham Airport's existing runway can take an additional 27 mppa and the current passenger terminal will accommodate another 9 mppa immediately (up to 18 mppa). Once the initial phase of HS2 between London and the West Midlands has been completed, the airport will be within 31 minutes of the capital's interchange, making it an increasingly realistic alternative to Heathrow and Gatwick for air passengers travelling to and from the South East. The completion of the HS2 network would also link up with Manchester, whose own airport could handle 50 million passengers a year by 2050.

3. Strategic use of available runway capacity

- 3.1 A more strategic approach to managing our airports as a system should be applied, focussing charter, low-cost and short haul point to point flights at currently under-used regional airports; thereby freeing up capacity to allow Heathrow to take more long haul flights. Regional and other secondary London airports considered appropriate for this use include Manston, Lydd, London City, Southend, Stansted, Luton, Southampton and Birmingham.
- 3.2 Airlines would be incentivised to use alternative airports if they had to pay the market value for slots at Heathrow rather than the current system of "grandfather" rights and secondary trading. This would encourage airlines to operate from regional airports whilst freeing up capacity at Heathrow and therefore allowing it to focus on higher value long haul flights; with lower value short haul operating out of the other secondary airports serving London and the South East. In order to facilitate this, regulation of slot allocation is required, as alluded to in the recommendations of the European Commission's *Better Airports Package (2011)* to ensure that slots at our congested airports are used in the most economically beneficial way for the UK. KCC urges that the Government explores options for a transparent market based approach to slot allocation to encourage the more efficient use of scarce capacity at Heathrow and dispersal of airline demand to other airports. This may require direct intervention and regulation to ensure that airlines are financially discouraged to use an airport where capacity is scarce. Airlines would then benefit financially to relocate to where there is available capacity, thus the London "airport system" would be better utilised collectively to accommodate demand.

4. Air-rail connectivity facilitating airport inter-connectivity

- 4.1 Although London's airports are relatively well connected to central London via the strategic road and rail networks, they are poorly connected to each other. This impacts negatively on the extent to which existing airport capacity can be maximised as part of an "airport system" approach. In 2007, around 1.5 million passengers connected between flights at different London airports; of these, the greatest proportion travelled between Heathrow and Gatwick. However, there is no direct rail service between them and, whilst the motorway route is regularly served by express coach services, journey times are unreliable. Without sustained investment in transport infrastructure, there is little scope for London's airports to act in a more coordinated way.
- 4.2 The cost of providing a high speed rail link between Heathrow and Gatwick would be approximately £5.5billion, based on the unit costs of the current HS2 programme, and could be completed within five to ten years. This offers a more cost effective and time efficient option to that of a building an entirely new hub airport. It would complement the Crossrail connectivity already planned between London and Heathrow and also HS2 connecting Birmingham Airport with both central London and Heathrow. Extension of Crossrail from Stratford International to Stansted, would in combination with Crossrail to Heathrow and Thameslink to Gatwick, connect these three principal London airports to each other and to central London. With interchange to HS1 at Stratford International, these cross London rail links would also provide high speed rail connections to the continent. KCC advocates a direct HS1-HS2 link which would further support Birmingham Airport's connectivity to London and its "airport system". Mainline services from Stratford station, facilitating connections to high speed rail at Stratford International, also bring Southend Airport into this London airport mix.
- 4.3 A high speed rail link with an estimated travel time of 15 minutes between Gatwick and Heathrow would effectively provide a hub airport with easy access to central London. This "Heathwick" service would consist of an airside high speed rail link which would allow air passengers to transfer between the two airports for onward flight connections and therefore would in effect operate as a single hub site. With Gatwick and Heathrow linked by a high speed rail line, Gatwick could exist as a feeder airport, with Heathrow focussing on long haul. The success of connecting these two airports would be dependent on refocused use of the airports and a further runway at Gatwick.
- 4.4 The potential for Gatwick and Heathrow to complement each other as connected airports can only be realised if a second runway is provided at Gatwick when the present moratorium on planning expires in 2019. Capacity growth at Gatwick represents a more acceptable long-term solution than expansion at Heathrow, due to the significantly lower number of people that would be over flown by arriving and departing aircraft, the relatively good rail and road access enjoyed by Gatwick, and the huge economic benefits that this solution would bring to deprived communities in Kent, Sussex and South London. The owners of Gatwick Airport have recently announced their intention to begin work on proposals for a second runway (BBC, 17 October 2012).

5. Better utilisation of regional airports – Manston, Kent's International Airport

- 5.1 The increased use of regional airports is in line with Government's draft aviation policy framework and legislation on emissions reduction; while also addressing the need for growth and jobs creation in the South East and other areas across the UK.
- 5.2 In Kent, Manston Airport has the potential to make a significant contribution, providing excellent connections to European destinations and reduced flight times. Manston has one of the longest runways in the UK (at 2,752 metres) and is therefore able to cater for all modern jet aircraft. The airport operates in uncrowded airspace outside of the London Control Zone, and has sufficient capacity for the 5-6 mppa and 400,000 tonnes of freight anticipated by the Airport Master Plan by 2033. Its local environmental impacts are greatly reduced by its location on the Thanet Peninsula, with much of its uncrowded flight path located over water to the east of Ramsgate. There is a fully-equipped passenger terminal facility with a capacity of around 1 mppa subject to the aircraft used and scheduling arrangements.
- 5.3 Manston would strongly complement Heathrow and Gatwick as they increasingly focus on accommodating long-haul flights at the expense of domestic and near-European services. Development of Manston as a regional airport would create employment opportunities in one of England's most disadvantaged areas; the airport's Master Plan forecast for 2033 would see up to 6,000 additional direct and indirect jobs within the area, development for which is generally supported by the local community. A new rail station serving the airport and providing a HS1 service connection will significantly boost the ability of the airport to provide a leading regional air service.
- 5.4 In respect of Manston, the airport enjoys good strategic road links to London and the wider South East via the A299 dual carriageway which joins the M2 motorway. There are also three primary rail routes to Ramsgate, just to the east of Manston, which serve the London termini of St Pancras International via domestic high speed services on HS1, Charing Cross and Victoria, therefore offering a total of five trains per hour during off-peak periods. A link into HS2 will significantly enhance this offer and ensure the potential Manston has to become a strong regional airport is realised.
- 5.5 However, these connections will need to be improved if Manston is to truly succeed as a regional airport. Research commissioned by KCC (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. Newcastle Airport's passenger numbers increased by 27% after the first full operational year of the Metro link to the airport and passenger numbers have continued to grow year on year. A new rail station near to Manston Airport served by high speed rail services to London will increase the attractiveness of the airport to airlines and passengers.
- 5.6 Line speed enhancements for phase 1 of this route have been secured through a successful Regional Growth Fund bid and should be operational by 2014, with phase 2 complete by 2017, subject to funding from Network Rail. Work is also underway to take forward the provision of the proposed rail station serving the airport, which subject to funding, could also be operational by the end of 2017. KCC is also pushing for improved rail connection (using existing lines) between Ashford and Gatwick, which would link Manston to Gatwick, and potentially with Heathrow if the "Heathwick" high speed rail link suggested is realised.

6. Conclusion

- 6.1 The primary interest of Kent County Council in the current aviation debate is to ensure that a Thames Estuary airport does not proceed for the many reasons clearly presented by Medway Council. An estuary airport is not viable economically, socially or environmentally. Kent County Council instead fully supports aviation growth and hub retention via growth of the many London and regional airports that have significant capacity to expand along with significantly improved rail connections between those airports and the Capital.
- 6.2 A high speed “Heathwick” airside rail link, a new runway at Gatwick and vastly improved rail access to regional airports is a far more deliverable solution in terms of financial viability and delivery timescales. This approach will allow airports such as Manston to fulfil their potential of providing a strong regional function while freeing up capacity at Heathrow to ensure the connections to new and emerging economies can be made. In doing so both national and regional economies will benefit. This approach is the only realistic and deliverable option if the UK is to address its aviation capacity issues now.

Paul Crick
Director – Planning and Environment

Kent County Council 08 January 2013

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LONDON ASSEMBLY TRANSPORT COMMITTEE

Submission by London Biggin Hill Airport



Introduction

- 1 This is the response of London Biggin Hill Airport to the Assembly's investigation into airport capacity in London. The Committee asks four questions and this response seeks to provide answers in particular to the third and fourth of these, which are:
 - What are the options in the short, medium and long term for addressing the issue of airport capacity?
 - What issues need to be taken into account when assessing each option for addressing airport capacity?

We are broadly neutral on the question of where additional major new capacity should be located, as Biggin Hill Airport's role will continue for the long term regardless of the decisions to develop airport facilities for scheduled airline services.

- 2 London Biggin Hill Airport, located in the London Borough of Bromley, is a niche facility in London's system of airport infrastructure, serving exclusively non-scheduled traffic with an increasing bias towards 'on-demand' business orientated aviation that provides important economic benefits to both London as a world city and also to the local and sub-regional economies. This submission

proposes that the London Assembly's Transport Committee should recognise that:

- non-scheduled Business Aviation in all its various forms (eg air taxi, air charter, corporate jet and privately flown aircraft), is an important element in the range of aviation services needed to serve a world city, and that;
 - given its proximity to the centre of London and its scope for development, London Biggin Hill Airport should be clearly recognised in relevant policy as having a key role to play in the meeting the future aviation infrastructure needs of London.
- 3 Meetings and briefings have taken place with individuals in the GLA family, including London Assembly members, GLA and TfL officers, as well as local MPs, councillors and London business organisations including London First and the London Chamber of Commerce and Industry.

Business Aviation

- 4 Business Aviation's key attribute is being able to operate when and to where the passengers want to travel. In 2011, over 700 places were connected to London Biggin Hill Airport, three times as many as scheduled flights from London and an increasing number of these are located within fast growing new economies where scheduled services are underdeveloped but British business needs quick and convenient access to. The importance of this is given sharp repose by the fact the *value of time* of Business Aviation passengers has been calculated as nine times those flying on business on scheduled flights (see attached report by Oxford Economics).
- 5 Business Aviation flights now make up around 8% of total European air traffic (Eurocontrol data). There were some 165,000 Business aviation movements from UK airports in 2011; that is greater than the total movements from Stansted (135,000) or Manchester (164,000) Airports in that year. Of these over half (87,000) were from Airports serving London. Given the scale of activity and its economic importance to London and the wider UK, we believe making appropriate provision for this sector should not be ignored in terms of policy (as it currently is), or in the current airport debate as once again appears to be happening.

Business Aviation in London

- 6 In London, Business Aviation (including air taxi) flights operate from Luton (19,000), London City (6,500), Farnborough (19,000) and Biggin Hill (11,000), Northolt (7,000) and Stansted (5,000) (CAA data). Small numbers operate from Heathrow and Gatwick. See attached map.
- 7 As commercial air transport (scheduled flights) expands at the major airports, Business Aviation is beginning to be squeezed out as a result of airport slot shortages and pricing. There is already clear evidence of this at Heathrow and Gatwick, where Business Aviation movements have declined substantially. In recent years the same pattern has been occurring at London City Airport, which

has very limited land area for support facilities and aircraft parking, while at Northolt there are significant capacity constraints imposed by airspace interactions with Heathrow and its military functions.

- 8 Luton is currently handling the largest number of Business Aviation aircraft movements, but it has a masterplan that envisages the replacement of some existing Business Aviation areas with airline scheduled operations, and beyond 2020-25 there will be even more pressure for this kind of substitution as the airport seeks to maximise the use of its estate. However, there is spare capacity at Farnborough and Biggin Hill, provided certain operational constraints are addressed. Farnborough's planning limit is 50,000 movements and Biggin Hill's is 125,000, but there are restrictions on hours and there would be a need for investment in operational capability and terminal facilities. Recognition is needed that local impacts should be balanced against wider benefits for London, and if this is reflected in key policy documents to encourage investment and associated job creating development.

International Comparisons

- 9 New York provides an example of how different airports within a complex system are designated for their particular roles, with Teterboro acting as the main Business Aviation 'reliever' airport and Morristown and White Plains serving similar functions (see the attached summary of the US Federal Aviation Administration document). In Paris Le Bourget is the designated Business Aviation airport and a similar approach is taken in other world cities where the main scheduled airports are congested such as Seletar in Singapore, Van Nuys in Los Angeles, Chicago Executive and Du page Airports in Chicago and Al Bateen in Abu Dhabi.

London Plan

- 10 The London Plan recognises Biggin Hill as a Strategic Outer London Development Centre (SOLDC) (Policy 2.16). The Airport is leading an initiative called LoCATE@Biggin Hill (London Centre for Aviation Technology and Enterprise) to bring 2,300 new jobs to the site, adding to the 1,000 existing. The key to unlocking this potential is to enable the Airport to make better use of its Business Aviation and supporting facilities.

Bromley Local Plan

- 11 The Bromley Local Plan will shortly be published for consultation. The Preferred Option recognises the SOLDC designation in line with the London Plan and calls for its full potential to be realised to accommodate a higher level of economic growth while reviewing appropriate constraints.

London Biggin Hill Airport Features

- 12 London Biggin Hill Airport has a 1800 metre runway, sufficient for long haul Business Aviation flights to the west coast of America or to the Far East, plus a subsidiary runway, three Fixed Base Operators, Border Controls, aircraft hangars and parking areas, plus numerous support facilities for aircraft

maintenance and the provision of aviation related services. Adjacent commercial areas within the SOLDC/LoCATE area include industrial estates, and the Formula One organisation, all with potential for expansion. Surface access is reasonable for the existing situation and sufficient for growth, with uncongested immediate road access, a good local bus service (used by employees), and good rail access from Bromley South and Orpington Stations.

Summary and Conclusion

- 13 Business Aviation is a key element of aviation demand and should be recognised in the National Airports Policy Framework, and in the report of the Airports Commission. London Biggin Hill Airport should be recognised as a Business Aviation facility (as well as a SOLDC) in the London Plan. The London Borough of Bromley's Local Plan (emerging through consultation) should conform with the London Plan and consider the local issues.
- 14 Designating London Biggin Hill Airport as a Business Aviation reliever airport or 'gateway' facility will enable scheduled air transport airports to make better use of their capacity in the short and medium terms by removing non scheduled flights. If major new capacity is provided in the longer term, London Biggin Hill Airport can and should remain as a niche facility because of its unique location only 13 miles from Central London. It is good environmental and business practice to make best use of existing facilities before considering new investments.

25 February 2013

Attachments:

EBAA/Oxford Economics report
Map of airports serving London
Summary of FAA document

**EXTRACTS AND A BRIEF EXPLANATION OF THE
FEDERAL AVIATION AUTHORITY (FAA) SYSTEM OF AIRPORTS
AND ITS APPLICATION IN NEW YORK**

1. Introduction

There are over 19,000 airports, heliports, seaplane bases and other landing facilities in the United States and its territories. Of these, 3,330 are included in the *FAA's National Plan of Integrated Airports Systems (NPIAS)*, are open to the public, and are eligible for Federal funding via the Airport Improvement Programme (AIP).

There are seven categories of airport, as set out, in para 2 below, based upon three factors:

- Their commercial passenger throughput.
- Their percentage of the national passenger throughput.
- The number of aircraft based at the airport.

2. The Federal Airport Categories

A guiding principle of the FAA is that airports should be flexible and expandable, able to meet increased demand and to accommodate new aircraft types.

Large Hubs

Large hubs, such as JFK, Chicago, San Diego each account for at least 1% of total US air passengers on scheduled services and have little general aviation activity. The 30 large hub airports account for 69% of all air passengers.

Medium Hubs

Medium hubs are defined as airports that each account for between 0.25% and 1% of total US air passengers. There are 37 medium hub airports accounting for 20% of all air passengers and they can have a substantial amount of general aviation activity with an average of 129 based aircraft.

Small Hubs

Small hubs are those airports with between 0.05% and 0.25% of total US passengers. There are 72 small hub airports that together account for 8% of all air passengers and less than 25% of the runway capacity is used by scheduled airlines, so these airports can accommodate a great deal of general aviation activity, with an average of 134 based aircraft at each airport.

Nonhub Primary

A Nonhub Primary service airport has more than 10,000 annual air passengers but accounts for less than 0.05% of the national air passenger demand. There are 244 such airports and account for 3% of all air passengers. These airports are heavily used by general aviation aircraft, with an average of 99 based aircraft per airport.

Non Primary Commercial Service

These smaller airports have between 2,500 and 10,000 annual air passengers on commercial air services. There are 139 of these airports accounting for 0.1% of national air passenger demand and are used mainly by general aviation with an average of 38 based aircraft.

Reliever Airports

Reliever airports are general aviation airports in metropolitan areas that provide attractive alternatives to using congested hub airports and provide general aviation access to the surrounding area. To be eligible for Reliever designation, these airports must be in a metropolitan area and have 100 or more based aircraft.

General aviation Airports

The FAA (*see general aviation Airports; a National Asset May 2012*) has recently divided general aviation airports into four categories – National, Regional, Local and Basic. These general aviation airports provide connections to the larger aviation system whilst also providing access to their respective communities. Their role varies among individual airports:-

- *National* – Serves national and global markets with very high levels of activity with many jets and multi engine propeller aircraft. Averaging about 200 total based aircraft.
- *Regional* – Serves regional and national markets with high levels of activity with some jets and multi engine propeller aircraft. Average is 90 based aircraft.

- *Local* – Serves local and regional markets with moderate levels of activity and 33 based propeller driven aircraft and no jets.
- *Basic* – Often serving critical aeronautical functions within local and regional markets with low levels of activity.

3. Applying the FAA System to New York

JFK, Newark and LaGuardia airports serve over 100 million passengers annually and account for 95% of the 3,700 daily scheduled commercial airline aircraft operations in the region, and about two thirds of the 5,000 daily commercial operations at airports within 100 miles of the centre of Manhattan.

In January 2011 the Regional Plan Association (RPA) published “*Upgrading to World Class – The future of the New York regions airports*” in which it considered the economic and operational impact of congestion and recommended solutions. The report noted that during the long period from the 1970’s into the 1990’s measures that forestalled the need for a fourth airport included:

- Slower than projected growth in air travel.
- The pricing out of most general aviation aircraft at the major airports, with much of it shifting to Teterboro, opening up capacity for air passengers.
- The advent of a new intercity rail connection with Washington and Boston.
- Larger aircraft that serve the growth in air passengers with fewer aircraft movements.

Turning to future plans the policy examined options that would directly improve capacity at the core airports:

- Ban general aviation flights during peak periods.
- Ban all cargo flights during peak periods.
- Cap frequencies in individual markets during the peak period.
- Ban short distance air carrier flights during peak periods.
- Ban flights with low seating capacity during peak periods.

The RDA report concludes that creating the additional capacity will require a combination of actions, some of which can be implemented in the next few years, while others could take two decades or more to complete. They examined six options and concluded:-

- Airspace management technology could make a short, medium and long term contribution, but not enough to keep pace with demand.
- Expanding outlying airports could shift demand to the regions, opening up more capacity at the core airports and should be encouraged.
- Improved high speed rail could make a modest improvement.
- Building a new airport was untenable at this time, due to costs and the need to be close to either Kennedy or Newark.
- Managing demand to encourage higher capacity flights, reducing sub 50 seat and sub 250 mile flights and caps on over served markets were considered worthy of investigation and that regulation could play a role.
- Expanding capacity at the three major airports provided the greatest potential for increasing capacity and reducing delays.

4. Reliever Airports in New York

Due to different operating requirements between small general aviation aircraft and large commercial aircraft, general aviation pilots often find it difficult to use a congested commercial service airport. In recognition of this, FAA has encouraged the development of high capacity general aviation airports in major metropolitan areas. Large commercial aircraft typically operate at much higher speeds than small general aviation aircraft thereby making it difficult to have both types of aircraft use the same runways during periods of high commercial aircraft activity. This is due, in part, to variances in approach air speed and to wake turbulence considerations. Segmentation between scheduled and non scheduled flights is therefore also a safety factor.

The following are the principal Reliever airports in the New York area (see map Appendix 1), with the most recent publicly available data demonstrating how each has evolved in its own particular way to meet its local demand and take some of the load off the core airports. The attached map shows the geographical spread around the New York and Metropolitan area.

- ***Teterboro Airport***

Just 12 miles from mid town Manhattan, Teterboro airport is considered a general aviation Reliever airport. It does not offer scheduled airline service nor does it permit operations of any aircraft in excess of 100,000 lbs and its goal is to remove the smaller and slower aircraft from the regional air traffic that would cause major congestion at the New York Port Authorities main airports of Kennedy, Laguardia and Newark. The airport has two runways – 7,000/6,013 ft and had 153,250 flights in 2010 with 172 based aircraft. The airport has more than 1,137 employees. The airport is open 24 hours with voluntary night movement restrictions.

- ***Morristown Municipal Airport***

Morristown municipal airport is a designated general aviation Reliever airport for the New York metropolitan area. The airport is 27 miles from New York City with two FBO's and two runways 5,999/3,998 ft and is open from 0600 to 2300 hrs daily. The airport accommodates flying training and commercial charter services.

- ***Westchester County Airport (White Plains)***

Westchester Airport is considered a Reliever airport in the New York metropolitan area that has now been categorized by the FAA as a non hub primary commercial service airport. The airport has two runways 4,451ft/6,548ft respectively and in the period 2010/11 had 197,037 flights with 310 based aircraft. The airport has five FBO's and two flight schools. 23% of flights are commercial aviation carrying close to 1 million passengers, 48% heavy general aviation and 29% light general aviation.

- ***Republic airport***

Republic airport is a designated Reliever general aviation airfield. In 2010 there were 2, 329 commercial passengers carried on short distance charter flights, two Business Aviation FBO's serving corporate and light aviation passengers and 523 aircraft based at the airfield. 92% of the 192,216 annual flights in 2010 were general aviation, with 8% Air Taxis. There are two runways 5516ft/6827ft respectively.

- ***Long Island MacArthur Airport***

MacArthur airport is considered a Reliever airport on Long Island although it is now classified by the FAA as a non hub primary commercial service airport. The most recent figures indicate 302 based aircraft with 80% of the 173,346 annual flights as general aviation, 15% scheduled commercial flights and 5% Air Taxis. There are two main runways 7,006ft/5,034ft respectively.

5. Further Information

Recommended further information can be found at:

- a) Federal Aviation Administration report to Congress. National Plan of Integrated Airport Systems (NPIAS) 2009 – 2013. Web address: http://www.faa.gov/airports/planning_capacity/npias/reports/
- b) Upgrading to World Class – The future of the New York Regions Airports. Regional Plan Association January 2011. Web address: <http://www.rpa.org/2011/01/major-new-rpa-study-finds-new-airport-capacity-needed.html>
- c) US Department of Transportation Federal Aviation Administration. General Aviation Airports; A National Asset. A fresh look at the many roles general aviation Airports play in the National Air Transportation. May 2012. Web address: www.faa.gov/airports/planning_capacity/ga_study/media/2012AssetReport

Appendix 1 Google map of New York Airports

BH Jan 2013





Prepared on behalf of the EBAA

Oxford Economics

The Role of Business Aviation in the European Economy

October 2012



OXFORD
ECONOMICS



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Photo courtesy of Thrande & Thrande

Executive Summary

As the name implies, business aviation is devoted to the needs of commerce. Business aviation is predominantly used by business leaders, enabling travel by entrepreneurs whose enterprise and energy are a cornerstone of economic growth, rather than wealthy people travelling for leisure. As such, business aviation flights take on an importance wholly different from the operations of commercial airlines and other forms of general aviation. In policy terms, however, the added value of business aviation flights is often either overlooked in favour of the much larger number of commercial flights or attributed into a broad category alongside all other various forms of general aviation.

Closer consideration, of the kind found in this report, shows its true value. While it is already widely appreciated by the business community, a broader appreciation of the role of business aviation – reflected particularly in policy – will enable the industry to become an even more significant contributor to the overall health and dynamism of the European economy.

- Business aviation is a crucial part of the European transport network

Business aviation is a rapidly evolving and dynamic sector. The sector posted robust growth over the years prior to the economic crisis, growing from 500,000 movements per year in 2001 to 800,000 per year in 2007. The sector was heavily impacted when the global economic crisis hit in 2008-09, but

stabilised in 2010-11, helping to catalyse trade and investment around Europe. Overall, business aviation has generated substantial and sustainable employment, and promises to be an important and unique contributor to a wider economic recovery.

- Business aviation is a diverse but distinct sector

The term “business aviation” is something of a simplification, covering a range of operator and airline types, and a wide variety of services. Several different business models have emerged, ranging from operators offering one-off charter services, to fractional jet ownership, right up to the in-house airlines operated by many of the world’s largest firms. This reflects the different needs of the clients they serve, from occasional users to major multinationals which need to link production sites, offices or business partners in different countries, effectively providing services from any location and at any time.

Running through all forms of business aviation are the principles of flexibility and responsiveness, and for many fliers it is nothing less than business-critical. Unlike scheduled air services, business aviation is specifically tailored to the needs of the client. This report finds, for example, that 96% of city pairs served by business aviation have no daily scheduled direct connections. The remaining 4% represent however more than 1/3 of business aviation traffic in volume. While these routes may not be considered viable by scheduled airlines, they are clearly important to business aviation users and the companies they represent. To fly any other way requires multiple

flights, lengthy transfers or overnight stopovers, and visits to busy hub airports. One user we spoke to told us that with business aviation, “four days becomes four and a half hours”.

Taking these advantages together, we estimate that a typical business aviation user places a value on business aviation flights that is between eight and fifteen times higher than the comparable scheduled trip.

- Business aviation complements the scheduled network

The degree of flexibility on offer makes business aviation very different from the scheduled network. While the scheduled network provides “thick connectivity”, based on economies of scale and concentrated at major cities, business aviation offers “thin connectivity”, carrying a low volume of passengers between a much larger number of destinations. Even through the global crisis the network continued to widen, reaching 88,000 airport pairs by 2011.

We believe this “thin connectivity” can play a particularly crucial and complementary role in integrating regions of Europe less well served by scheduled airlines – a key policy goal for the European Union. Business aviation is also playing an important role in supporting economic links to emerging markets – for example, in 2011 there were over 1,400 flights between Europe and India using business aviation. Over a quarter of one major operator’s revenues in 2011 were derived from multiple destination itineraries as opposed to one way or return trips. As economic leaders, the users of business aviation are in the vanguard of opening up emerging markets in Europe and beyond.

- Business aviation is a key corporate tool

Business aviation is perceived by some who are unfamiliar with the sector as the preserve of the wealthy, used exclusively by rich individuals for leisure. But this is a misconception: one of the sector’s leading firms estimates that around 80% of its accounts are held by corporations and entrepreneurs, including a quarter of the firms in the Euro Stoxx 50 (the Eurozone’s 50 leading companies) and 20% of those in the DAX (the German equivalent). In a

recent survey on M&A success factors¹, two thirds of respondents said that face-to-face contact was crucial in deal-making. Business aviation facilitates this like no other form of transport can which again differentiates it from other forms of general aviation.

Because business aviation carries key decision-makers on high value-added trips, we estimate that each additional passenger flown on a business aviation flight generates the same contribution to GDP as nine business passengers on a scheduled flight.

- Business aviation benefits local economies

Business aviation delivers substantial benefits to its clients, and in boosting their productivity the sector makes an important contribution to the European economy. But there are also important economic benefits for the local communities where business aviation airports and firms are based.

Business aviation operations play a crucial role in driving demand in a much wider set of activities, including maintenance, research and development, training services and hospitality. The combined impact of business aviation on local economies can therefore be many times the direct impact of business aviation flights themselves. Previous work commissioned by the EBAA² found that the sector supported a total of 164,000 jobs around Europe in 2008, and though the sector was impacted by the downturn, industry experts do not expect this figure to have changed substantially since that study was completed.

Although these jobs are distributed around the continent, the growth of clusters at locations such as Farnborough, Paris Le Bourget and Geneva, underlines the importance of business aviation to the local economy in specific locations. For example, at TAG Farnborough Airport in the UK, direct on-site employment is estimated at around 1,000, but an additional 4,000 jobs in the local area are part of the airport’s wider supply chain. The manufacture of business aviation aircraft is also crucial to certain local economies – this was illustrated recently when it was estimated that Netjets’ recent \$9.6 billion order for new planes will help sustain 5,000 jobs in Belfast into the medium term.

¹ Doing the Deal 2012, Mergermarket

² The Economic Impact of Business Aviation in Europe, 2008, PricewaterhouseCoopers

- Business aviation can drive employment growth

We also find evidence to suggest that business aviation offers a key opportunity for employment growth in the coming years. All the operators we have spoken to underlined the pace of growth in their headcount in the years running up to the economic crisis. The management of Paris Le Bourget Airport told us they expect demand for business aviation to grow twice as fast as GDP over the medium term. This demonstrates that the sectors relying on business aviation are those that grow fastest, and as such the industry has a crucial role to play in facilitating a European economic recovery.

Assuming a supportive stance from local, national and European governments, the business aviation sector can make an important contribution to employment growth during Europe's recovery from the economic crisis.

- Business aviation invests in its workers and in local infrastructure

There is evidence to indicate business aviation invests more in training its workers than firms in other sectors, or in the economy as a whole. This is no doubt partly due to the regulatory and technical environment in which the sector operates. But the sector's other characteristics, including the flexibility demanded of staff, the high levels of customer service provided, and the need to keep ahead of rivals in a highly competitive marketplace all drive companies to invest in their staff. Some operators we spoke to even underlined their preference to find and develop local

workers who didn't have experience in the sector before, in order to ensure they were trained to their own high standards.

Business aviation also makes a key contribution to physical investment in the local economy, and demand for local construction firms. The sector has seen a rapid spell of investment spending over the past decade or so, as airport operators have developed facilities to deal with the demands of business aviation operators. Looking ahead, business aviation can continue to be a bright spot for investment in local economies – for example, Paris Le Bourget airport expects to spend around €70m in the coming decade upgrading its facilities. The sector's appetite to invest provides a marked contrast to wider economic uncertainty, and the reliance of other parts of the transport system on public support for investment.

- Business aviation is crucial to European economic recovery

In conclusion, the business aviation sector plays a crucial role in connecting firms across Europe, providing a level of flexibility and responsiveness that the scheduled network can't deliver – but that business leaders require. In complementing the scheduled network the sector generates substantial economic benefits for Europe as a whole, while also delivering jobs and growth directly in the communities where it is based. Business aviation therefore has a key role to play in facilitating a recovery from Europe's current economic crisis, and this should be better recognised in policy formulation.

Business Aviation - The Facts

- **96%** – proportion of city pairs served by business aviation in 2011 that had NO scheduled connection. The remaining 4% represent however more than 1/3 of business aviation traffic in volume.
- **Twice as fast as GDP** – expected medium-term growth rate for business aviation demand at Paris-Le Bourget
- **70%** – proportion of business aviation flights taking off and landing at airports handling fewer than 100 departures per day
- **66%** – proportion of corporate decision makers regarding face-to-face meetings as critical to M&A success
- Up to **25%** of operator revenues are derived from multiple destination journeys
- **164,000** – persons employed in business aviation around Europe
- **€9bn** – value of business aviation aircraft manufacturing

Foreword

By Fabio Gamba, Chief Executive of European Business Aviation Association



The decade before the economic crisis, it seemed the sky was the limit for business aviation. From 1998-2008 movements in business aviation grew three times as fast as scheduled aviation movements, and the sector was deservedly praised by EU institutions for its remarkable achievements and its contribution to European economies. The conclusions of a study, commissioned by the European Business Aviation Association (EBAA) in 2008, could for the first time quantify the substantial contribution business aviation was bringing to the economy, by outlining unequivocally the number of jobs, movements, city-pairs, and investments the sector was ensuring.

Four years on, in the aftermath of a financial and economic crisis and ongoing uncertainty about the future of the Euro, we felt the time had come for a reminder of the formidable impact business aviation has on economies. While previous studies have underlined the scale of business aviation (in a nutshell, 88,000 city pairs, 650,000 yearly movements, 160,000 jobs, over 4,000 business jets in Europe alone) there has been less recognition of its catalytic impact on growth in other sectors. As we demonstrate in this report, business aviation is first and foremost a service that facilitates interaction between businesses. It doesn't offer an alternative to commercial airlines; it is a crucial complement. The sector also provides valuable economic impacts in the communities where it is based. As such, the sector's needs should be better understood by the policy-making community at local, national and European levels.

Demonstrating the sector's economic contribution is the purpose of this study. We very much hope that its findings will help convince decision-makers in Brussels and across the EU that the sector makes a crucial economic contribution, and help dispel any notions that the sector operates in a world set apart from the everyday economy that affects hundreds of millions of Europeans. Similarly, we hope that the important initiatives undertaken by the Commission under Barroso II, such as the Emissions Trading Scheme (ETS), the "Better Airports Package" composed of the slot allocation recast, the noise recast and the ground handling recast, and others (e.g. revision of the State aids at regional airports, etc.) will take the importance of business aviation to their core, ensuring the policies that arise deliver a framework in which the sector can continue to play a crucial (and growing) role.

We invite readers to ask themselves what would economic and financial powerhouses such as London, Paris, Frankfurt or Milan be like without access to business aviation, and how would the regions of the EU be affected? In today's highly globalised economy, in which opportunities arise in ever more surprising locations, businesses must rely on rapid, flexible and direct access to markets. Business aviation needs to be allowed to flourish in order to ensure Europe can continue to seize these opportunities, and help deliver a sustainable economic recovery.

A stylized, handwritten signature in black ink, consisting of a large, sweeping 'G' followed by a horizontal line and a small flourish at the end.

Fabio Gamba
Chief Executive of European Business Aviation Association

1 Introduction

Business aviation is an ever-more crucial part of the modern global transportation network, yet the contribution it makes to the economy is not well understood by policy-makers or the public at large. This might be partly because fewer people have exposure to the world of business aviation than to the more familiar commercial services offered by major airlines. It could be due to the misconception that business aviation is the preserve of the wealthy flying to and from their holiday villas (in fact around 80% of Netjets Europe's accounts are held by corporate companies, not individuals). Or it could simply be that the dynamic nature of the sector, with rapid growth, innovation, and a range of operating models obscures the common threads that characterise the core business aviation offering.

1.1 The business aviation offer

The core offer of business aviation is a transformation in the level of flexibility and responsiveness users gain compared to scheduled airlines. This is manifested in a number of ways:

Business aviation services fly where the user wants. The range of destinations that can be reached via a business jet widens exponentially compared to the confines of the scheduled routes. One user, an executive in oil and gas exploration, told us: "If we fly commercially we face four days of travel, the risk of delays and forced overnight stays. With business aviation four days become four and a half hours". In addition, business aviation users can combine multiple destinations in a fraction of the time taken on the scheduled network. Over a quarter of one major operator's revenues in 2011 were derived from multiple destination itineraries as opposed to one way or return trips.

Business aviation enables users to achieve more in the same number of hours or days, delivering a valuable productivity boost.

Business aviation flies when the user wants. There are a number of formats for business aviation (set out in more detail in the next section) but the common theme is that the user has access to the aircraft when they want it. This enables them to

seize opportunities that their competitors using only the scheduled network may miss.

In addition, business aviation users have access to the full range of aircraft so they can choose the one that suits their needs, from a helicopter or small plane with four seats to a full-size commercial jet that scheduled passengers would be familiar with. Business aviation can be used to transfer one person from one place to another, or to transport an entire team to multiple destinations over several days with on-board office facilities.

1.2 How the sector works

In responding to the needs of business aviation users, a number of operating models have evolved in the sector.

Charter services offered by a business aviation operator. These offer clients a point-to-point or multi-leg trip in the air much in the same way as hiring a car and driver would on the ground. The client does not have ownership; he or she merely uses the aircraft on a pay-as-you-go basis.

Fractional ownership schemes, whereby a number of separate parties jointly own an aircraft and split the available flying time and associated costs between them. This allows regular usage to make substantial savings against frequent chartering, while retaining the security of the operator's support services such as providing crew, maintenance staff, hangar facilities and so on.

In-house aviation, whereby a non-aviation firm such as a manufacturer or financial services company operates its own aircraft to support its day-to-day operations, much in the same way that it might a lorry or company car. Several major European manufacturers such as BMW and British Aerospace operate aircraft on their own account to link production sites and headquarters.

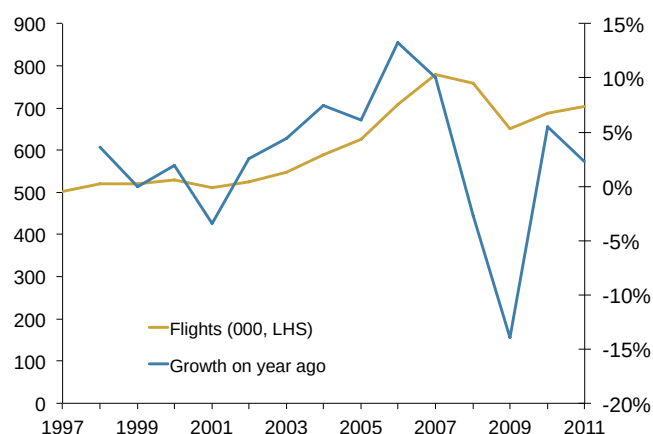
In this report we do not discuss in much depth the difference between different types of operators. But

it is nevertheless useful to bear these distinctions in mind, since the range of operator types underlines the breadth of users who are able to exploit the value of business aviation as a driver for their business – from a sole trader using a one off charter to get to a crucial meeting, to a multinational manufacturer using its own in-house service to enable key decision-makers to get around the production network.

1.3 Business aviation in Europe – recent performance

As Fabio Gamba noted in the foreword to this report, business aviation as an industry saw a period of rapid expansion over the years leading up to the economic crisis. Having been broadly stable from 1997-2001, the number of flights rose by 5-10% annually, reaching a

Business Aviation Movements



Source : Oxford Economics/Haver Analytics

peak in 2007. At this point it is estimated that around 73,000 city pairs around the continent were being connected by business aviation.

During the height of the economic crisis the number of flights contracted substantially, falling by 15% in 2009 alone. However, this was not reflected in a narrowing of the number of routes available to business aviation users – this continued to rise up until the latest point for which we have data, 2011, when 88,000 city pairs were being connected. This underlines both the flexibility of the sector and its role in providing connections that scheduled carriers cannot. In the years since 2009 there

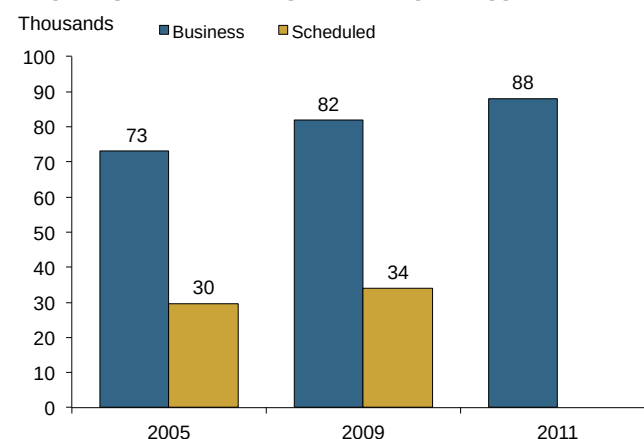
has been stabilisation in the volume of business aviation traffic. The number of flights rose modestly in 2010 and 2011, leaving the overall level of activity in the sector broadly equivalent to 2006 levels.

1.4 The aims of our report

In order to better quantify and understand the benefits that the wider business aviation sector brings to the European economy, the European Business Aviation Association (EBAA) commissioned Oxford Economics to produce this report. We aim to build on previous work on the economic impact of business aviation, in particular the 2008 report prepared for EBAA by PricewaterhouseCoopers, 'The Economic Impact of Business Aviation in Europe'.

That report, prepared at the start of the deepest global economic downturn in living memory, looked

Airport pairs served by air transport type



Source : Oxford Economics/Eurocontrol

at the direct economic impact of the business aviation sector in terms of output generated and employment demand. Rather than repeat the work done in that report, we aim to extend and broaden the analysis of the sector's contribution in two important ways:

Firstly, we examine how the business aviation sector complements the scheduled network. Business aviation offers "thin connectivity" (low volume serving a large number of destinations) whereas the scheduled network provides "thick connectivity" (high volume and more concentrated on major hubs). We explain the reasons why businesses

demand this “thin connectivity” and estimate the value they place on it. We also estimate the economic benefit from expanding business aviation.

Secondly, we focus on the impacts of business aviation on the local economies where it takes place, with a focus on clusters of expertise, skills and investment.

The next two sections of this report set out the approach and results of these two halves of the research. If you have any queries around the approach taken to analysing the economic impact of business aviation in this report, please contact:

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“With business aviation four days become four and a half hours.”

- Business aviation user



2 The economic benefits generated by business aviation connectivity

2.1 Business aviation and European connectivity

How important is business aviation to the European economy? One way to answer this question is to measure the size of the sector, measured, for instance, in terms of the number of jobs it supports. By this approach, the industry directly supports 66,000 jobs across Europe, while also supporting a further 98,000 jobs in other sectors of the European economy. This section of our report looks at this question from a different angle. We focus on the benefits that business aviation generates for its users and what this means in terms of the value of business aviation as one part of Europe's wider air transport infrastructure.

In 2011 there were over 704,000 business aviation flights in Europe, 7.1% of all flights³. The network is thinly spread. Business aviation flies to over three times the number of airports connected by scheduled services.

In 2011, business aviation connected 88,800 European city pairs. Of these 88,800 city pairs, 98% do not have a daily scheduled connection. By filling in gaps in the scheduled network, business aviation makes a valuable contribution towards promoting a single market across Europe. And while difficult to quantify, anecdotal and survey evidence suggests that it can act as a powerful enabler to investment and regional development.

The 500 busiest business aviation routes are shown in Figure 1. That these 500 busiest routes account for only one-third of all business aviation flights demonstrates how thinly spread out the network is.

As seen in Figure 1, business aviation is used to connect cities both between and within European economies. Business aviation supports Europe's internal market by connecting Europe's industry and commerce to the major business centres (Frankfurt, Geneva, London, Paris and Milan). This is reflected in the distribution of flights across Europe, with France, Germany, Italy, the UK and Switzerland together accounting for about 60% of all business aviation flights with the remaining 40% spread across the rest of Europe (Chart 1).

Business aviation is not exclusively short-haul. It also has an important part to play in supporting European trade with the fast-growing economies across the world. In 2011, there were almost 49,000 flights between Europe and rapidly developing economies outside Europe⁴. Of these, around 3,000 flights were between Europe and rapidly developing economies in Asia. Business aviation is increasingly being used to support business with emerging economies. Flights to developing economies outside of Europe have increased by 32% since 2006, while flights between Europe and developing Asia have more than doubled over the same period.

Business aviation flies to over three times the number of airports connected by scheduled services.

³The scope of Europe is taken as the 39 European member states of Eurocontrol, the European Organisation for the Safety of Air Navigation.

⁴The International Monetary Fund (IMF) identifies 150 emerging and developing countries, 131 of which are outside Europe.

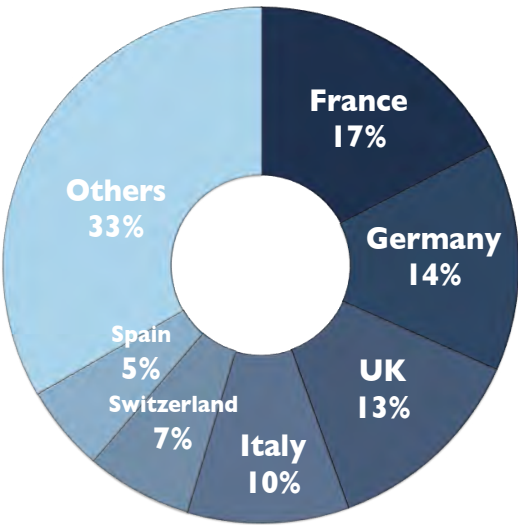
Figure 1: Business Aviation, Europe's busiest 500 business aviation routes, 2011



Source: Eurocontrol

“Business aviation supports Europe's internal market by connecting industry and commerce to the major business centres.

Chart 1: Business aviation supports Europe’s internal market (a) (b)

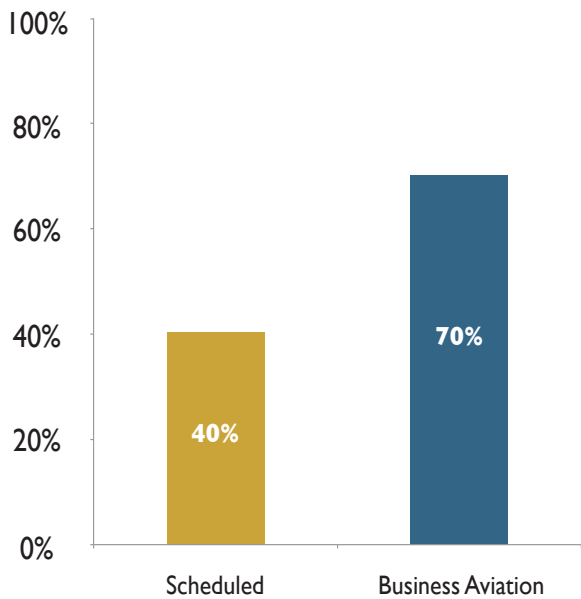


(a) Source: Eurocontrol, data refers to 2011
(b) Percentages do not add up to 100 due to rounding

Business aviation often uses smaller regional airports. Airports with 100 or less departures a day, handle 70% of business aviation flights, compared with 40% of scheduled flights (Chart 2). The number of flights from and to small airports reflects the “thin connectivity” provided by business aviation. It also means that business

aviation makes efficient use of Europe’s existing airport infrastructure - and provides business for regional airports that cannot rely on scheduled traffic only. However, business aviation clients also need to fly into bigger airports, including heavily congested hubs, making continued access to such airports vital for the sector.

Chart 2: The proportion of flights using regional airports, 2011 (a) (b)

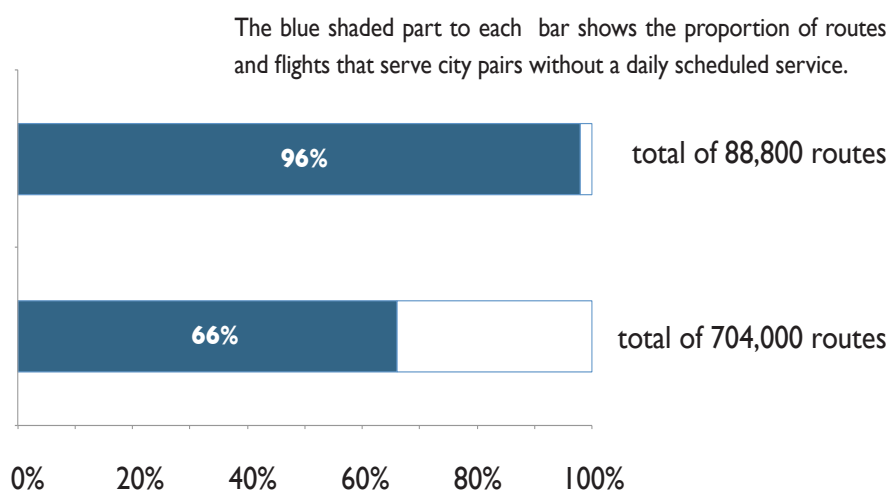


(a) Source Eurocontrol.
(b) Regional airports are defined as those handling less than 100 flights a day.

Business aviation fills gaps in the scheduled network. In 2011, business aviation connected 88,800 European city pairs (Chart 3). Of these city pairs, almost all (96%) were not served by a daily scheduled service. These 96% of routes with no daily

scheduled service also account for two-thirds of business aviation flights. Business aviation therefore plays an important role in linking cities across Europe that are not well catered for by the scheduled network.

Chart 3: Business aviation fills gaps in scheduled network ^(a)



(a) Source Eurocontrol, data relates to 2011

In its recent *Report on the future of regional airports and air services in the EU*, the European Parliament underlined the need not just to focus on the main routes, but to facilitate much wider connectivity. In particular, the Parliament:

“...encourages the Member States and the Commission to promote connections between regional airports and main airports in the Member States, helping to boost the economy in the areas around regional airports

whilst also offering one solution to the problem of air-traffic congestion in Europe”

The importance of this objective was underlined by the EU Commissioner for Transport Siim Kallas, who said in Tallinn in May this year:

“We need airports to allow access to the remoter parts of the European continent, to boost the economies of the communities they serve”.

2.2 Economic impact of business aviation connectivity

Business aviation offers a number of valuable benefits to its business users. According to survey evidence, business executives value the considerable flexibility, convenience, and time savings provided by business aviation (see Chart 4). Flights can be arranged at very short notice, with the flight times fitted around the user’s diary, and the route selected to bring the travellers as

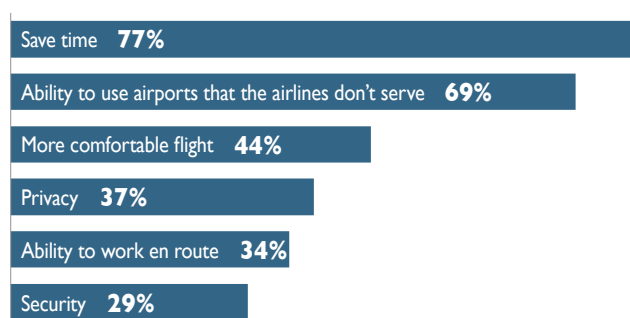
close as possible to their final destination. Smaller airports also cut out the lengthy delays common at busy hub airports. Moreover, business aviation makes it possible to arrange multiple leg trips in a single trip without the costly wait for connecting flights. These benefits explain why, according to a recent UK survey, as many as 18% of senior business executives use business aviation⁵.

⁵ UK Business Leaders 2011 Travel Survey, conducted by Clarity Surveys on behalf of PrivateFly. The survey covered 105 senior executives in UK companies with an annual turnover of over £100 million.

Other studies have emphasised the importance of business aviation to deal negotiation⁶. Face-to-face engagement is often felt to be very important in negotiating large and complicated business deals. A recent survey found that almost two-thirds of executives believe that face-to-face meetings are crucial in completing M&A deals (*Doing the Deal 2011*).

Where distance and location would otherwise make such meetings difficult, business aviation has a special role to play in facilitating deals. Chart 4 underlines the importance that time savings and enhanced connectivity play in the decision to use business aviation relative to other factors, using survey evidence from 1,000 users⁷.

Chart 4: Reasons business executives give for using Business Aviation^(a)



(a) Source: Business Jet Traveler's Readers' Choice Survey, 2011. The survey covered 1,000 executives.

As with any business undertaking, the decision whether or not to use business aviation rests on balancing the benefits against the cost. Where large sums of money rest on the successful completion of a deal, businesses will, naturally enough, place a far greater value on time savings than during more routine trips. A typical European foreign direct investment (FDI) project, for example, involves capital expenditure of about €44 million⁸. For deals of this size, the cost of a business aviation flight, which might cost under €2,000 per person, can easily provide good value-for-money. This will be especially so when delays in moving key personnel might jeopardise a project or escalate existing risks.

Reflecting its role in facilitating important business deals, one would expect the preferences of this important group of customers to have a profound impact on the structure of the business aviation market. In particular, one would expect deal-makers to attach a much higher value to time-savings than that of an “average” business trip. After all, the importance and urgency of deal-related trips should mean that deal-makers are prepared to pay a much higher premium to shave time off a flight than would be the case were the business less pressing.

To test this idea, we use a large dataset on business aviation flights covering 110 routes and approximating 3,400 flights, with information on prices, passenger

Deal-makers are prepared to pay a much higher premium to shave time off a flight...

⁶ See *Doing the Deal*, by Mergermarket, 2012, and *The Economic Impact of Business Aviation in Europe*, PriceWaterhouse Coopers, 2008

⁷ Again, see *UK Business Leaders 2011 Travel Survey*, as above

⁸ See E&Y European Investment Monitor

numbers, distances flown, the time taken, and the type of aircraft. The statistical analysis isolates the value that business aviation users place on time savings from the numerous other factors that can influence the price of flights. Our analysis of the data indicates that users value business aviation flights eight to fifteen times more than scheduled business flights. This finding is consistent with the claim that business aviation is primarily used for the most pressing and valuable trips, such as facilitating important deals.

It is possible to quantify the economic return generated by business aviation. We estimate that

business aviation accounts for around 9% of revenues generated from business-related trips (business class on scheduled flights and business aviation). This compares to its 7% share of flights. So business aviation punches above its weight when its economic value is compared to share of flights. This 9% / 7% finding is even more striking when one considers that business aviation is comprised mostly of small aircraft that carry a few passengers. Expressing the economic return differently, each passenger flown on a business aviation flight generates the same economic benefit as nine business passengers on a scheduled flight.

Case study – The Importance of Business Aviation to Corniche



As part of this study we spoke to Mr Hani Farsi, CEO of Corniche, a family owned investment group based in London with interests around Europe and the Middle East, and a business aviation user. Mr Farsi underlined how crucial business aviation was to his company's success.

"With scheduled travel, you need to plan your day around it," he told us. Instead, the flexibility offered by business aviation allows Mr Farsi to get directly to where he needs to go, when he needs to get there. This includes visiting parts of Europe not served by the scheduled airlines where his company has made significant investments. These trips "simply wouldn't be feasible" for Mr Farsi on scheduled planes given the other demands on his time.

Mr Farsi also stressed the importance of the facilities that allow a journey to become a real workday. He can "have the team talking all the way there and all the way back", which he felt isn't achievable on the scheduled network without risking the security and confidentiality of his business.

In an uncertain economic environment, Corniche is competing with other investors for the opportunities that can deliver sustainable growth. "Being there at the right time is a crucial success factor". Our discussion with Mr Farsi underlines not only how important business aviation is to his ongoing success, but also in enabling the regions he reaches to secure inwards investment, and helping London to continue to thrive as a home to private investment firms.



2.3 Conclusions

Business aviation has an important catalytic role in supporting European business. It connects industry and commerce in Europe's regions to its major business centres, a pressing need recognised by the European Commission; it offers considerable time savings; and it plays an important role in facilitating important business deals.

Statistical analysis undertaken for this study provides strong evidence of business aviation's role in deal facilitation. Our findings support the findings of other studies that provide survey evidence for the link between business aviation and deal making.

Travellers' willingness to pay for time savings is a useful indicator of the economic importance they attach to their journeys. Our statistical analysis shows that the

value-of-time is between eight and fifteen times higher on business aviation trips than on business trips undertaken on scheduled flights.

Reflecting its catalytic role, business aviation delivers a substantial economic return. Its 7% share of flights generates 9% of business-related revenues. Moreover, as regional airports handle two-thirds of business aviation flights, these economic benefits are mostly generated through using spare capacity at Europe's regional airports - although access to hub airports is also critical if the full connectivity impacts and economic benefits from business aviation are to be realised. Based on our statistical modelling, we calculate that, business aviation generates the same economic benefit as nine business passengers on a scheduled flight.

The next section considers in more depth business aviation's catalytic role in supporting local economies.

3 The impact of Business Aviation in the local economy

3.1 Introduction

In this section we look in more detail at the economic impact of business aviation on the towns and cities where it takes place. We consider three types of impact in particular detail: firstly the role that business aviation plays in attracting firms to the locality, secondly the investment in human capital that business aviation operators and airports make by employing and training local workers, and finally the investment in physical capital through construction of business aviation facilities.

We base our analysis on our discussions with a wide range of stakeholders across the business aviation spectrum, including operators, airports, and local economic development agencies. For a full list please see Annex.

In our discussions with stakeholders we generally focussed on locations where business aviation activity is most heavily concentrated, in order to get the best understanding of the sector's impacts. But business aviation also takes place at a multitude of smaller airfields and aerodromes across Europe – as we saw in the previous section the range of destinations is much greater than for scheduled services. As such the sector's economic footprint is much broader than simply the top business aviation airports.

Due to a lack of hard data on business aviation employment our approach is necessarily more qualitative than quantitative, but nevertheless we offer a number of key (and possibly surprising) insights.

3.2 Business aviation's role in generating aviation clusters

Previous studies into the economic impact of business aviation have examined whether or not the presence of business aviation facilities incentivises companies to locate nearby in order to make use of the facilities. These have generally found limited evidence of the availability of business aviation facilities spurring an increase in local investment⁹. In our study we asked stakeholders for their views on this issue, but respondents were unable to provide specific examples of such an effect.

Having said that, a number of well-known European manufacturers have their own in-house business aviation operations, such as BMW, Volkswagen and Daimler in Germany, and British Aerospace in the UK. These operations are used to shuttle staff between production facilities and corporate headquarters with an efficiency that cannot be achieved via alternative means. As such, the availability of business aviation facilities near production sites enables firms to manage multiple sites more effectively, possibly increasing their willingness to invest in production around Europe. However, we have been unable to speak to these companies in order to understand these dynamics in detail, so we do not pursue this here.

Instead we discuss the role that business aviation plays in supporting the development of related services, building up clusters of expertise in areas not immediately



⁹ *The Economic Impact of Business Aviation at Farnborough Airport*, prepared in 2009 by Nathaniel Lichfield and Partners

obvious when thinking about the provision of flights, but nevertheless crucial for the sector's continued growth, and providing an additional spur to local prosperity.

Many of Europe's major business aviation centres support a wider range of aerospace activity in the locality – for example, the Parisian Chambers of Commerce found that business aviation was responsible for the employment of over 4,000 people within the Le-Bourget Aerospace cluster¹⁰. TAG Farnborough Airport estimate that there are over 1,000 full-time equivalent positions in aviation and related services at the Farnborough airport site, and around 4,000 including the airport's wider supply chain and induced employment. In this section we consider some of the components of these business aviation clusters in more detail.

Aviation is (rightly) a highly regulated sector, and the safety requirements that operators face generate substantial maintenance spending. Given that one of the defining characteristics of business aviation is the level of flexibility to customer demand, and the need for aircraft to be ready to take off at short notice, business aviation operators need to be flexible in their use of maintenance facilities, and are less able to locate centralised maintenance and repair facilities at “hub” airports, in the same way as commercial airlines. As such, they often rely on local firms to provide these services at the airports they fly to.

In addition, due to the diverse range of aircraft types involved in business aviation (Paris Le Bourget has facilities to handle any aircraft ranging in size from a helicopter to a Boeing-747), the industry demands a wide range of maintenance skills and expertise. This further bolsters the demand for clusters of aviation skills.

Flight operations and management is a further part of the business aviation cluster. At their regional operations centre in Lisbon, Netjets Europe employs around 400 highly skilled professionals to manage the 150 or so flights taking place each day using NJE aircraft.

Training and staff development is another important component of the business aviation cluster. Business aviation pilots are required to undergo annual training. To retain their ratings on specific aircraft typically takes five days per year, and to become accredited for a new aircraft requires ten to fifteen days. As such a number of specialist training providers have emerged to service this demand.

We spoke to CAE, a global flight training provider, about their dedicated business aviation facility at Burgess Hill in the south of England, not far from Biggin Hill, Farnborough and Gatwick airports. At this centre they employ 100 staff and provide training to over 1,500 business aviation pilots from around the world. Operators are also getting in on the act – PrivatAir told us about their pilot training school in Geneva that has recently provided training for staff operating aircraft

on the Omani and Brunei royal flights. Given the potential for growth in business aviation in emerging markets over the coming decades, pilot training seems a particularly promising opportunity for Europe to export high value added services to rapidly growing economies.

Europe's major business aviation clusters also attract high-level aviation events generating significant economic activity, particularly in hospitality and tourism. Thanks to the flexibility and ease of access for aircraft (compared to airports serving mainly scheduled airlines), leading business aviation airports provide ideal locations for major international air shows and exhibitions. The Farnborough International Airshow and the Paris Airshow at Le Bourget are probably the two most notable examples of this phenomenon, with the world's leading manufacturers and operators of civil, private and military aircraft converging on these locations in alternate years.

The flexibility of major business aviation sites is illustrated by a finding in a Nathaniel Lichfield and Partners study in 2009, which noted that, “if Farnborough Airport did not exist, it is not clear where else in the UK that this event could be held”. Other business aviation locations are also able to generate substantial activity

Pilot training seems a particularly promising opportunity for Europe to export high value added services to rapidly growing economies.

¹⁰ L'Aviation d'Affaire et L'Aéroport du Bourget, Chambre de Commerce et d'Industrie de Paris, 2005

in this area – with Geneva Cointrin Airport hosting the annual European Business Aviation Convention & Exhibition (EBACE), and Business Aviation Europe Expo making Biggin Hill Airport its permanent home in 2011, following the completion of a 55,000 sq ft hangar.

Not only do these events generate valuable short-term revenue for the local economy (Farnborough International estimated that the impact on the local economy was around £17m in 2010), but as noted by Brandon O'Reilly, CEO at TAG Farnborough Airport, they showcase the wider local economy to the world, providing a valuable marketing opportunity.

Overall therefore the impact of business aviation on local economies spreads much wider than merely the GDP

and employment generated by the flights themselves, important though these are. Away from the direct business aviation clusters there is of course also a substantial impact on the manufacturing sector. These impacts have already been discussed in depth in the PWC report in 2008, which found that manufacture of business aviation aircraft contributed around €9bn to European GDP. But it is worth noting that the sector has not stood still since then – for example, in June this year Netjets signed an agreement for at least 100 new jets from Bombardier, helping to sustain 5,000 jobs in Belfast. These additional parts of the business aviation industry need to be borne in mind when considering the contribution made by the sector to the local economy.



Case study – The range of economic impacts from Netjets Europe

Netjets Europe was founded in 1996 and today is the leading business jet company in Europe. Starting with 2 planes and 10 employees, Netjets Europe has since grown to over 130 aircraft and 1500 staff employed at a range of locations around Europe.

Major investments over the course of the past decade and a half include the development of a centralised operations centre in Lisbon, employing over 400 skilled professionals. Alongside the operations centre, Netjets Europe opened a centralised training facility in 2010, providing training for around 900 of its staff per year. Together, Netjets Europe estimates it has spent over €105m on supplies from Portuguese companies since 2008 in the setup and operation of its two facilities in Lisbon.

Alongside its major investments in Lisbon, in 2009 Netjets Europe acquired an 80% stake investment in Frankfurt Egelsbach Airport in order to provide enhanced connectivity with Germany's financial hub. The airport supports 700 jobs directly and acts as a site for around 30 related companies.

Netjets Europe also makes a substantial contribution to public finances in the countries where its employees live. Netjets Europe contributes tens of millions of Euros in annual income tax, national insurance contributions and in corporation taxes across Europe.

3.3 The sector's impact in the local labour market

Given the current economic situation around the European Union there is an understandable focus on employment generation, especially amongst young workers who have been hit disproportionately

hard by the recession in many countries. Business aviation is of course not immune to the economic downturn – business aviation flights were hit hard by the global crisis of 2008-2009, and in light of the weak

global recovery, the recovery in the sector may take some time. Yet the long run need for more flexible aviation is in no doubt. As we saw in section two of this report, users enjoy substantial benefits from the flexibility that business aviation provides, while the sector boosts wider productivity in the European economy. As such, business aviation is a key part of a thriving, innovative economy, and (assuming its growth is supported by regulators) will continue to generate employment in substantial volumes.

In this section we look at what this means for the workforce in key business aviation locations. Based on our discussions with airports and operators, we focus on the types of workers that business aviation employs and what the industry offers them. Since for an industry of business aviation's size, there is little official data on employment, wages and other relevant issues our approach is necessarily anecdotal. But nevertheless we provide some key insights that should be of interest to policy-makers.

3.3.1 Employment growth in business aviation

Previous work has underscored the total employment impact of business aviation (see PWC's report *The Economic Impact of Business Aviation in Europe*). This report, published in 2008, found that business aviation flight operations and maintenance was responsible for generating 24,000 jobs around Europe, with an additional 42,000 posts sustained in the aircraft manufacturing sector.

However, this snapshot doesn't capture the dramatic growth of employment in the sector over the decade prior to the economic crisis. For example ABS Jets, founded in Prague in 2004, has grown from 30 employees on formation to over 200 today. We canvassed across a range of other leading operators for information on how their workforce had changed in the past decade or so, and found that although two had kept their workforce stable over this period, most others had increased their workforce by 50-100%. Paris-Le Bourget airport told us that their rule of thumb for planning was that demand for business aviation rose twice as fast as GDP.

“...demand for business aviation rose twice as fast as GDP.”

- Paris-Le Bourget airport



Photo courtesy of BBA Aviation

Given the role the business aviation sector plays in helping firms seize new opportunities, the likelihood is that once the economic uncertainty around the Eurozone is resolved, demand for business aviation services will rebound rapidly, as confidence recovers, and firms look to beat the competition to the best deals. As such it seems fair to expect that in the medium term business aviation can be one of the sectors that provide employment growth around Europe, assuming the other conditions necessary for the sector to thrive are in place.

3.3.2 The importance of local workers and flexibility

One of the key characteristics of business aviation is the flexibility it provides for its clients, who are able to charter an aircraft, have it serviced, or land at an airport, at relatively short notice. This places demands on the companies involved being as flexible as possible, and in our discussions with operators and airports we have been struck by how this translates into a demand for local workers. Although most business aviation airports tend to be well connected to the major city they serve (opening up a very broad potential employment pool), the workforce is often found to be from the locality itself. TAG Farnborough airport told us that the vast majority of its employees live within a ten mile radius of the airport. Similarly, most of the operators we spoke to underlined the importance of local workers to their ability to respond swiftly to customer demand – VibroAir, based in Dusseldorf, noted that all its employees with the exception of the directors, were hired locally.

In contrast, at airports offering scheduled aviation services, staff are more able to locate at a distance from the airport itself - less than half of Heathrow staff live in the five surrounding boroughs (see *Towards a Sustainable Heathrow*, Heathrow Airport, 2009). These five boroughs are collectively home to around

one million people, so there would seem to be plenty of potential local labour supply. As such, there is reason to believe that employment growth generated by business aviation could benefit those living closest to the airport, more than an equivalent amount of employment generated by scheduled aviation.

Case study - PrivatAir collaboration with Ecole Hôtelière de Lausanne

While flexibility and connectivity are the primary attractions for business aviation users, many operators also aim to deliver an onboard passenger experience as good as, if not better than, leading airlines' first class offerings. This demands substantial investment in training in customer service, to ensure the needs of discerning passengers are fully met.

At PrivatAir, all new cabin staff undergo a 4-6 week programme to hone customer service. For the past 10 years this has included a spell at Ecole Hôtelière de Lausanne (EHL), where they focus on culinary skills. This collaboration has in turn produced a joint venture between EHL and PrivatAir to provide training at PrivatAir's own premises to other aircraft operators. Students attending PrivatAir's in-flight service training can expect to be educated in a range of subjects relevant for providing a safe, hygienic and pleasurable flying experience.



3.3.3 Training and upskilling

A third key feature of the labour market impact of business aviation is in the amount of investment in staff made by airports and operators. This incorporates a range of activities, from training in mandatory issues such as safety and regulations, training intended to raise the level of customer service, and collaboration with local educational institutions to provide apprenticeships and work experience. Estimates of average spend by operator vary, but according to one the investment in training admin staff cost around €3,500 per year, while another told us their mechanics received training costing on average €5,000 per year. Operators we spoke to spend an average of €20,000-30,000 per year training their pilots.

By comparison, in the UK on average financial sector firms spend an average of just £800 (€1,000) per year training employees, and firms in the manufacturing sector £1,200 (€1,440). As such, not only do the local economies around business aviation airports benefit from employment growth, they also seem to enjoy greater investment in their skills bases.

We also found substantial evidence of business aviation tying in with the local educational sector to provide apprenticeships and work experience. At Paris-Le Bourget, management offer 50 local students the opportunity to undertake work experience in a variety of operational roles around the Airport. Around half of the operators in our sample did likewise. At Farnborough, TAG Aviation started its Advanced Apprenticeships in Aeronautical engineering scheme in 2008, offering four local students per year the opportunity to work in aircraft maintenance.

Interestingly, despite the highly technical nature of most business aviation roles, and the heavy regulatory requirements incumbent on the industry, some operators we spoke to underlined their eagerness to hire workers who had not previously worked in the industry before, in order to provide their own training, and develop staff in a company ethos. While some other firms we spoke to preferred to hire experienced workers, the fact that so many were keen to recruit "raw" talent underlines the potential for business aviation to offer young workers a career – in the context of soaring youth unemployment rates around Europe, the importance of such an offer should be acknowledged.

3.4 Business Aviation investing in local infrastructure

The rapid growth of business aviation traffic over the past couple of decades has generated a substantial amount of investment in facilities around Europe, and our discussions with airports and operators suggest this trend will continue over the coming years. We consider this impact in more detail in this final section.

The development of business aviation facilities around Europe has entailed substantial investment over the past decade or so. In many cases (such as Farnborough, Biggin Hill and Madrid-Torrejon), this is partly due to the conversion of a previously military-use airfield to civil aviation, with all necessary infrastructure. In other cases where no standalone site is available to provide business aviation facilities, the addition of corporate terminals to existing airports also entails substantial investment.

TAG Farnborough Airport told us in detail about their investment to transform the site from a mixed military-civil site into the UK's leading business aviation airport. Since 2002 they estimate they have spent over £100m

in developing the airport's facilities, including around £10m on the main terminal building, which in 2006 won an award from the Royal Institute of British Architects. Their view is that the airport facilities themselves are now well set to deal with growth from around 25,000 movements per year to an anticipated 50,000 by 2019. However this has not resulted in a cessation of investment spending - the airport continues to invest in products and services and has recently opened a new three-bay hangar.

Much of the investment made by business aviation operators is of course in aircraft themselves (although these are often financed through leasing companies or other third parties). This is likely to have limited economic impact in the community where airports are located, unless manufacturing also happens to take place there. But we also consider operators' investments in their facilities - most of the airports we spoke to are operated on a model where the airport operator leases space to aircraft operators, who then construct their own hangars and maintenance facilities on site. This has been the model at Geneva-Cointrin, where PrivatAir estimates it has spent around €10-15m over the past decade developing its facilities, mainly channelled through local companies.



Case Study – Investment at Paris Le Bourget over coming decade

Investment at Paris Le-Bourget over the coming decade will support the wider development of the *Grand Paris* transportation infrastructure upgrade, designed to radically transform accessibility into and around Paris. Aéroports de Paris (ADP) told us that around €70m has been spent upgrading Le Bourget's facilities since 2004, and it is likely that the same amount would be spent over the coming ten years.

This investment would continue the programme of renovating the range of airport infrastructure including buildings, runways and taxiways. ADP noted to us that they anticipate a similar level of investment by the operators and manufacturers based at the airport, generating around €120m in investment spending over the coming decade. In addition, ADP told us they estimate 80% of their own capital spending was channelled through firms located within the Ile De France region, concentrating the employment impact of their investment on the surrounding area.



Most of the operators we spoke to were anticipating a substantial on-going investment programme over the coming years. For example, Tyrolean Airways, who operate a fleet of seven aircraft from Innsbruck airport, expect to commit around 50% more to their non-aircraft capital spending in the coming five to ten years than in the past decade. Key areas include enhancing maintenance facilities and improving aircraft management procedures – they expect this will enhance productivity and boost the capacity of their existing fleet by around 20%. At Paris-Le Bourget, DARTA aviation expects to invest around €8-10m in building the largest hangarage facilities on the airport site, in order to meet future demand. In many cases operators underlined the importance they attach to working with

local contractors with whom they have established good working relationships.

Overall therefore, from our discussions with operators and airports there does seem to be a clear sense of optimism about the long-term future for business aviation, and a willingness to invest and create jobs. This optimism and appetite to create new capacity provides a welcome contrast to the wider sense of uncertainty in the European economy. It is also worth noting the ability of the business aviation sector to generate infrastructure investment without recourse to public funding – in contrast with other parts of the transport infrastructure, and particularly valuable given the current economic climate around Europe.

3.5 Conclusions

Business aviation operations play a crucial role in driving demand in a much wider set of activities, including maintenance, research and development, training services and hospitality. The combined impacts on local economies can be many times the direct impacts of business aviation flights themselves.

Business aviation employment was growing rapidly in the run-up to the crisis and has the potential to do so again as the European economy recovers. Evidence suggests that a larger portion of business aviation employees live locally to the airport than is the case for wider aviation, concentrating the positive employment impacts in the immediate vicinity of the airport.

There is evidence to indicate business aviation invests more in training its workers than firms in other sectors, or in the economy as a whole. This is no doubt partly due to the regulatory and technical environment the sector operates in, but it also seems to be a conscious decision on the part of operators to develop local talent.

Business aviation has seen a rapid spell of investment spending over the past decade or so, as airport operators have developed facilities to deal with the demands of business aviation operators. Looking ahead, our discussions with operators indicate that business aviation should continue to be a bright spot for investment in local economies against an otherwise uncertain economic backdrop.

Annex – List of Participating Organisations

Oxford Economics and EBAA would like to thank Avinode for their support in providing data for the first section of the study.



We would also like to thank the following organisations who were kind enough to contribute their time to talk about business aviation and their views on its economic impacts:

ABSjets
Airport Operators Association
AmirAir
CAE
DARTA Private Jets
Economic Development Office Geneva
ExecuJet Aviation Group
Geneva-Cointrin Airport
Gestair
JetAlliance
NetJets Europe
Paris Region Economic Development Agency
Paris-Le Bourget Airport
PrivatAir
RabbitAir
Rushmoor Borough Council
Stockholm Business Region Development
TAG Farnborough Airport
TAG Geneva
TAG Spain
Tyrolean Jet Services
VibroAir





Photo courtesy of Netjets Europe

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PARIS

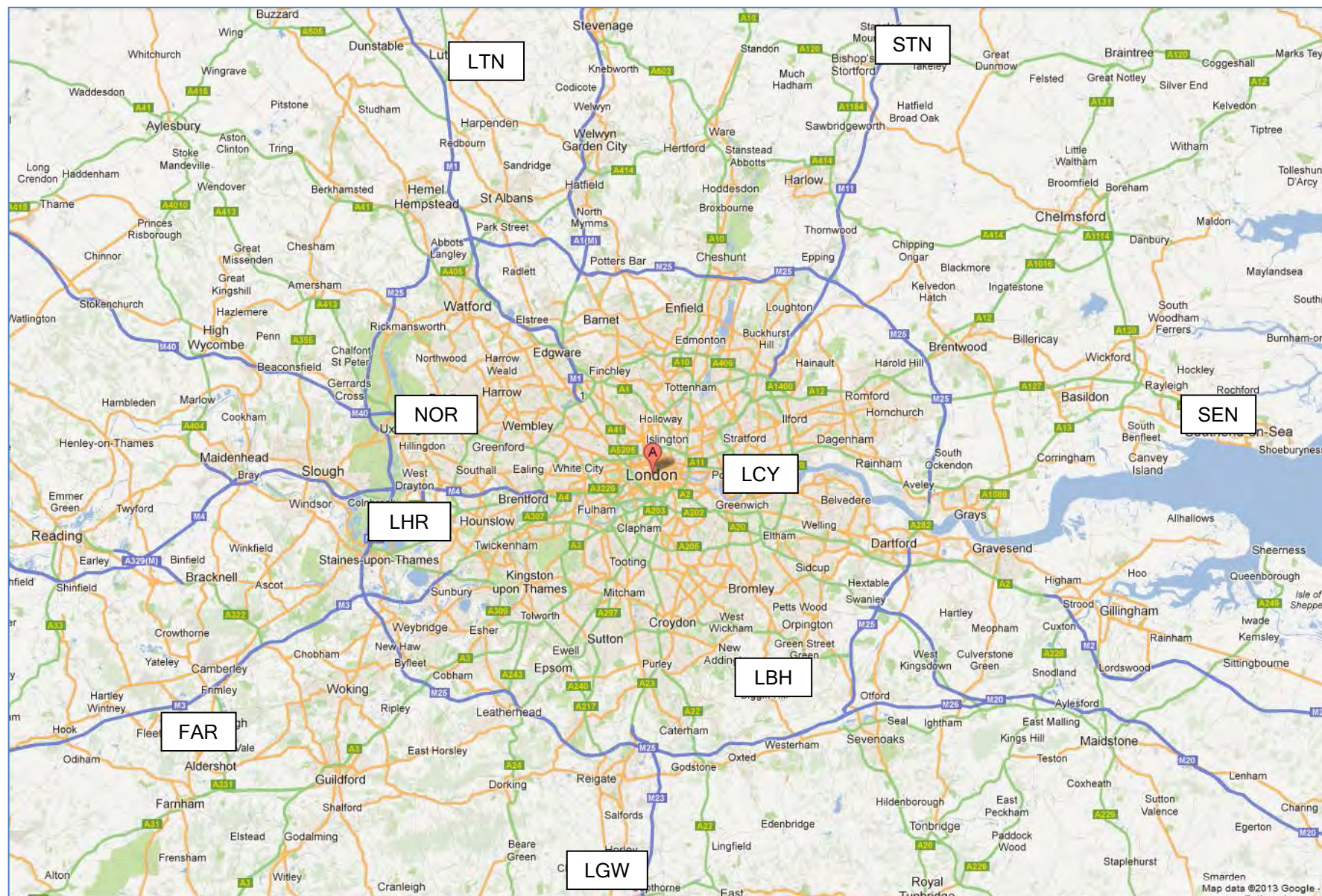
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Photo courtesy of Cessna Aircraft Company



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BY EMAIL

Date
9 January 2013

Dear Laura,

The London Borough of Ealing would make the following initial comments to inform your committees' consideration of airport capacity in London. We are, however, doing some additional work on this subject and will submit further written comments before 28th February.

Clearly, for the foreseeable future, London's economic success will be dependent on it having an international hub airport with sufficient capacity to cope with further increases in demand for air travel.

Heathrow, though extremely important to the West London economy, is close to capacity and is already starting to lose competitiveness in comparison to Frankfurt and Schiphol, which in time will impact negatively on the economy of both West London and South East England. Heathrow is currently the busiest two airport runway in the world by some margin, and operates at well over 95% of capacity, which means that adverse weather or any operating problems immediately causes substantial disruption.

There is, therefore, an urgent need to properly plan the development of airport capacity within the London area. There is also a need to improve rail infrastructure so that train travel becomes a more generally acceptable alternative to domestic air travel, particularly for business users. Thus, reducing a degree of demand for airport capacity and assisting economic development.

Simply adding an additional third runway at Heathrow would not appear a sustainable solution, as this would almost immediately be operating at 75 % capacity, which is the generally accepted maximum desirable level and would not provide the long term capacity required for London to remain an international hub. Doing so will also be costly and bring substantial environmental dis-benefits.

To have a sustainable long term future as an international hub airport, Heathrow would need to be expanded to have at least four, or possibly, five runways each at

least a kilometre apart to give it sufficient operational capacity to have the resilience of Frankfurt or Schiphol, and be able to cope with further growth. Achieving this would, however, appear practically extremely difficult as it would involve moving at least one of the adjacent reservoirs and disturbing scheduled monuments. Expanding Heathrow in situ would also have considerable negative impact on the already poor air quality in west London and, despite planes generally getting quieter, would also add substantially to existing noise nuisance.

If Heathrow is not to be expanded, its future needs to be carefully planned. The existing airport has the potential to be retained alongside a new hub airport as a secondary airport and developed in the way Orly Airport in Paris has, or possibly redeveloped on a smaller foot print as a short haul business airport, with a mix of commercial and residential developments and a high speed rail link.

In terms of sites for new hub airports the option of building a new airport in the Thames estuary, while potentially beneficial to the long term regeneration of the Thames Gateway sub region, would clearly be extremely expensive and not simply because all the infrastructure would have to be provided from scratch. It would also have very considerably negative environmental impacts due to being constructed on tidal wetlands which are extremely important in bio diversity and conservation terms with resultant public opposition and delivery risk likely to be very high.

The expansion of Stansted, which has substantial road, if not currently rail infrastructure, may therefore be a more feasible option. Such an approach, also having substantial benefits for the Upper Lea Valley sub region, which has proved stubbornly difficult to regenerate while building on the existing economic strengths of the Cambridge area.

Our preference as a borough being for a new hub airport to be built within the South East as London's long term principal airport with Heathrow to be retained as the second London airport possibly focusing on European and Commonwealth destinations with the presumption, as at Orly Airport, that the surrounding area is seen as a growth pole for commercial and housing development augmented by investment in both high speed and mass transit rail systems

We would not support the rapid run down and closure of Heathrow as currently the airport creates directly and indirectly over 120,000 jobs and underpins the economic success of one of the UK's most competitive sub regions. Around 50,000 jobs in Ealing alone are linked to Heathrow and are particularly important as a provider of jobs across the skill and sector spectrums.

We would also not support a simple status quo option, as this will in the long term lead to progressive economic decline as Heathrow loses traffic and ultimately London functionality as a global city.

In addition, we would urge that aviation policy is considered alongside rail policy, as within the UK and Western Europe they are very closely interrelated transport modes and investment decisions need to reflect this.

I hope these initial thoughts are useful and we look forward to engaging further in your deliberations.

Yours sincerely,



Pat Hayes

Executive Director- Regeneration & Housing
London Borough of Ealing



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Our ref:
Your ref:
Date: 28th February 2013

Dear Laura

London Assembly Transport Committee – Investigation in Airport Capacity in London

With reference to the above inquiry, please find attached a short submission by the London Borough of Hounslow.

Should you have any queries regarding this matter, please do not hesitate to contact me.

Yours sincerely

Rob Gibson
Head of Environmental Strategy
London Borough of Hounslow

London Assembly Transport Committee – Investigation in Airport Capacity in London

Submission by the London Borough of Hounslow

Introduction

Hounslow represents approximately 256,000 residents and 10,000 businesses operating within the boundaries of this densely populated, socially vibrant and economically dynamic part of west London.

Aviation policy has a massive impact upon the economic well-being and the quality of life of our community. London Heathrow Airport is an important source of employment and wealth generation for us, both directly and through its use of the local supply chain - over 11,000 Hounslow residents (around 10% of our working population) are employed at the airport.

Yet through its very size, Heathrow also causes distortion of our local economy, generates serious congestion on our road and rail networks, and produces massive environmental and health impacts in the form of noise and air pollution.

Thousands of our residents as well as many of our schools and businesses are intensively overflowed by commercial aircraft, some of which are a very short distance from the airport's perimeter fence. Our Borough experiences flights overhead every 90 seconds, and has to endure an average of 16 night flights before 0600, sometimes even more. These night flights have been proven to have a serious effect on the health and well-being of local people as shown by the HYENA study¹.

For the avoidance of doubt, Hounslow Council has absolutely no desire to see the closure of Heathrow or a significant reduction in its volume of air traffic because of the associated economic and employment benefits that it brings to our community.

Hounslow believes that the only responsible way forward is to manage aviation demand by considering and assessing the costs, including social and environmental costs, of meeting the predicted demand, and then determining if the benefits of meeting demand outweigh those costs. It is only then that a reasoned decision should be made on whether demand should be met in full, met in part or not met at all.

As a starting point to demand management, Hounslow holds the following as of the highest importance:

¹ Hypertension and Exposure to Noise near Airports (HYENA): Study Design and Noise Exposure Assessment
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1310905>

- Retention of Heathrow's 480,000 Air Transport Movements (ATM) annual cap;
- Retention of runway alternation – no Mixed Mode operations;
- No return of the third runway proposal;
- Movement towards a complete night flights ban;
- Better and more generous mitigation schemes for the effects of Heathrow on residents, businesses and communities; and
- Progress towards the incorporation into compacts, regulation and ultimately law of the mitigation of these limits and practices.

The Council recognises the Government desire to redevelop aviation policy in the UK and consequently expects that all options proposed should be subject to detailed scrutiny in terms of their environmental, economic and social consequences. For example, should a proposal indicate closure of Heathrow or an airport at reduced capacity, the Council would expect to see an analysis associated with this detailing the consequences for the sub-regional and local economies. Similarly, in the circumstances that a third runway is proposed, the Council would expect to see detailed environmental assessments and robust and deliverable mitigation measures that properly protect the local community from the impacts of airport operations.

What are the arguments for and against changing existing airport capacity in London? What is the evidence in support of these arguments?

This response does not seek to address all the proposals for new hub airports or additional runways elsewhere as such issues are beyond the democratic remit of the London Borough of Hounslow. Consequently, this response focuses on Heathrow, as it is operations at this airport that directly impact on the communities the Council represents. However, this response has tried to demonstrate that the key issues of concern at Heathrow would apply equally to any proposals for airport expansion elsewhere or indeed the development of a new hub airport.

How to make best use of existing capacity

We would caution the Committee against believing the line promoted by the aviation industry that significant airport expansion is necessary. A 2011 report by WWF and Airport Watch² demonstrated that London has greater connectivity to the key centres of business than any other European city, despite having fewer transfer passengers than the four other major European hubs. This study concluded that there is no evidence that an increase in transfer passengers is critical in maintaining Heathrow's connections with the world's business centres. Therefore the key question is not lack of capacity at Europe's airports but how that capacity is used.

The argument is consistently made that we must expand in order to maintain connectivity that is essential to businesses. Yet the percentage of business passengers at Heathrow has fallen consistently over the past decade and now makes up no more

² *International Air Connectivity for Business*, August 2011, WWF & Airport Watch <http://www.airportwatch.org.uk/?p=3608>

than thirty percent of passenger movements. We believe that the value of each flight from Heathrow should be maximised for the benefit of UK Plc. and that this could be achieved through more intelligent routing of aircraft, making best use of airport capacity throughout the country.

We agree that Heathrow offers a premium product and therefore argue that a premium price should be paid by airlines wishing to fly in and out of it. We assert that a deregulation of the landing charges may help to create a free market competition for slots at Heathrow and would help other airports to compete effectively for traffic and passengers.

We believe that Heathrow is an example of market failure in the aviation sector. This is because the rational allocation of the available air transport movement capacity should incentivise the use of the largest possible aircraft, carrying the maximum possible number of passengers, to and from the UK's principal international hub airport. Instead, capacity is wasted on small short-haul aircraft, general aviation and executive jets that should be displaced to other London airports. Capacity is also wasted on multiple airlines serving the same destinations, often with aircraft that are less than full – a problem which appears to be especially prevalent on trans-Atlantic routes.

Evidence suggests that airlines operating in a completely free market will tend to use new capacity to operate yet more flights on existing profitable routes rather than open up new ones. Taking Virgin Atlantic as an example, despite the industry mantra that it is necessary to have more flights to China when newly obtained slots are assigned, Virgin chose to fly to San Francisco, Vancouver and Manchester³.

The key to the rational use of existing capacity is the development of a more transparent secondary market for slots at Heathrow. If airlines really want to be able to operate large aircraft to new destinations, they should be able to purchase the slots from airlines currently running small aircraft to minor cities or half-empty aircraft on over-served routes. The smaller and less busy aircraft could then find new slots at less busy London airports if there is a need for them to operate at all. Existing slot holder should sell these slots at a realistic price.

Hounslow desires to use the economic engine of Heathrow to enhance the skills and, therefore, the earnings potential of the local population. As it is Hounslow residents who bear the brunt of the environmental impact of Heathrow, we believe it is Hounslow people who should enjoy the best employment opportunities there. This is why the Council is concerned about any proposals that would require the closure of Heathrow.

³ Information obtained from <http://www.virgin-atlantic.com/gb/en/footer/media-centre/press-releases.html>

What are the options in the short, medium and long-term for addressing the issue of airport capacity?

The Council's starting point in relation to changes in aviation capacity is that future developments should not make the current, unacceptable situation worse. This means that we are fundamentally against any increases in runway capacity at Heathrow. We are also against the introduction of operating practices that worsen the noise environment such as mixed mode. A predictable period of respite is the single most effective noise mitigation measure available. We are equally committed to the preservation of the existing runway alternation pattern and segregated mode operation.

Our experience at Heathrow is that the current mitigation schemes are inadequate and the Council is working towards trying to address this. It has been over eighteen months since Hounslow responded to BAA's consultation on this scheme and the Borough is still waiting to receive even an informal response from BAA.

Any options considered for the short, medium and long-term for addressing airport capacity must include detailed proposals for mitigating the effects of expanded or new airport operations, particularly in regard of surface access, noise and air quality pollution and the impact on the local economy.

As stated above Council expects that all options proposed should be subject to detailed scrutiny in terms of their environmental, economic and social consequences.

What issues need to be taken into account when assessing each option for addressing airport capacity?

Again the response to this question focuses on Heathrow. However, the Council would expect that any option for addressing airport capacity should be properly assessed in terms of its impact on noise pollution, air quality, surface access, airspace and safety considerations, climate change commitments, public subsidy, total cost and wider economic and social issues.

Noise

In relation to Heathrow, aircraft noise is Hounslow's top priority. Our Borough hosts an environment that is probably the noisiest in the UK, indeed Hounslow is currently the fourth noisiest borough in London even before aircraft noise is taken into account. Suburbs of our Borough such as Cranford are situated less than 500 metres from Heathrow's perimeter fence but the extent of overflying across the whole of the Borough is considerable.

Government should not allow expansion to go ahead on the basis that technological improvements within the industry will solve all the concerns around noise and air quality. Whilst new aircraft may well be less noisy and less polluting this is offset by the dramatic increase in the number of flights over the last 30 years or so. It is vital that mitigation measures are put in place to protect communities and schoolchildren in particular.

Our stance on this is based on the fact that noise directly affects our residents' health including the often-overlooked areas of mental health. We feel that this position is justified by current and emerging health related research. There is an increasing body of evidence that night noise has direct consequences for public health. Research from Warwick Medical School published 8 February 2011 in the European Heart Journal shows that prolonged sleep deprivation and disrupted sleep patterns can have long-term, serious health implications which are: increasing risk of heart disease/ stroke; high blood pressure and cholesterol; diabetes and obesity.

Annoyance

In policy terms, Hounslow would like the UK to be consistent with the EU standard of 55Lden in regard to the noise and argue that as this is also the metric used in Heathrow's Noise Action Plan; it should be the qualification point for noise mitigation and compensation. We believe that airport operators should be referring to the European Environment Agency's "Good Practice Guide" when developing and the implementing any noise related schemes including those within the Heathrow Noise Action Plan and actions related to mitigation.

Framework for A Mitigation Scheme for Aircraft Noise

The community surrounding Heathrow has had to live with a noise mitigation scheme that is much less generous than other comparable airports. The Council recognises that BAA has proposed a new scheme but believes the revised boundary is not wide enough to fully redress, mitigate and compensate the effects of aircraft noise upon the local community. As stated above, a new noise mitigation scheme should encompass the 55Lden contour and should provide the following:

- Maintenance of the annual movement limit;
- Establishment of a new contour cap that provides a real incentive for aircraft and airports to improve their noise performance and comply with Government policy;
- Introduction of area limits on the higher contour bands for example > 65Lden;
- Greater differentials between the landing charges for highest and lowest noise emitting aircraft;
- Noise insulation and appropriate ventilation for windows/roofs out to 55Lden;

- Noise attenuation, for example the installation of material that reduce sound reverberation in school classrooms;
- Examination of new aircraft operating practices designed to reduce community noise;
- A revision of the fine system for departing aircraft in terms of noise limits and the levels of the fines;
- A review of the operating practices such as continuous decent approach and aircraft arrivals so establish if a fining regime for non-compliance is appropriate;
- Greater consideration for the mitigation of ground noise and road noise associated with the travel to and from Heathrow; and
- A compensation scheme for local authorities who are obliged to build schools and other public buildings to higher specifications because of aircraft noise.

Fines Fund

Aircraft departing Heathrow airport are fined if the noise they create is above a certain level. This scheme was designed to penalise poor flying practices. Historically the fines money has been used for mitigation for example noise insulation or more general environmental improvement projects such as tree planting. Hounslow believes that this scheme is no longer effective as noise level at which a fine is incurred is too low. The fiscal penalty does not reflect the level of community disturbance, as such it should be reviewed, with a view towards making the fines and penalties more stringent.

Noise and Schools

The RANCH (2005)⁴ study recognised that schools exposed to high levels of aircraft noise are not healthy educational environments. Aircraft noise also impairs cognitive development in children, specifically reading comprehension. We believe that no child in Hounslow and beyond should suffer any educational deficit because of the fact that they are educated in a school that is affected by aircraft noise. It is vital that noise criteria, as defined by the appropriate British Standard or Building Bulletin standard, can be met. Therefore appropriate insulation must be provided for any premises where education is undertaken.

Night Noise

Night noise from aircraft is the biggest cause of community disturbance and annoyance from the airport. As such it is the Council's position that a night curfew should be instigated between the hours of 11pm to 7 am, emergencies excepted.

⁴http://www.wolfson.qmul.ac.uk/RANCH_Project/publications/FinalDraftGlossy_220405.pdf

Economic Appraisal

Any proposal should be subject to an appraisal in terms of the positive and effect it may have on the west London sub-regional and Hounslow's local economy. The appraisal should include consideration of for example employment, skills and ancillary infrastructure costs.

Surface access

Congestion on our local road and rail networks generated by the presence of Heathrow is a significant issue. It gives rise to poor air quality, affects community health and limits the ability of our local economy to diversify. High air pollution levels could ultimately attract a fine from the European Union, which may have to be partly met by local authorities such as ours.

For Heathrow to achieve its full potential in terms of passenger numbers, substantial investment in surface access improvements will be necessary. We support the present Government's initiative on improving rail access to Heathrow from the west and in proceeding with Crossrail but we greatly regret the decision of the Mayor of London to delay all planned improvements to the London Underground Piccadilly Line. We call for an urgent joint effort by the Government and the Mayor to expand the capacity and reduce journey times on this vital artery with new trains and signalling systems.

We are also particularly interested in the development of a rail scheme that would allow passenger access to Heathrow via the south through the borough. This is a revised Airtrak proposal that does not have the problems of its predecessor (for example level crossing down times). We feel that this would dramatically improve airport access for a large number of London's residents, promoting modal shift with an associated reduction of pollution emissions.

We believe that the development of a domestic high-speed rail network may contribute towards reducing pressure for the further expansion of Heathrow, and have separately responded to the UK Government's consultation on this. However, we are concerned that the Government has failed to research this point and reserve our right to object to the HS2 Bill on these grounds.

Surface access strategies should address modal shift for passengers and workers, especially shift workers who need access to the airport for 24 hours per day. Heathrow needs to be a public transport hub, which should include:

- Frequent 24-hour bus services;
- Heathrow Express being included within the TfL fare structure, making it a mass transit service rather than a premium product;

- The Piccadilly Line upgrade to be brought forward; and
- Implementation of a charge for 'Kiss and Fly'⁵ with revenues hypothecated to local public transport improvements.
- The aforementioned rail access from the south of Heathrow.

Air Quality

The Borough is also compromised when it comes to air quality, with the area regularly breaching EU limit value for nitrogen dioxide of 40 microgrammes per cubic metre expressed as an annual average. We would argue that it is all well and good having a roadmap to dealing with air quality, yet is the implementation of this strategy that is key. Indeed the London Assembly Environment Committee report, Plane Speaking, highlighted that poor air quality leads to 4,000 deaths a year in London and made a series of recommendations that could improve the lives of the community close to Heathrow, including better use of public transport.

⁵ "Kiss and fly" is where passengers are given lifts in private cars by friends or relatives to or from the airport

Response from the London Borough of Newham to the airport expansion inquiry being held by the Transport Committee

The London Borough of Newham (LBN) welcomes the opportunity to respond to the Transport Committee's investigation into airport capacity in London.

As the Local Planning Authority for London City Airport (LCA) and being located to the east of London where the expansion of several airports and a new Thames Estuary Airport (TEA) have been put forward the LBN has a significant interest in the investigation being undertaken.

London City Airport

LCA's extant planning permission allows for 120,000 noise factored or actual aircraft movements per annum. Controls imposed by the planning permission and associated planning agreement seek to minimise and mitigate the impacts of the operations at the Airport, whilst acknowledging the Airport's contribution to the local and national economy

In 2012, LCA handled just over 3 million passengers and operated c.70,500 Aircraft Movements and c.74,000 noise factored movements; therefore there is some significant headroom for growth. It is noted that the routes operated to and from LCA serve a niche market in the south-east supporting and contributing to businesses in Canary Wharf, the City of London and central London. The Council endorse the London Chamber of Commerce and Industry's written representation to this investigation which also acknowledges the important role LCA plays in complementing London's other Airports when it commented "London City is a vital airport for the London business community serving direct links from the near City of London and Canary Wharf to important European trading partners as well as New York".

Enabling infrastructure is currently being mooted by LCA to facilitate better use of the Airport's permitted movement capacity. It is also acknowledged that the Airport have aspirations to grow in line with their stated 2006 Master Plan.

The Council support the economic benefits afforded to London and the local economy with LCA's continued operation. At the start of 2012 London City Airport itself and 50 other businesses located on the site employed 2105 people - 26% from Newham and 58% from the Local Area (which is defined in the Airport's planning agreement as eleven boroughs and one district Council in East and South-East London).

The future for east London

With LBN at the helm of London's move eastward and with an unprecedented level of opportunity for regeneration, enhanced connectivity is considered to be integral to significant inward investment in the borough.

Mindful of this need for enhanced international connectivity the LBN has no opposition to the principle of a new hub airport in the south-east. LBN supports the

investigation into sites to the east of London which could promote growth, accessibility to employment and prosperity for residents of East London, Essex and Kent and for the country as a whole. However, the Council reserve judgment on the appropriateness of any site until detailed feasibility studies have been undertaken to consider the environmental, economic, social and accessibility impacts of any hub airport.

Until such time that meaningful progress is made on the status of any future hub airport it is considered appropriate to optimise capacity of existing Airports in the South-East. Notably the optimisation of significant runway and terminal capacity at London Stansted (STN) would be supported by LBN.

STN offers some employment for East London residents, is an important air freight port and has the potential to handle double the number of passengers it carries today. Maintaining and enhancing access to the site, through improved road and rail access could improve access to benefits for Newham residents although we acknowledge the bus links to the airport from Stratford are well used. We are supportive of the proposals put forward to enhance incrementally rail services up and down the Lea Valley into Stratford to double the current level to 4 trains per hour – ultimately it is hoped these will result in significantly improved rail services to Stansted from east London

STN's importance to the logistics market in east London and Essex should complement the import and export of goods via High Speed 1 and through the London Gateway Port consolidating this crucial function in this area of the South-East.

The Council support the Mayor of London Aviation Unit's proactive approach to addressing this important issue and are concerned that the Davies Commission will not complete its review until 2015. LBN looks forward to reviewing the information produced and contributing to the debate.

Transport Committee's Investigation

With regards to the specific remit of this committee:

To examine the arguments for and against changing existing airport capacity in London including analysing current capacity and current and future estimates of demand for air travel;

The Council is not in a position to comment on demand forecasting for air travel in London and the associated required airport capacity provision. The LBN defers to the Department for Transport statistics on demand.

To explore the different options for addressing airport capacity in the short, medium and long-term including the scope for more rational use of existing airport capacity;

Key to any discussion on development is the deliverability of any scheme or measure, as such in the interim the more rational use of existing airport capacity, including the optimisation of under-utilised slots at Airports, should be supported. The Council supports optimisation of capacity within current permissions at LCA and STN.

Measures to enhance passenger experience whilst accessing and utilising Airports should also be encouraged. Private investment in airport facilities and surface access must be committed in the short-term.

The delivery of benefits to the UK economy from any additional airport capacity could enable the Council's commitment to convergence to be significantly enhanced with access to more sustainable jobs being created to the east of London. The benefits of jobs at Heathrow, c.76500, are well noted and more airport related employment could be enabled to the east of London should additional or enhanced capacity be provided at STN or at an alternative hub airport.

Summary

The Council affirms

1. support for the continued operation of London City Airport;
2. no objection to the principle of a hub airport in the south-east *and*
3. endorsement for the optimisation of capacity at London Stansted

**Planning and
Regeneration**

Laura Warren
Investigation into Airport Capacity
London Assembly
City Hall
Queen's Walk
London SE1 2AA
Laura.warren@london.gov.uk

P.O. Box 2, Town Hall, High Road
Ilford, Essex IG1 1DD

Please ask for Ian Rae
Direct line 020 8708 2072
Fax 020 8708 2199
Ian.Rae@redbridge.gov.uk

Our ref AVIATION/IR
Your ref
Date: 27 February 2013

Dear Madam,

Investigation into Airport Capacity in London

London Borough of Redbridge Consultation Response

Thank you for inviting comment on the London Assembly's investigation into airport capacity in London. Although Redbridge is not affected by aircraft noise as much as some London Boroughs, it is nevertheless a powerfully felt local concern.

Changes to operational procedures for flights from Heathrow and London City Airport have increased the level of noise suffered by Redbridge residents in recent years. As a result the Council formally resolved in November 2009 to oppose any airport expansion or change to flight paths which would increase the noise impact on residents.

That said, the Council recognises the contribution aviation makes to the London and national economy and wishes to engage positively with the work of the Assembly, the Mayor and the Aviation Commission to find solutions to the looming capacity shortfall which reduce disruption to residents through aircraft noise and minimise environmental impacts, especially those due to greenhouse gasses. Responses to the specific questions posed by the investigation are provided below:

- 1. What are the arguments for and against changing existing airport capacity in London? What is the evidence in support of these arguments?*

An "urgent need" for new capacity was identified as far back as the former

Government's Aviation White Paper in 2003. Since then this need appears to have become more acute. The Mayor's report "A New Airport for London" published in 2011 says that demand is set to grow from 140 million passenger movements in 2010 to 400 million in 2050. While there may be some uncertainty over the exact numbers, it appears unavoidable that London faces further major increases in demand which will outstrip existing capacity.

Failure to meet demand within (or at least in the orbit of) London would be expected to result in the required supply being provided elsewhere. This could have negative repercussions for London's reputation as an international city and for the economy generally.

2. What are the current levels of airport capacity and the current and future estimates of demand for aviation travel? What is the basis for the estimates?

Redbridge is not in a position to provide expert advice on the capacity issue, however the "predict and provide" approach so often taken on this matter must be questioned. Projected growth in air traffic demand should not be taken as a given which must be satisfied in full. Redbridge believes that demand mitigation measures should also be considered. For example, a fast rail network has the potential to replace the need for some short haul flights and thereby reduce forecast demand for air travel, with associated reductions in greenhouse gas emissions.

3. What are the options in the short, medium and long-term for addressing the issue of airport capacity?

The Assembly's consultation document fairly canvasses most of the options, but Redbridge believes the potential for Southend Airport to contribute additional capacity for London should also be seriously considered. Southend offers established aviation infrastructure and is no further removed from London than Stansted or locations on the southern side of the Thames Estuary being considered for a new hub airport.

Redbridge is of the view that there is no single solution to the aviation capacity question. Even if a new hub airport was considered desirable and affordable, building it would be a very long term project. Consequently, even if this turns out to be the Government's favoured option, additional interim capacity is likely to be required.

The solution to the aviation capacity problem may come in several parts involving demand mitigation; making better use of capacity at existing airports including

airports not currently considered as international hubs; new runways at some airports and ultimately perhaps a new hub airport.

4. What issues need to be taken into account when assessing each option for addressing airport capacity?

This question mirrors the Mayor's recent consultation on the criteria that should be applied to assessing different options for meeting demand for new aviation capacity. Redbridge suggests that – after years of public discussion – the issues which must be taken into account (environmental, technical and economic) are quite well established.

What is critical is how these issues are balanced in arriving at a decision. For instance, the idea of a new hub airport remote from large population centres is very attractive because it avoids the most controversial impacts of providing extra capacity within London itself. However, if the £50 billion price tag is completely unaffordable should that not rule it out? In many ways this is the nub of the problem and much harder than producing a list of generic issues.

If you wish to discuss further the matters raised in this response, please contact Ian Rae on 8708 2072.

Yours faithfully,

John Pearce

(Head of Planning Policy and Environment)

WALTHAM FOREST VIEWS ON AVIATION AND AIRPORT EXPANSION

Growth in aviation

Over the last decade, aviation has been growing in the UK at around 7% per year. Low cost carriers have reduced the cost of flying, thereby increasing demand. There is pressure from business and the aviation sector to increase airport capacity to meet this demand. However 'predict and provide' approaches have been discredited in other areas of transport in favour of demand management. Aviation, given its environmental, health and social impacts, should not be exempt from this principle. There is mounting public opposition to airport expansion. As in other areas of transport, it has become clear that increasing capacity is likely to increase demand with more people flying more often.

Noise

Public opposition often concentrates on noise. Recent European Environment Agency and WHO reports show that people are disturbed by much lower levels of aircraft noise than the 57 db Leq threshold recognized by the DfT as the level at which "community annoyance" sets in. (For example, World Health Organisation research has found that "annoyance" begins at 50db Leq while "serious annoyance" begins at 55 db Leq). As well as annoyance, aircraft noise can have serious health impacts, such as high blood pressure, an important risk factor for heart attacks and stroke.

Pollution

Air pollution is also a key issue. Those who live near airports suffer increased impacts from pollutants released during take off, landing and ground running and from road based support vehicles and surface access traffic. Emissions affect a very large catchment area as air pollutants are transported over long distances. There are serious implications for public health as these pollutants increase susceptibility to cardiovascular disease and respiratory infections.

CO₂ emissions

While other transport sectors are reducing CO₂, emissions from aviation are growing rapidly. As well as CO₂, noise, local air pollution and land take, airport expansion increases demand for road travel to airports, adding to congestion and local noise and air pollution. It is vital that environmental, health and quality of life impacts are not neglected. To date, these costs have not been reflected in the price of air travel.

The economic case for expansion

The case for promoting growth in aviation capacity has been made largely on economic grounds. Aviation does bring economic benefits (eg employment, convenience for business). However, the economic case is uncertain in that it does not adequately consider the greater outward flows of income by UK residents (holidaying and shopping abroad). Most of the current passenger demand for air travel is for leisure, and most growth has come from UK residents making increasing .../

numbers of leisure trips on low cost carriers. In 2004, only 16% of passengers starting or finishing at a UK airport were making business trips and in 2006, there were five overseas holiday flights for every business flight made overseas by a UK resident.

Fuel tax and VAT exemptions effectively subsidize the industry, costing the UK billions of pounds a year, in addition to the economic costs of environmental and health impacts.

It is sometimes argued that low cost carriers widen access to flying to people on lower incomes. However, Civil Aviation Authority data shows that much of the recent expansion has occurred because more affluent people are flying more often. There is little evidence that people on low incomes are flying more and the negative impacts of flying disproportionately affect those on lower incomes - in the UK and globally.

Improvements in aviation technology have been slow to emerge and innovations have been more than offset by increased demand for flights. Waltham Forest welcomes the Government's recognition that the current pace of technological change is insufficient to reconcile recent rates of aviation growth with meeting the UK's climate change targets.

Our position on airport expansion

Waltham Forest supports making better use of the existing airport capacity in the South East. To prioritise available capacity where demand exceeds supply, we would support measures to shift short haul flights, particularly mainland domestic flights to rail. A key motivation for travellers choosing short haul flights over rail is the cost of rail travel within the UK (the most expensive in Europe), and the highly complex fare and ticketing system. This should be addressed by central government and could include an increase in public subsidy for rail fares, in order to achieve sustainability goals. A most effective way of influencing people and industry to make more sustainable choices aimed at reducing climate change impacts would be a comprehensive demand management strategy for aviation. This should include incentives which shift short haul flights to surface modes and address the impacts of surface access to airports by road.

Until the environmental impacts of aviation have been fully addressed, Waltham Forest would oppose an increase in runway capacity at London's airports because of the unacceptable environmental, social, health and quality of life impacts of expansion.

Consultation Response

London Assembly Transport Committee Response to Aviation Capacity in London Inquiry

1. London Chamber of Commerce and Industry (LCCI) is a not-for-profit organisation, representing over 2,500 companies in Greater London. We are the capital's largest and most representative business organisation with a membership ranging from small and medium enterprises to multi-national companies. Our members operate in a variety of sectors reflecting the true make-up of the London business spectrum.
2. We promote and defend the interest of London's business community, representing our members to the Mayor and the GLA, national government, the opposition, international audiences and the media. Furthermore, we conduct detailed research projects that inform and aid the debate around business issues.
3. LCCI believes infrastructure is central to guarantee sustainable and long-term economic growth. The lack of capacity on our roads, trains and airports is affecting our ability to expand and compete globally, whilst damaging our international reputation and limiting the UK's capacity to attract and retain investment.
4. LCCI has canvassed its members extensively and according to the LCCI survey in August 2009, 85 per cent of businesses in London see transport as „very important“ or „somewhat important“ in encouraging a business to locate in the capital.
5. It is also worth noting that when surveyed this year, only 16% of LCCI members stated the Government has a coherent national aviation strategy. This reflects the problem that the business community currently face. LCCI believes we are reaching a crucial juncture. If the UK wants to be part of a global, interconnected economy driven by domestic exports then it needs to have the capacity to allow the connectivity to exist to optimise trade with the emerging high growth markets.
6. LCCI believes that if the Davies Commission is to be successful and worthwhile it must create a cross-party consensus around a strategy that resolves our capacity and connectivity concerns. LCCI looks forward to working with the Commission to achieve this. It notes with great disappointment that this process will not report for another three years which is not a satisfactory time period given the need to act.

What should be the objectives of policy on aviation?

7. LCCI's transport and infrastructure policy proposals are focused on making London the most competitive city in the world to do business. Aviation provides the international connectivity that makes London and the UK competitive. It needs to be viewed as one mode in an integrated network to maximise the connectivity and value of different transport modal networks.
8. LCCI primarily views aviation as a means to enable businesses to create economic growth. There are a number of important sectors that rely on having connections with clients and customers in emerging markets. For instance the service industry with consultants and engineers need direct flights to the right parts of the world or they may find it more sensible to switch their European HQ to Frankfurt, Paris or Amsterdam.

9. Another important element to consider is the importance of air freight. These services are a vital ingredient in the UK economy allowing it to function as an international centre of business and high value manufacturing.
10. London has seven airport's, including its hub airport, Heathrow, four significant sized airport's City, Luton, Gatwick and Stansted, and two specialist airports, Southend and Biggin Hill.
11. It is worth noting that aviation is a major UK industry in itself, carrying over 235 million passengers a year and over 2.3 million tonnes of freight.¹ Furthermore, the UK aviation industry employs 234,000 staff, contributes £18.4 billion to the UK Gross National Product and £7.8 billion in taxation to the Exchequer.²
12. LCCI is a chief supporter of the need to maintain the UK's position as a regional and international leader in the aviation sector. Therefore, it needs the connectivity to create the through traffic viable to make many destinations feasible for a hub airport. In a recent survey of LCCI members 80% stated the UK needs a hub airport to have the connectivity to trade successfully in international markets.
13. If we do not create the capacity to allow the connectivity to thrive we are at risk of losing out on superior trading relationships in major emerging market centres with high growth rates, as well as key destinations London already has direct flights too. The CAA has listed major routes that would be most likely to disappear without transfer passengers. They are, in order of vulnerability: Mexico City, Lusaka, Beirut, Halifax, Dar-Es-Salaam, Seattle, Phoenix, Chennai, Bangalore, Tripoli, Riyadh, Accra, Ottawa and Dhaka.³ Predictions for increased urbanisation and growing populations across emerging market cities by 2050 will mean that if we do not have the direct links we will not be able to compete with European rivals who have the capacity to create the connectivity to be competitive.
14. LCCI welcomed the Government's announcement to consult on a new hub airport as recognition of the need for both additional long-term aviation capacity and a national hub airport. The Davies Commission has now been formed and if it can provide political consensus on a long term strategy it will be a worthwhile exercise.
15. However, any decisions on a long-term solution to capacity constraints do not address the urgent issue of London's short/medium-term aviation capacity constraints. After exhaustive study the only viable solution to these immediate capacity constraints is a third runway at Heathrow Airport.
16. Capacity constraints at Heathrow have led to a reduction in the overall number of destinations served, from 227 in 1990 to 180 today. For example, Chengdu, Dalian, Hangzhou, Wuhan, and Xiamen are just some of the Chinese cities that are experiencing dramatic growth rates, but are not served by a UK airport, severely reducing the ability of the UK's businesses to expand into those markets. It is worth noting that Heathrow's rival European hubs have more runways, for instance Amsterdam has five, Paris (Charles De Gaulle) has four, Madrid has four and Frankfurt has three with a fourth runway planned⁴.
17. Moreover, the lack of capacity also leaves Heathrow with no room for any contingency which has a direct negative effect on the airport's reliability, passengers' travel experience and, consequently Heathrow's and the UK's competitiveness. It is also important to emphasise the negative effect of capacity constraint including costs and delays at major airports on the UK's ability to attract significant foreign investment.

What are the current levels of airport capacity and the current and future estimates of demand for aviation travel?

18. The Department for Transport has done a number of estimates on the forecasting of future demand. From their analysis the national unconstrained forecasts show that if there were no airport capacity constraints, UK air travel demand would rise from 211 million passengers per annum (mppa) in 2010 to 345mppa in 2030 and by 2050 the forecast is for 520mppa.⁵

¹ Department for Transport <http://www.dft.gov.uk/aviation> (last visited 04/05/12)

² British Air Transport Association <http://www.bata.uk.com/> (last visited 04/05/12)

³ http://www.caa.co.uk/docs/5/Connecting_Passengers_at_UK_Airports.pdf table 7-1, p. 25

⁴ Future Heathrow <http://www.priorityheathrow.com/page.php?id=8> (last visited 04/05/12)

⁵ Department for Transport <http://assets.dft.gov.uk/publications/uk-aviation-forecasts-2011/uk-aviation-forecasts.pdf> (last visited 06/12/12)

19. However, they also conclude that if there are no new runways in future, by 2050 the number of passengers is forecast to be potentially 50mppa, and up to 185mppa lower than it would have been if there were no airport capacity constraints. There will undoubtedly be many other forecasts but the underlying trend is for growth in aviation travel.
20. Central to the argument LCCI is making is the need for capacity at our hub airport. This is essential to the viability of long-distance routes to key growth markets that will make the UK competitive in the global economy. At present, our hub airport is 99% full. In comparison our European rivals have at up to 46% more capacity with Paris the most full (71%) followed by Frankfurt (66%), Amsterdam (62%) and Madrid (54%).

How should we make the best use of existing aviation capacity and cater for the short, medium and long term?

21. There are a number of airports in the South East and regional airports across the country that could increase capacity. LCCI outlines its positions on each airport below:
22. **Heathrow:** LCCI's position supporting an additional runway at Heathrow is fixed at present in the light of no new evidence to propose a preferred solution. Our stance on Heathrow is clear. A third runway is the only way to retain the UK's leading role as an international hub which can be completed in the short-medium term.
23. **Gatwick Airport:** Gatwick can grow by around 10mppa with its existing runway, although this would increase utilisation to 95% and reduce resilience. Safeguarding for a second runway to the south of the airport remains in place, and could be implemented in the early 2020s. The main constraint to expansion at Gatwick, and in particular to its ability to serve London, is the limits imposed by rail access. A second runway and an associated third terminal would require major expansion of the rail station and significant upgrading of the rail services.
24. The Heathwick, high speed Heathrow-Gatwick rail link, would not work because the transfer times would be too high. Any expansion at Gatwick must be coupled with major improvements to rail access to London and an acceptance that it cannot become a dual hub with Heathrow but remain a strong point-to-point airport serving international business markets.
25. **Stansted Airport:** A second runway at Stansted is no longer safeguarded, but the previous plans were well developed following a 2006 Government White Paper and showed potential for 70-80 mppa, with expanded road and rail links. A second runway should remain an option for the longer term, so safeguarding should be reinstated and the road and rail upgrades put into the respective long term strategies.
26. **Luton:** Current ambitions for Luton are limited to 15 or 17mppa compared with 10 at present, and such growth would not enable a transfer hub to be established. It would take significant changes as explained in the Policy Exchange 2012 report for Luton to be significantly expanded.
27. **Smaller Airports:** The other airports serving London; City, Southend, Biggin Hill, Farnborough, and Manston all have some capacity or potential to serve particular markets.
28. London City is a vital airport for the London business community serving direct links from the near City of London and Canary Wharf to important European trading partners as well as New York. Biggin Hill and Farnborough are niche Business Aviation airports which serve a very important market separate from commercial air transport and LCCI strongly supports these airports and plans to expand. It is worth noting the important role of Biggin Hill and Farnborough on relieving pressure from London Heathrow during the Olympics. LCCI's support extends to other airports where they can meet a demand that is commercially viable.
29. **Airports outside the South East:** Some regional airports are making the case for diverting demand from the South East. LCCI supports strong regional airports and supports capacity increases where there is commercial demand. If that demand does not exist LCCI does not believe the Government should seek to implement a centrally planned system where sufficient capacity already exists.
30. **In the long term** LCCI is reviewing the different options for fulfilling our hub airport requirements.

Surface Access

31. LCCI is an advocate of ensuring that the transport modes seamlessly interchange to allow businesspeople to move with ease between regional, national and international networks. Encouraging better rail links has a number of benefits including moving more traffic off the roads network. Surface access is also one of the key considerations an international business will review when deciding where to locate or a city to do regular business with.
32. LCCI was pleased to see the Government recognise the importance of rail-air links in the Department's Rail Command Paper which outlined this with the point that "international passenger journeys (...) and providing surface access to major airports" are one of six key market segments for rail. LCCI supports a number of surface access improvements across London airports. We support a number of improvements where there is a positive business case.
33. Gatwick Airport is a vital gateway for London's businesses and international businesspeople accessing the Capital's market. LCCI would like the Thameslink franchise to mandate the reinstating of the dedicated Gatwick Express, an upgrading of rolling stock to suit the needs of air passengers and the removal of ticket barriers to allow a seamless travel experience for passengers who are currently forced to wait and queue to exit the airport and join the rail network. These changes are all necessary taking into account the nature of passengers using air-rail links.
34. Luton Airport is also covered to the north of London in the Thameslink franchise. LCCI would like the future operator working in partnership with the Airport to utilise the opportunities from the Thameslink project to amend the timetable to improve links to the Airport and maximise its potential as a growth contributor to London and the UK.
35. The rail link between Stansted Airport and Liverpool Street station desperately needs to be upgraded. LCCI supports implementing improved infrastructure on the Lea Valley Line to enable faster, dedicated Stansted Express services as well as improved commuter trains.
36. LCCI supports the proposal from Wandsworth Council, based on BAA's Airtrack scheme, which would provide four trains an hour from Waterloo to Terminal 5 with stops at Clapham Junction and Putney. It routes two trains an hour from Waterloo via the Hounslow loop and two existing services on the Waterloo-Windsor line that would split at Staines to provide a further direct link to Terminal Five.
37. The new scheme would require a new station at Staines and a new stretch of track from there to Terminal 5. The rest of the route would run along existing lines. The plans avoid routeing extra trains through level crossings in Mortlake and Egham, a key problem with the original Airtrack scheme.
38. HSR has the potential to decrease the number of domestic flights which would help capacity constraints in the aviation industry. Demand for air travel has been growing, with a five-fold increase over the last 30 years, and is expected to continue to grow to between four and six hundred million passenger journeys by 2030⁶. HS2 could help reduce the number of short-haul domestic and European flights, allowing Heathrow to meet the significant demand to emerging markets. This would be done most successfully if the shift from air to rail is optimised by serving airports directly with high speed trains.
39. Therefore, to maximise connectivity and value HS2 needs to be fully integrated into Heathrow airport to allow passengers to use rail whilst transferring through the UK's international hub gateway to emerging and developed markets. It is important to note that a reduction in short-haul domestic and European flights would not reduce air travel as demand for more flights and new destinations far outstrip supply of landing slots at Heathrow.

⁶ DfT (2003), The Future of Air Transport, aviation white Paper cm 6406; cited in Greengauge 21 (2006): The Impact of High Speed Rail on Heathrow Airport, p. 2

Environmental impact of aviation

40. LCCI believes the two most significant environmental issues are noise and carbon emissions.
41. A 2009 report from the Committee on Climate Change showed that growth in aviation is consistent with the UK meeting its climate change targets. The industry continues to place strenuous efforts on improving fuel efficiency and operational improvements that will lead to significant reductions in carbon emissions per seat km flown.
42. The industry has taken a proactive approach in recent years to tackling environmental issues. The Sustainable Aviation group was set-up to create a long term strategy which sets out the collective approach of UK aviation to tackling the challenge of ensuring a sustainable future for the industry. A world-first, Sustainable Aviation was launched in 2005 and brings together the main players from UK airlines, airports, manufacturers and air navigation service providers. This is an important vehicle for tackling noise concerns as well as emissions.⁷
43. LCCI believes that the UK must take a proactive approach to reaching international agreements on tackling carbon emissions. A unilateral policy would damage the UK as a place to do business and have no material impact on global emissions reductions, creating a lose-lose scenario.
44. LCCI believes that investing in technology is the best way to reduce the impact of noise and meet our environmental obligations. This would ensure we do not export jobs and growth to countries that value the importance of a thriving aviation sector.

Conclusion - Do we need a step-change in UK aviation capacity?

45. LCCI believes it's vital that the Government develop a coherent strategy that details how the UK will create the capacity and connectivity to make London and the UK the most competitive place to do business. This needs a short and long term solution to our current problems.
46. LCCI has consistently argued that we need a hub airport and strong point-to-point airports that can serve high growth emerging markets as well as the UK's traditional trading partners. In the short term we have expounded our solutions above. In the long term it is plausible that a new hub airport will need to be built. LCCI will continue to assess the options put forward and welcomes new proposals.
47. Most importantly, we need to move beyond using aviation as a political football to create a consensus around solutions that deliver on capacity, connectivity and the environment.
48. LCCI is keen to engage with the Transport Committee during this inquiry at every opportunity including giving oral evidence to the Committee at an appropriate time. Please contact David Hodges, Public Affairs Manager, at dhodges@londonchamber.co.uk or call 020 7203 1918 to discuss this further.

⁷ <http://www.sustainableaviation.co.uk/> (last visited 12/11/12)

27 MAR 2013

LondonCityAirport



Caroline Pidgeon
City Hall
The Queen's Walk
London
SE1 2AA

25 March 2013

Dear Caroline Pidgeon,

City Airport Development Programme

I am writing to inform you that London City Airport will shortly be starting a second period of public consultation on proposals to improve existing infrastructure at the airport.

The City Airport Development Programme (CADP) aims to prepare London City Airport for the future. Of central importance is that the investment will help safeguard the thousands of jobs at the airport as well as our role as an international gateway to London and catalyst for the ongoing regeneration of East London.

Crucially, these improvements will not see an increase in flight movements above the level permitted by London Borough of Newham, create a new runway or extend the existing one.

During the consultation period we'd be delighted if you could join us for a VIP Event at the Airport on Thursday April 11th at 8.30am. This will give you the opportunity to examine our proposals and to ask any questions that you have. To confirm your attendance please email emma.worby@londoncityairport.com

We've also increased the number of public consultation events from three in the first round to five this time round. I'd be grateful if you could inform residents and colleagues through your networks and for your information they take place at the following times:

London City Airport Limited
City Aviation House
Royal Docks
London E16 2PB

Tel: +44 (0) 7646 0000
Fax: +44 (0) 7511 1040
Email: info@londoncityairport.com
Web: www.londoncityairport.com
Registered in England and Wales
Company Number: 01963361

- **Monday 8 April 1500 to 1900** – Trust Thamesmead, Thamesmead Greenwich
- **Wednesday 10 April 1600 to 2000** – Royal Docks Learning and Activity Centre, North Woolwich, Newham
- **Thursday 11 April 1500 to 1900** – Ideas Store, Poplar Tower Hamlets
- **Friday 12 April 1400 to 1800** – Britannia Village Hall, West Silvertown Newham
- **Saturday 13 April 1000 to 1400** – Woolwich Common Community Centre, Woolwich Greenwich

Of course we recognise that your diaries are hugely busy so if the dates above are inconvenient at all then we'd be happy to visit you at your office.

We welcome your involvement in this process as well as your comments as the feedback that we receive will help inform our final planning application which we hope to submit in early May

More detailed information about the proposals and consultation is available at www.londoncityairport.com/cadp. In the meantime please do contact the consultation team on 0203 203 2523 or via cadp@londoncityairport.com should you require any further information on the proposals or would like to discuss these.

Yours sincerely



Declan Collier
Chief Executive

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London Assembly's Transport
Committee
City Hall, the Queen's Walk,
London SE1 2AA

Email: laura.warren@london.gov.uk

Contact: Jorgina Cuixart

Direct line: 020 7934 9829

Email: jorgina.cuixart@londoncouncils.gov.uk

Date: 28 February 2013

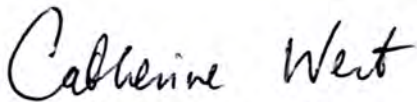
Dear Ms Warren,

**LONDON ASSEMBLY INVESTIGATION INTO AIRPORT CAPACITY IN LONDON –
LONDON COUNCILS' RESPONSE**

London Councils is committed to fighting for resources for London and getting the best possible deal for London's 33 councils. Part think-tank, part lobbying organisation, and part service provider, London Councils formulates policies, organises campaigns and runs a range of services all designed to make life better for Londoners.

Our response to the London Assembly investigation into airport capacity in London has been developed following consultation with London boroughs. It responds to the four questions outlined in the investigation.

Yours sincerely,

A handwritten signature in black ink that reads "Catherine West".

Cllr Catherine West

Chair of the London Councils Transport and Environment Committee

London Assembly Investigation into airport capacity in London London Councils Submission

What are the arguments for and against changing existing airport capacity in London? What is the evidence in support of these arguments?

- London boroughs agree that there is a need to evaluate existing airport capacity in London.

Heathrow

- The main reason for evaluating existing capacity in London is that Heathrow (the UK's only 'hub' airport) is already operating at 99% of its runway capacity. There are concerns over how this may limit future economic growth in London and the UK in favour of other European counterparts with spare capacity such as Frankfurt, Amsterdam or Paris.

Benefits to London and the UK economy

- London Boroughs recognise the important contribution of aviation to the economy. There is no clear consensus over the exact value but it is widely acknowledged that business travel provides many economic benefits as a result of foreign direct investment. Nationally, the sector employs over 200,000 workers directly and supports many more indirectly¹. Aviation also brings many wider benefits to society and individuals in terms of tourism and leisure.

Timescales

- It is currently proposed that the Davies Commission will report on the preferred long term option for expanding capacity in three years' time, after the general elections in 2015. London Councils forcefully argue that this timescale is too long, and a decision should be made sooner rather than later. The current timescale threatens to bring uncertainty to communities living close to affected airports and there is also the potential for London's economy to suffer due to uncertainty over future connectivity and capacity.

Higher connectivity rather than capacity

- One of the arguments in favour of increasing airport capacity relates to the ability to serve new destinations in emerging markets and therefore bring new business and economic opportunities to London and the UK. In view of that, London boroughs would like to point out that extra capacity does not necessarily lead to increased connectivity. Experience at Heathrow has shown that destination numbers have reduced over time whilst profitable routes are operated at higher frequencies. The DfT's final aviation framework provides an opportunity to introduce measures to ensure that this trend is not replicated at other airports.

Impacts on local communities

- Any provision of extra capacity should be implemented in a way that minimises negative impacts on health and quality of life of affected communities.
- Given the current noise and air pollution levels at Heathrow, the majority of London boroughs oppose any further expansion of this airport whether this relates to proposals to build extra infrastructure such as a 3rd runway and 6th terminal or the introduction of measures such as mixed mode use of the two existing runways.
- London boroughs also widely oppose any proposed changes to the current night flight restrictions that may expand night operations. Future aviation strategy should therefore move towards a ban on night flights at airports located in areas with over-flown communities.

¹ As stated in the Department of Transport's draft aviation policy framework, July 2012.

What are the current levels of airport capacity and the current and future estimates of demand for aviation travel? What is the basis for the estimates?

- Capacity should be calculated not only in terms of aircraft movements but also on number of passengers (and freight). The Heathrow example illustrates why. Heathrow is operating at 99% of its runway capacity, which limits aircraft movements. But the airport itself is still capable of serving more passengers. The Terminal 5 Inquiry indicated the airport could handle 90-95million passengers per annum (mppa). In 2011 the capacity was approximately 70mppa with aircraft at around 73% capacity. There is scope to serve another 20mppa, and that could be done by increasing the numbers of passengers per plane. Also, as airlines put A380 super-jumbos on more routes it is highly likely that passenger numbers will continue to rise with stable numbers of flights.

What are the options in the short, medium and long-term for addressing the issue of airport capacity?

Short to medium term options

- Heathrow is operating virtually at capacity with no headroom for operational resilience. This has led to the establishment of operational freedom trials to attempt to give the congested airport some resilience. However, measures taken to provide operational resilience for an airport should not be to the detriment of local communities.
- Any short term strategy should consider the issue of operational resilience and ensure all airports are managed according to the terms of their operational capacity.
- London Councils supports extending the UK's fifth freedom policy to Gatwick, Stansted and Luton. This proposal could lead to new services from the three airports concerned, which in turn will improve London and UK connectivity as well as reducing demand for Heathrow slots. But any additional services should be developed with regard to potential impacts in terms of noise, air quality and surface access and should not place extra pressure on the airport in question to host more night flights.
- London Councils supports the growth of regional airports. There are environmental and social benefits to reducing the need for air passengers and freight to travel long distances to reach larger UK airports by providing additional capacity away from congested South East airports.
- Any additional services should be developed with regard to potential impacts in terms of noise, air quality and surface access. Reducing short-haul flights - including internal UK flights from UK airports - should also be considered in line with the planned improvements in rail services.
- As mentioned above, Heathrow is at capacity as regards to the number of aircraft movements but it is not full when looked at in terms of numbers of passengers. It is important that slots on the busiest routes are used as efficiently as possible in terms of the average passenger capacity and passenger numbers per movement. The Davies Commission should review how best to encourage/ regulate the more efficient use of slots.
- Given that 66% of the passengers arriving at Heathrow are terminating passengers, not transfer passengers, it would make sense to assess if a proportion of these can be transferred to other London airports along with the necessary upgrade in transport links to access the city and other destinations
- The majority of London boroughs do not support any additional on-airport infrastructure or operational changes such as mixed mode operations at Heathrow which increase the number of flights beyond the current limit. The airport already has in-built additional passenger capacity for the short and medium term as a result of the construction of T5.
- London boroughs do not support changes in current night flight restrictions that allow for more night operations.

Long-term options

- London Councils stresses the importance of reaching a decision on long term options sooner than currently planned.
- The majority of London boroughs oppose any expansion in runway capacity at Heathrow. A short third runway at Heathrow would not be capable of taking the larger aircraft and would be full very quickly. The airport would be in the same position as now at great expense in terms of demolition of housing, isolation of communities between airport infrastructure and motorways and unacceptable environmental impacts from noise and air pollution.
- If the Davies Commission recommends that the hub model, with at least four runways, is the correct one for increasing future capacity and connectivity then Heathrow needs to be ruled out. The provision of a new 'hub' airport (whether through upgrading an existing airport or through new build) will have an impact on Heathrow operations as well as other airports. Long haul flights might be shifted to the new hub and leisure flights may move from an outer airport to a better connected one. The Davies Commission should therefore not only look at what the most suitable option for airport expansion is, but also at the future configuration of London/South East airports as a whole.

What issues need to be taken into account when assessing each option for addressing airport capacity?

- London Councils has responded to the Mayor's consultation on the criteria for new aviation capacity. In our response, the following key issues were highlighted:

New airport configurations

- Changes in aviation capacity will certainly affect the current airport configuration in the South East.
- Each option should be assessed not only as regards the direct impacts of new airport infrastructure but also the indirect impacts of any changes in existing airport operations that might result from the creation of new infrastructure.
- For example, if the provision of a new hub airport were forecast to lead to a reduction in flights from existing airports (e.g. Heathrow), the impacts of such a reduction - adaptation from a hub model to a point to point, how to secure economic, social and environmental advantages for any airport-replacement plans should airports need to close - should also be assessed.
- Impacts on smaller London airports and regional airports should also be taken into consideration.

Negative impacts on local communities

- When assessing each option, particular attention should be paid to the impact on health and quality of life of communities near airports.
- Noise remains the issue of major concern for local communities. London boroughs would support an increase in airport capacity as long as it is delivered without an increase in the number of people affected by noise.
- In addition to the three largest London airports, London Councils has suggested that the Government designates *all* airports that meet certain criteria regarding the number of air traffic movements and / or passenger numbers for noise management purposes. The threshold of movements or passengers to trigger the designation should be determined independently.

- London boroughs are strongly in favour of noise abatement measures around all airports. These could include:
 - o Strengthen noise contours to 55dB and undertake noise mapping;
 - o Airports should continue to be designated for noise management, maintain and operate noise monitors and produce reports;
 - o Noise criteria should not be restricted to aircraft noise but be widened to include surrounding ground noise;
 - o Noise envelope should be set with an accompanying cap on aircraft numbers to ensure that residents benefit from quieter aircrafts in the future;
 - o Respite periods for airports with overflowed communities with more than one runway should be maintained;
 - o Night flights should only be operated when they do not cause adverse community and health impacts;
 - o Support noise monitoring and enforcement action.
- For local communities around airports, in particular Heathrow, poor air quality is also a major concern. There is a legal requirement to meet the EU air quality limits (NO_x, particulates) as soon as possible and this must be made a priority. London boroughs would like to see a clear process for determining how the Government will factor in, and address, adverse environmental impacts resulting from future decisions on allowing aviation services to grow, whilst meeting their legal obligations on issues such as local air quality.
- Where existing airports are to be considered for potential expansion, an assessment of their current impacts and whether or not these are adequate should be included. An assessment of the "mitigation requirements and costs" will ensure that difficult areas such as calculating costs of noise disturbance and air pollution are included.

Economic benefits for the local communities

- Any option for expanding airport capacity should bring sufficient and adequate economic benefits to the residents in the affected local area, for example by establishing a target for local employment.
- At the same time, impacts on existing jobs and potential job losses in areas surrounding airports (affected by closure or decrease on the number of operations) should also be considered.
- The links with regeneration areas and the potential advantages that a new or expanded airport may bring to areas nearby in terms of transport connectivity and economic attractiveness should also be examined. This could be the case of East London if a new airport hub is built in the Thames estuary or if Stansted is expanded.

Surface access and HS2 links

- National strategies for aviation and rail and road strategies, in particular High Speed and Crossrail, need to be aligned. Aviation must form part of an overall integrated transport strategy which also looks at the potential a comprehensive high speed rail network has to replace a considerable number of domestic flights.
- There are significant concerns over surface access to airports in the South East at present, with affected London Boroughs calling for radical improvements. London Councils supports travel to and from airports in sustainable modes; however an increase on aviation capacity would bring more pressure on existing transport networks in the affected areas. For example, the existing Gatwick Express, Heathrow Express and Heathrow Connect rail services have their central London termini in Westminster at Victoria and Paddington. This leads to increased pedestrian activity in and around the stations, additional demand for other public transport services and additional road traffic, particularly taxis. While high speed rail may be part of the solution, high-quality,

affordable and convenient public transport to any new expanded airport needs to be put in place. The dispersal of passengers around London's local transport networks will need to be carefully planned and managed.

- Any improvements on surface access should be assessed with regards its capacity to ease traffic congestion on roads and public transport.
- Linked to the previous section, the potential benefits of increased accessibility to existing and proposed planning and regeneration areas should be taken into consideration.

Land use planning implications

- Possible implications on land use policy and practice should be addressed. Renewed speculation over a third runway at Heathrow not only brings unnecessary blight and uncertainty to residents but it also impacts on the surrounding boroughs' role as the planning authority. This is the case of LB Hillingdon which has faced difficult challenges in moving forward its local planning strategy, given the uncertainty over a third runway at Heathrow and the impact this would have on any development plans for the borough.
- It is not acceptable to expect the residents of Hillingdon and other boroughs near Heathrow, potentially threatened by loss of their houses and increased congestion, pollution and noise impacts, to put their lives on hold again until post 2015 for a decision regarding Heathrow, when this threat had been lifted only recently in 2010 by a cross party agreement.

Impacts on climate change

- The provision of any new airport capacity should also address global environmental concerns such as carbon reduction and climate change adaptation.
- According to the Committee on Climate Change, the UK should be able to accommodate 60% growth in air passenger trips by 2025, over 2005 levels. London Councils is concerned about the feasibility of achieving this target if full predicted demand is to be met.
- Far more evidence and detail is required on how the potentially opposite aims of increasing aviation and reducing aviation emissions can be delivered, pointing to: some 'alternatives to travel'; 'developing new technology'; 'biofuels'; and 'better information'.
- Such uncertainty reinforces the need for any assessment on aviation capacity to be based on a robust analysis of the impacts on other airports operations, such as Heathrow, as well as other measures for shifting capacity to less carbon intensive means of transport (high speed) and cutting carbon emissions in other areas/sectors.

27 MAR 2013



PART OF M.A.G

Caroline Pidgeon AM
Chair, Transport Committee
City Hall
The Queen's Walk
London
SE1 2AA

22 March 2013

Dear Caroline,

Greater London Assembly investigation into airport capacity in London

Following the acquisition of London Stansted Airport by Manchester Airports Group (M.A.G) on 28 February 2013, we were informed by the GLA Transport Committee secretariat that members had requested that M.A.G submit further evidence to the Committee's investigation into airport capacity in London.

M.A.G is the UK's second largest airport operator, handling in excess of 42 million passengers and 600,000 tonnes of freight per year, carried by over 80 airlines to around 220 destinations worldwide. In addition to London Stansted we currently own three other airports – Manchester, East Midlands and Bournemouth.

Our recent £1.5 billion acquisition of Stansted was funded in part through IFM taking a 35.5 per cent stake in M.A.G. IFM is a global investment management firm that holds over \$40 billion in funds across a range of asset classes. It has interests in 13 airports in the UK and Australia. Manchester City Council (35.5 per cent) and the nine Manchester District Councils (29 per cent) retain the balance of the equity.

M.A.G is delighted to have acquired Stansted. As the only major airport in the South East with space, permission and facilities to grow and serve 35 million passengers a year we believe it offers huge potential for the Group and the UK as a whole. To complement this we have significant investment plans to develop and improve Stansted and achieve its ambition to make the airport the best in London. These plans include:

- Incentivising airline growth at Stansted through the Group's relationship with over 80 existing airline partners at other airports
- Adding over five million additional passengers at Stansted by 2018

Registered office:
Enterprise House
Bassingbourn Road
Essex
CM24 1QW
United Kingdom

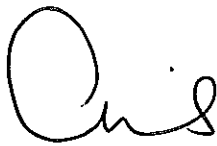
Switchboard: +44 (0) 844 335 1803

- Investing £40 million over the next two years to transform the experience for passengers by upgrading and enlarging the departure lounge and security search area

In addition to growing Stansted in the short term, M.A.G has consistently argued that a long term aviation policy should take account of the available airport capacity available in the UK regions, thereby helping to alleviate pressure on the congested London system. However, we recognise that, in the long term, additional capacity may be required in the South East and we look forward to working with the Airports Commission as it develops its view on the long term demand for aviation. M.A.G is supportive of the need to ensure that the emerging options are explored and tested against agreed criteria set by the Commission.

If you require any further information or would like to visit the airport, please contact me directly on 07713 075741 or alternatively email chris_wiggan@stanstedairport.com

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Chris', with a large, stylized 'C' and a trailing flourish.

Chris Wiggan
Head of Public Affairs and Sustainable Development
London Stansted Airport

Stansted Airport Limited response to the London Assembly investigation into airport capacity in London

9 January 2013

London Stansted Airport (“Stansted”) is the third largest airport in London handling around 17.4 million passengers a year. Firmly positioned as the market leader for short-haul travel, with over 150 destinations across 30 countries, Stansted provides London and the East of England with excellent connectivity to Europe.

With planning permissions and environmental controls already in place to enable the airport to serve 35 million passengers per annum (mppa), Stansted has the space and permission to grow substantially. Stansted has a strong range of transport links, and with half of all passengers travelling to and from the airport by public transport, it is the UK’s leading public transport airport.

Stansted Airport will shortly be in new ownership, following BAA’s (LHR Airports Ltd) announcement on 20 August 2012 that it would not appeal to the Supreme Court over the Competition Commission’s 2009 report requiring BAA to sell the airport. The separation and sale process is now underway and will conclude in early 2013.

International connectivity is vital to growth

Stansted supports the Government’s objective outlined in the Draft Aviation Framework (“Framework”) to ensure the UK’s air links continue to make it one of the best connected countries in the world. International connectivity is a vital component of a flourishing and successful economy. As noted in the Frontier Economics report, UK businesses trade 20 times as much with emerging market countries that have a daily direct flight to the UK as they do with those countries that do not.¹

Stansted is well placed to serve point-to-point demand for air travel. The airport already serves over 150 scheduled European destinations, more than any other airport in the world, and provides an excellent level of connectivity to and from London and the East of England. European connections are particularly important for passengers travelling on business, who comprise nearly 20 per cent of Stansted’s overall traffic. The importance of Europe to the UK generally, and the importance of connections for small and medium sized enterprises to the European market is something Stansted is well placed to provide.

We want to build on this success and attract more airlines serving more destinations, helping to drive inward investment, productivity and exports. Stansted already has the capacity, infrastructure and planning permissions in place to handle 35 mppa, and can handle more of London’s demand with limited noise and other environmental impacts. Against the backdrop of constraints at other airports, Stansted has a critical role to play in providing capacity to meet the UK’s need for air travel over the next decade and beyond.

It is vital that future policy continues to recognise the contribution aviation brings to UK plc and places a much stronger emphasis on measures to further unlock the performance of the sector. We believe that if the Government is to meet its objectives, any future policy must make the best use of existing airport capacity now and in the medium - long term. Further delay is damaging the industry and this needs to be addressed with urgency so that the industry and potential investors have confidence to invest in the UK.

¹ Connecting for Growth: the role of Britain’s hub airport in economic recovery, Frontier Economics, September 2012

Economic benefits to the UK

Stansted wants to play its part in growing the UK economy and we are encouraged by the Government's renewed focus on growth. We are a key catalyst for growth and productivity in London and the East of England, and provide important connectivity to Europe for some of the UK's most innovative and dynamic industries located in Cambridge and East London. It is critical for the success of these companies that they continue to have strong and cost-effective access to foreign markets and customers. Stansted is also the largest single-site employer in the East of England employing over 10,000 people across 200 on-airport companies. With significant spare runway capacity we are in an ideal position to support and sustain economic growth.

In addition Stansted is a key hub for express freight services, General and Business Aviation and tourism. The airport's express freight market, anchored by key logistical companies such as FedEx and UPS, is the third biggest in the UK. In 2012, 214,000 tonnes of cargo were transported through Stansted, helping to connect the economy of London and the region with the global marketplace. The cargo hub at Stansted, and the ability to operate around the clock provides businesses with access to multiple overseas markets including the US and Far East, adds significantly to the desirability of the UK as a place to locate and invest.

Stansted is a key gateway for the UK and is the second busiest point of entry for non-UK residents arriving by air. In 2011, 18 million passengers used the airport with 47 per cent of these visiting friends and family either in the UK or overseas. Tourism makes an enormous contribution to the UK's economic well-being and is an essential component of a healthy and dynamic economy. We support the objectives in the Government's Tourism Policy and refute any suggestion by certain groups of a 'tourism deficit' in the UK. As recent research by ABTA shows, outbound travel directly contributes over £22 billion to the economy, representing 1.6 per cent of UK GDP. In addition the outbound sector makes a significant contribution to UK jobs, accounting for 620,000 people in full time employment.²

Air Passenger Duty (APD)

A significant constraint on economic growth is APD. The UK has the highest rates of aviation tax in Europe. APD is hugely disproportionate and fails to take proper account of the economic contribution of the industry and the impact it has on airlines and consumers. Analysis commissioned by the British Chambers of Commerce found that APD could cost the economy £10 billion in lost growth and up to 250,000 fewer jobs over the next 20 years.³ This impact would be felt particularly at Stansted, where there are a very high proportion of price-sensitive passengers and low-cost airlines. Consequently, we are concerned about the impact that future increases to APD could have on passenger volumes.

Additionally, the introduction of any form of regional differential of APD within the UK, such as a London airports congestion charge, would create further competitive distortions and lead to further pressure on airlines operating from Stansted. Stansted already has significant spare capacity and any change to APD which placed additional costs on flying from London and the South East would only further impact our ability to fill that spare capacity.

It is clear that the Government's current approach to taxing the aviation industry represents a significant barrier to growth and connectivity, and is damaging the competitiveness of the industry, the City of London and the UK's economic performance. Other European Governments have recognised the strength of the case for reducing taxation on aviation to help drive economic growth. As a member of the *Fair Tax on Flying* coalition, we feel that it is necessary that HM Treasury

² Driving Growth – the economic value of outbound tourism, ABTA, May 2012

³ Flying in the face of jobs and growth, British Chamber of Commerce, October 2011

commissions an independent analysis of the economic impacts of APD before it does lasting damage to the UK economy and our international connectivity.

Making the best use of existing aviation capacity

Stansted is currently operating at less than half its full capacity. We have planning permissions in place to handle 35 mppa and 264,000 air transport movements (ATMs) on our existing single runway and can handle more of London's demand with limited noise and environmental impacts. Stansted's existing facilities already have the capacity to handle significant peaks in demand. Growth to 35 mppa will largely be achieved through more intensive use of current facilities, and will require only modest further investment. Making best use of Stansted's existing capacity would have significant economic benefits and would be delivered within approved environmental limits.

The Department for Transport forecasts show that unconstrained demand for air travel is expected to grow by 2.5 per cent a year over the period to 2030, and then by 2.1 per cent a year over the period to 2050. Against the backdrop of environmental and capacity constraints at other airports, this highlights that Stansted will have a critical role to play in providing capacity to meet the UK's growing appetite for air travel over the next decade and beyond.

A primary objective of Government policy should be to make the best use of existing capacity, where this would be consistent with its sustainable aviation policy. This objective, combined with a presumption in favour of sustainable development, would provide strong support to airports by making clear to a wide range of stakeholders the importance of making full use of existing capacity.

Demand management measures would be an ineffective way of allocating scarce airport capacity and we believe priority should be given to reforming the existing slot allocation system. This approach would be most likely to result in the allocation of scarce capacity to those services that are most highly valued by consumers.

Improving surface access links to Stansted

We support the Government's statement in the Framework that high quality, efficient and reliable rail and road access to airports contributes greatly to the experience of passengers, freight operators and airport employees. Rail, in particular offers opportunities for efficient and environmentally friendly connections to airports. At Stansted, 25 per cent of our passengers choose rail, and overall 50 per cent of passengers use public transport to travel to and from the airport – the highest percentage of any major UK airport.⁴

To build on this record and help meet the Government's vision for dynamic, sustainable transport that delivers economic growth and competitiveness, Stansted needs faster and more reliable rail connections to London, Cambridge and beyond. Linking Stansted to Crossrail would also further improve connectivity with the Capital.

As part of our 2012 Rail Vision⁵ and 'Stansted in 30' campaign, we are asking stakeholders to commit to working with us to identify how journey times between London and the airport could be reduced to 30 minutes. Passengers tell us journey times and reliability are amongst their highest priorities, while airlines cite it as a key factor into whether they decide to operate from Stansted. The current journey time of between 47 - 59 minutes is simply too long, and reliability on the line to Stansted (West Anglia Mainline) has also become a significant concern for our passengers with around 1 in 6 trains delayed by at least 10 minutes. Recent research conducted by York Aviation on

⁴ CAA Quarterly Report, Quarter 4 2012

⁵ On the right track – Stansted's vision for improved rail connectivity

http://www.stanstedairport.com/static/Stansted/Downloads/PDF/STAL_Rail_Strategy_2012.pdf

behalf of Stansted Airport found that reducing the journey time to 30 minutes could lead to at least an extra 1.4 million passengers using Stansted every year.

To make the most effective use of Stansted's spare capacity, it is vital that stakeholders commit to identifying the steps towards delivering a 30 minute journey time, to put Stansted on a level competitive footing with other London airports. '*Stansted in 30*' has already received considerable support from business leaders and politicians, and we are eager to take forward our discussions with Government and the rail industry to identify what investment is required.

Investing in the rail links to Stansted, either by improving existing infrastructure or developing new infrastructure, will allow Stansted to contribute most effectively to meeting the growing demand for air travel in a responsible and sustainable way. It would also be an integrated approach to meeting the aviation capacity gap in London and the South East, and have the potential to stimulate the long term economic growth that Government and businesses are targeting.

Noise mitigation

Aviation noise has long been recognised by the industry as the biggest concern to the local community and a constraint on sustainable growth. For over a decade, Stansted has been at the forefront of proactively monitoring and tackling community concerns with noise.

Through the Stansted Airport Noise Action Plan⁶, the airport has worked hard with airline partners to reduce the noise impacts associated with its operations. This includes increased focus on noise and track keeping; the introduction of a fining regime for aircraft flying off track and exceeding noise limits and improving continuous descent approach (CDA) performance. This combined effort has led to 99 per cent of all aircraft taking off from the airport keeping to their flight path. That said, we are not complacent and believe that all airports and airlines should limit, and where possible work to reduce, the impact of noise on local communities.

The aviation industry has made significant progress in recent years in either reducing, or containing aviation noise, while still meeting significantly increased demand for flights. Analysis of the CAA data shows that the collective size of the area covered by the 57dB noise contour at Heathrow, Gatwick and Stansted fell by 70 per cent from 595km² in 1988 to 170 km² in 2011, while over the same period aircraft movements increased by almost 50 per cent. Over the same period, the overall number of people living within the area covered by 57dB noise contour at Heathrow, Gatwick and Stansted fell by 60 per cent.⁷

The focus of Government policy and local initiatives should be on minimising the noise experienced by local communities. This can be delivered, in part, by encouraging a more collaborative working relationship with Local Authorities in the development of Local Plans and planning policies. Stansted supports the idea of a 'noise exposure greenbelt', whereby planning permission is only granted to new developments or homes that are outside existing noise contours.

Climate Change impacts

Stansted understands the importance of managing aviation's climate change impacts and support the Government's view that this requires a global solution. We want to see a solution that replaces local and national targets, ensuring aviation emissions are accounted for only once.

⁶ Stansted Noise Strategy and Action Plan 2010 – 2015
http://www.stanstedairport.com/static/Stansted/Downloads/PDF/STN_Noise_Action_Plan.pdf

⁷ CAA Annual Noise Exposure Contour reports

The inclusion of aviation within an effective global ‘cap and trade’ deal provides the best way to address the industry’s climate change impacts. A cap and trade system will create powerful financial incentives for airlines to invest in carbon reduction technology, without necessarily limiting the strong economic and social benefits associated with aviation. We are working with a coalition of airlines to push for aviation to be included in a global emissions trading scheme as soon as possible, although we recognise that securing a global deal is likely to prove a difficult and lengthy process.

At Stansted, the low-cost airline sector, who operate the vast majority of flights from the airport has proved it is innovative by using newer fleets of aircraft, increasing load factors and reducing ‘turnaround’ times at airports. All these measures have significantly improved the efficiency of their operations. The airport’s track record of innovation and working together with the airlines, NATS and through local engagement has shown it is possible to tackle successfully the environmental impacts of growth and mitigate, where possible, the scale of their impact on local communities.

Stansted is also a member of Sustainable Aviation (SA) and we support its CO₂ Road-Map and its conclusion that UK aviation is able to accommodate significant growth to 2050 without a substantial increase in CO₂ emissions. To achieve this we urge Government to continue working with SA and the industry and support the following:

- Investment in research and development for more efficient aircraft and engine technologies;
- Encourage the introduction of sustainable biofuels;
- Deliver on infrastructure projects such as the Single European Sky initiative.

Conclusion

Only Government can strike the right balance between the economic, environmental and social impacts of aviation. However, in striking this balance Government should take full account of the critical role aviation has to play in supporting the growth of the UK economy. For this reason, it is important that the UK’s future air travel needs are fully understood so that the benefits of meeting demand can be properly considered by Government when setting policy.

We believe there is a strong case for additional airport capacity in the South East, particularly where environmental impacts can be addressed appropriately. In this respect, we are encouraged by the Government’s decision to establish an Independent Airports Commission chaired by Sir Howard Davies. We will be asking the Commission to look carefully at all existing and new capacity options to help deliver a lasting solution for aviation.

However, the Government should not wait until 2015 before taking action in this area. There are initiatives that can be taken forward in the intervening period that have the potential to deliver significant benefit to UK economy and passengers. These include improving rail access to Stansted to help fully utilise spare capacity and continuing with the Government’s efforts to reform the slot allocation system. Both of these measures could be implemented quickly and would complement the work of the Commission by addressing the capacity issues in London and the South East.

In uncertain economic times it is imperative that Government look at the most cost effective solution to improving the UK’s aviation capacity and one that must be sustainable and able to handle more of London’s demand with limited noise and environmental impacts on the local community. For this reason it is important that the Commission considers the important role that point-to-point airports have to play in meeting future demand for air travel.

If you require any further information, contact Chris Wiggan, Head of Public Affairs and Sustainable Development on 07713 075741 or email chris_wiggan@stanstedairport.com

Foreword

High quality, efficient and reliable surface access connections, whether road or rail, are integral to London Stansted's success. With aviation capacity in London and the South East expected to be fully used by 2030, it is vital that airports like Stansted plan for the future, including how to improve surface access connectivity.

In partnership with our Transport Forum we have made significant advances in surface access over the last 10 years. I am extremely proud that half of our passengers now arrive by public transport - the highest of any major UK airport. However, we need to work together to build on this success with further investment in the rail infrastructure. Government recognises investment is a key enabler of economic growth and we believe that with improved rail links, Stansted can play its part in getting the UK back into growth.

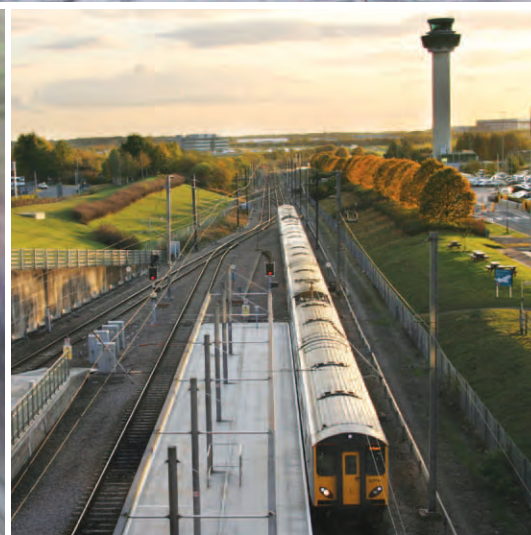


Nick Barton
Managing Director

That is why this year we started a new rail campaign - Stansted in 30 - to persuade Government and the rail industry to commit to reducing journey times from London to Stansted to around 30 minutes. Recent research shows that reducing the journey time could encourage at least an extra 1.4 million passengers to use Stansted every year. This would have significant benefits for the local economy.

Building on the success of Stansted Airport's Surface Access Strategy and working collaboratively with Government, the rail industry and stakeholders, we have made improved rail connectivity one of our top priorities.

Our vision is for Stansted to be the best connected air-rail hub in the UK, delivering fast, frequent and more reliable services that our passengers and local community rightly deserve.



Stansted Airport's vision



- Work with Network Rail and train operators on improving reliability with the aim to see 95% of trains running on time by 2015
- Work with the rail industry to introduce an 03.20 service from Liverpool Street to Stansted to serve first 'wave' departures
- Work with the rail industry to reduce the minimum journey time on the Stansted Express service by at least 5 minutes by 2017
- Work with the rail industry to reduce the variation in journey times on the Stansted Express service and implement a standardised journey time by 2015
- Work with train operators to introduce better rail connections to Cambridgeshire, Norfolk and Suffolk including two trains per hour to the City of Cambridge
- Support the extension of Crossrail to Stansted and reduced journey times
- Work with train operators to promote the use of rail and improve the passenger experience including introducing real time passenger information, travelcards, competitive fares and increasing the use of social media
- In partnership with regional stakeholders secure Government commitment to invest in new infrastructure on the WAML to enable faster and more reliable journeys
- In partnership with regional stakeholders secure Government commitment to deliver a 30 minute service from the airport to Central London
- Support regional stakeholder aspirations to improve links from the WAML to Stratford supporting regeneration in the Lea Valley and opening up Stansted to new communities
- Secure long term commitment to retain the current rolling stock (Class 379 Electrostar) on the Stansted Express service

Stansted Airport Limited
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- Invest in infrastructure on the WAML to enable 30 minute services from the airport to Central London
- Deliver a Crossrail link from Stansted to London
- Introduce a 24 hour rail service to Stansted
- Explore rail freight facilities for Stansted with the aspiration to create a rail link to connect with the Great Eastern Mainline, Felixstowe and Thames Ports



London
Stansted
Go discover



On the right track
Stansted's vision for improved rail connectivity

London
Stansted
Go discover

Stansted Airport - a catalyst for economic growth and productivity

Stansted wants to play its part in growing the UK economy. In 2011, 18 million passengers and over 200,000 tonnes of cargo passed through the airport, helping to sustain over 10,000 local jobs and ensuring UK business remains competitive in the global marketplace.

As the only major airport serving the South East with significant spare capacity and the infrastructure in place to handle 35 million passengers, it has the potential to do much more to get the UK economy back into growth.

By attracting more airlines serving more destinations, Stansted can help drive inward investment, productivity and exports across the East of England and the UK as a whole. However, if the airport is to reach its full potential and deliver the Government's objective to see an export led recovery it needs faster rail connections to London and increased frequency to Cambridge, East Anglia and beyond. High quality, efficient and reliable surface access connections are integral to Stansted's success.

'Investing in infrastructure along the West Anglia Mainline could unlock wider benefits for the UK economy of over £4.5 billion GVA by 2021 and £10.7 billion by 2031'

London Borough of Enfield - Oxford Economics study, January 2012

"Better and faster rail access to London's airports like Stansted creates the connectivity our international trading partners in European and emerging markets require to do business in London. With the Government keen to see more inward investment and increased exports, slashing journey times to London's airports is vital to boosting growth and productivity in London and the UK as a whole"

Colin Stanbridge, Chief Executive, London Chamber of Commerce



Stansted in 30 - fast and reliable rail services

Stansted has direct rail links along the West Anglia Mainline (WAML) to London Liverpool Street and Cambridge. In 2011, airport passengers benefited from the introduction of new high quality Stansted Express trains. The new trains have improved the passenger experience, however passengers still tell us that they want to see a faster and more reliable service to the airport. Investment in rail infrastructure is the key that will unlock improved reliability and reduced journey times.

The current journey time takes between 47 minutes and an hour to cover 35 miles from Liverpool Street to Stansted, compared with the 30 minutes to cover 30 miles from London Victoria to Gatwick Airport by train. It is time to put Stansted on a level competitive footing with other London airports. In April 2012, we launched the Stansted in 30 campaign to make this a reality.

The campaign aims to persuade Government and the rail industry to commit to reducing journey times from London to Stansted to around 30 minutes.

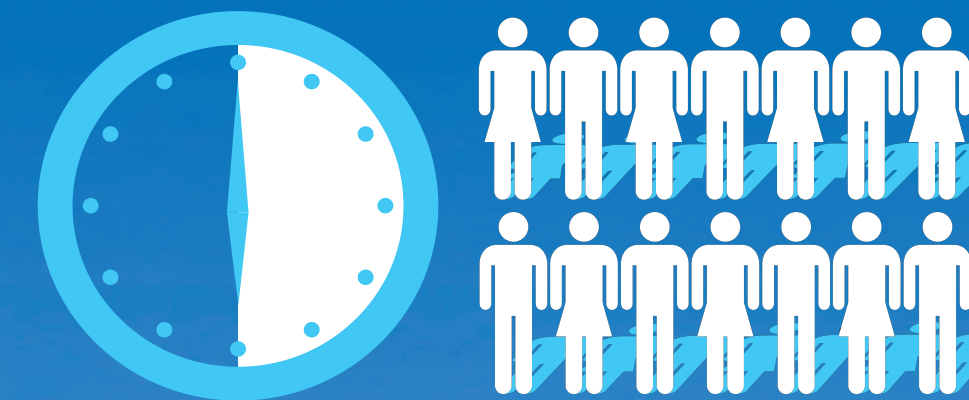
Shorter journey times will help create jobs and growth, improve local commuter access and allow Stansted to win new passengers and airlines. Research undertaken by York Aviation shows that reducing the journey time to 30 minutes could lead to an extra 1.4 million passengers using Stansted every year.

With our current spare capacity and new fast rail links, Stansted would be in a better position to attract airlines whose passenger's value speedy and reliable connections to the financial heart of City of London as well as the creative industries located nearby.

The campaign has attracted significant support from politicians, business, airlines and passengers and we are asking the Government to include Stansted in 30 in future growth and infrastructure plans and rail franchise agreements.



Shadow Secretary of State for Transport, Maria Eagle MP and Stansted Managing Director, Nick Barton



30 minute journey time = 1.4m extra passengers a year

"Our airports are vital for our economic competitiveness, but to be attractive to passengers and business they need good transport links. For too long we have failed to adequately join up our transport policy, not least aviation and rail. Yet, just as many passengers experience every day, my visit to Stansted began with a 47 minute journey to cover just 35 miles from central London. We have got to see if it is possible to do better than that in the twenty-first century..."

Maria Eagle MP, Shadow Secretary of State for Transport

A better connected Stansted - more choice for our passengers

Stansted currently flies to over 150 destinations across Europe and North Africa and the list is growing. As our route network increases more people want to use Stansted and where possible we want these passengers to use public transport, reducing our environmental impacts.

Currently 50% of our passengers use public transport to access the airport - the highest of any major UK airport. Our commitment in our Surface Access Strategy is to increase this further by addressing 'kiss and fly' traffic and providing passengers with more choice of onward connections.

Rail connectivity is an area where we see room for improvement. At Stansted our busiest time is early morning, our so called 'first wave', with over 5,000 passengers using the airport between 05.00 and 06.00. Currently the first trains out of Liverpool Street are 04.10 and 04.40, leaving very little time for those passengers to make their flights in good time.

We want to see an early 03.20 service from London to Stansted to serve first 'wave' departures for passengers and our employees every day of the week.

In the short to medium term we also want to see more frequent trains to Cambridge, East Anglia and beyond opening up the airport to new communities, and support the proposals to extend Crossrail to Stansted. All these improvements would have a significant impact on the local economy, jobs and long term growth.

Our long term aspiration is to see Stansted as the best connected air-rail hub in the UK, with a 24 hour service and links to the high speed rail network, the Great Eastern Mainline and beyond.

Aim for 95% of trains on time by 2015



¹Monday and Friday only



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Our ref: MGLA271212-5375

Date:

22 JAN 2013

Dear Caroline

Transport Committee investigation into airport capacity in London

Thank you for the opportunity to respond to this inquiry. It is one of the most critical transport challenges faced by London and, indeed, the UK.

The context

The Government have established the Davies Commission to examine the scale, timing and location of any additional capacity required to maintain the UK's position as Europe's most important aviation hub. The Commission is due to publish an interim report by the end of 2013 and its final recommendations in summer 2015. To reach a decision, the Commission will invite submissions from stakeholders. They have declared that they 'will be most effective where able to draw upon and consider well-developed and robust submissions'.

I am keen to play a key role in influencing the work of the Davies Commission and ensure that the Government's evolving aviation policy fully recognises the criticality of our need for new hub capacity. We must have the aviation connectivity to meet our future economic needs, at a location able to accommodate an airport of the required scale that does not result in severe noise and air pollution impacts for hundreds of thousands of people.

My work

The question of how best to provide the hub airport capacity that delivers the connectivity we require is complex and coming to a proper response requires a great deal of expertise. It is essential that answering this is not solely left to those who operate an existing airport or benefit from doing business there. That is why I have appointed Daniel Moylan and given direction to TfL to conduct detailed work examining and developing potential solutions, building on their endeavours to date. To ensure the necessary rigour, I have authorised a total budget for this programme of up to £3,000,000. This money will be used to investigate and assess options, with the support of external expertise, and fully understand what could be gained from choosing to build a hub airport at a new location.

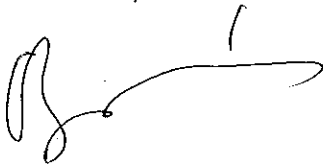
The Davies Commission is planning to examine options to a level of detail that would support subsequent preparation of an aviation National Policy Statement (NPS) and the undertaking of a Strategic Environmental Assessment. My work is therefore looking to develop options at shortlisted locations to a corresponding level of detail. This will require the development of options where costs, benefits and impacts (including necessary mitigations) are robustly and credibly understood.

Your investigation

In your letter to me, dated 14 December 2012, you identified four 'main questions' that you will seek to answer through your inquiry. I attach to this letter a summary of my position on these important issues. I would also like to direct you to my website, www.tfl.gov.uk/aviation, where I outline the principal reasons why London needs a new hub airport and where you can find the documents I have published over the last two years which set out in detail why I am so concerned about the matter.

Daniel Moylan, my aviation adviser, and Michèle Dix, Managing Director, TFL Planning, will be pleased to provide additional evidence to your inquiry at the public meeting scheduled for Wednesday 13 February. I wish the Committee a productive session and hope you can contribute to the informed debate on this issue of vital importance for London.

Yours ever,



Boris Johnson
Mayor of London

Enc.

Assembly Transport Committee, Main Questions:
Summary of the Mayoral position

A. What are the arguments for/against changing existing airport capacity. What is the evidence in support of these arguments?

Aviation connectivity is absolutely key to the economic prosperity of London and the UK. Connectivity with the rest of the world is an essential part of London's attraction. It provides the links that give British business access to valuable trade opportunities across the globe, paves the way for inward investment into the UK and enhances the quality, depth and flexibility of our labour market.

A hub airport plays a unique role in providing this connectivity. At a hub, point-to-point and transfer traffic combine to build a critical mass of demand that can support an increased range of routes and frequencies. Heathrow, the UK's only existing hub airport, accounts for 40% of all passengers flying to/from the UK – but 80% of those taking longhaul flights.

The number of destinations to which the UK needs to connect is increasing, as the emerging economies continue to develop, alongside more established markets. But Heathrow is effectively full. Routes to destinations in the UK and Europe have already been sacrificed, as airlines seek to maximise their return on a scarce resource. Slots change hands for tens of millions of pounds. Operating at 98.5% capacity also results in regular delays and leaves the airport with little resilience in the face of major disruption.

The need for substantial additional hub capacity is pressing. As an island nation we are dependent on aviation for most of our international connections. 80% of trips to and from the UK are made by air. 55% of UK manufactured exports outside the EU by value travel by air. Whether attracting people to London to invest, visit, work or study, aviation has a fundamental role to play. It has been estimated that capacity constraints at Heathrow already mean that we are losing out on trade worth £1bn per year with emerging markets alone. With London's economic success so closely tied to its aviation connections, the continued deterioration in our international connectivity relative to our competitors can be expected to have profound consequences.

B. What are the current levels of airport capacity and the current and future estimates of demand for aviation travel? What is the basis of these estimates?

UK-wide demand has grown by an average of 4.2% (6.5m passengers) per year for the last 20 years. Demand is forecast to continue to grow at a similar rate. According to the Department for Transport's 2011 forecasts, in a central, capacity unconstrained scenario, UK-wide demand will increase between 2010 and 2030 by an average of 2.5% per annum (or 6.7m passengers/year). From 2030 to 2050, demand will increase by an average of 2.3% per annum (or 8.75m passengers per year).

UK aviation demand trends; historic and (DfT) forecast

	<i>Actual average annual growth rate (AAGR) 1991-2011</i>		DfT (2011 unconstrained) forecast AAGR 2010-2030		DfT (2011 unconstrained) forecast AAGR 2030-2050	
	<i>Number of additional passengers/yr</i>	<i>% of UK growth</i>	<i>Number of additional passengers/yr</i>	<i>% growth</i>	<i>Number of additional passengers/yr</i>	<i>% growth</i>
UK-wide	<i>6.5m</i>	<i>4.2</i>	<i>6.7m</i>	<i>2.5</i>	<i>8.75m</i>	<i>2.3</i>

Assumptions upon a number of variables underpin these forecasts, including potential GDP, oil prices, the carbon price, fuel efficiency, the potential for videoconferencing to abstract from business demand, and macroeconomic scenarios.

In the context of the other forecasts, the DfT estimates appear conservative. Five forecasts from leading industry actors (Boeing, Airbus, ICAO, FAA, and Eurocontrol) have been reviewed. Although they report individually on varying global regions and with different metrics (and Boeing and Airbus could be accused of having a vested interest in them), all confirm that significant global growth in air transport is forecast in both the short and long-term. The table below sets these forecasts out.

Comparison of long-term aviation demand forecasts

	DfT 2011 Constrained			DfT 2011 Unconstrained			Euro-control (constrained)		Boeing				Airbus				FAA (US)			
	Passengers AAGR (%)			Passengers AAGR (%)			AAGR of IFR move- ments (%)		RPKs AAGR (%)				RPKs AAGR (%)				RPMs AAGR (%)			
	[from 2010]			[from 2010]			[from 2009]		[from 2011]				[from 2011]				[from 2011]			
Scenario	All UK: Low	All UK: Medium	All UK: High	All UK: Low	All UK: Medium	All UK: High	All UK 'most likely'	All Europe 'most likely'	All Europe	Intra-Europe	Europe - Asia Pacific	All World	Intra W Europe	W Europe - C Europe	W Europe - China	All World	All US	Intra-US	US - UK	US - Europe
2030	1.8	2.3	3.0	1.9	2.5	3.2	2.3	2.8	-	-	-	-	-	-	-	-	-	-	-	-
2031	-	-	-	-	-	-	-	-	4.1	3.5	5.7	5.0	3.1	5.6	5.7	4.7	-	-	-	-
2032	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1	2.5	3.6	3.8
2050	1.5	2.0	2.3	1.6	2.3	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

AAGR - Average Annual Growth Rate
IFR - Instrument Flight Rules

RPK - Revenue Passenger Kilometres
RPM - Revenue Passenger Miles

The Davies Commission is due to issue a technical note on demand forecasts in January 2013 inviting comments and representations from interested parties. Work recently undertaken by TfL indicated that a short third runway at Heathrow – as was proposed in 2008 – could accommodate a maximum of 25.5 million additional passengers per annum. This would imply that the DfT's 2011 forecasts would have to be reduced by around 75% in order for a three runway Heathrow to be capable of meeting 2050 hub airport demand forecasts.

It is not just demand for air travel, but the range of destinations to which people want to fly that is set to grow considerably in the coming years. Only an efficient new hub airport serving London will be able to consolidate the critical mass of demand which will enable airlines to offer the breadth of routes and frequencies required. This connectivity will allow London to continue to compete as a leading global city and remain a powerful engine of wealth and opportunity.

C. What are the options in the short, medium and long-term for addressing the issue of airport capacity?

The lack of hub capacity is already eroding UK connectivity. Twenty years ago, Heathrow offered the same number of destinations as Paris CDG (159 in 1993). By 2012, Heathrow had slipped to 156, while Paris CDG was serving 231 destinations – and both Frankfurt and Amsterdam each served more than 250.

The only long-term solution is to provide new hub capacity, in the form of a new hub airport able to serve the forecast 180mppa traffic by 2050 (though this can be built up in phases). Other options on the table which require new infrastructure, such as a third runway at Heathrow, are unable to provide the capacity required of a long-term solution and yet would only be one-to-three years faster to deliver.

It is imperative that we do not delay addressing the need for hub capacity. A new hub airport could be open by 2029 – and it is within the Government's power to accelerate this, not least by instructing the Davies Commission to report sooner than its current 2015 timetable.

What might be achievable in the short-term is limited by the planning and construction lead times associated with any significant infrastructure. Consideration of short-term options must not be allowed to become a costly distraction from solving the fundamental long-term lack of capacity. Furthermore, while there is a short- to medium-term need to mitigate the consequences of our failure as a nation to take the right strategic decision in recent decades, any decision on short-term measures can only reasonably be made following a decision on a long-term solution: the nature of that long-term strategy will substantially determine the shape of any short-term measure.

What is clear is that no credible sustainable short term capacity measure is to be found at Heathrow. The infrastructure entailed by a third runway, both at the airport itself and the associated surface access, and the planning hurdles to be overcome, make it barely faster to deliver than a brand new airport. Furthermore, it would be full on day one. Mixed mode would also require new infrastructure and would not release significant additional capacity. The adverse noise impacts on hundreds of thousands of Londoners of removing the half-day respite periods would be entirely disproportionate to its benefits.

In that context, growth at regional airports can and should be welcomed but this will not replace the need for a fully functioning London hub. Some non-hub airports could help serve a proportion of longhaul traffic, effectively 'spillover' routes and frequencies which cannot be accommodated at Heathrow. This could be supported by regulatory changes, such as selective liberalisation of traffic rights and a more efficient slot allocation regime. But we must remember that these are short-term stop gaps, not solutions, and they do nothing to address the fundamental need for new hub capacity and the significant connectivity benefits that would bring.

D. What issues need to be taken into account in relation to the options for addressing airport capacity?

For an issue so critical to the UK's future prosperity, it is vital that any option taken forward is fit for purpose. To that end, TfL has developed a draft set of criteria against which to assess the wide range of location options for new aviation capacity. These criteria have been devised with input from an independent panel of experts and are the subject of a public consultation (closing February 8), available through the TfL website, at <https://consultations.tfl.gov.uk/aviation/criteria>.

The draft criteria fall into six categories:

1. **Economic:** Maximising economic and social benefits
2. **Airport infrastructure:** Competitive, efficient, effective and safe, while meeting needs of airlines, passengers and freight
3. **Airspace:** Supports the effective and safe operation of the airspace
4. **Surface access:** Enabling passenger, staff and freight access from optimal catchment area, underpinned by a sustainable mode share
5. **Environmental:** Minimising the impact on local communities and the natural environment and ensuring compatibility with Government climate change commitments
6. **Deliverability:** Capable of being delivered and funded, representing value for money

The Committee's views on these criteria are extremely welcome. Following the consultation, the criteria will be finalised and applied to a longlist of airport location options. The resulting shortlisted options will then be considered in greater detail as part of my ongoing work and will in due course form part of my submission to the Davies Commission.

Medway Council -Submission to the London Assembly Transport Committee Inquiry into Airport Capacity

Medway Council's principal interest in the current aviation debate centres around proposals to build an airport in the Thames Estuary, proposals which follow a long line of similar proposals over the past sixty years to build an estuarine airport, all of which have been abandoned.

We believe that it is essential that the Government's aviation strategy must be based on practicality, affordability and common sense. We accept that to remain internationally competitive, the UK needs to increase aviation capacity now. Building an airport in the Thames estuary, however, would be a costly mistake - costly environmentally, costly for West London and costly for UK plc. Plans for an estuary airport have been made to look attractive by a number of well-designed presentations and smart sound bites, but behind the veneer is a proposal that is ill thought out, ill-conceived and unaffordable.

We welcome the opportunity to respond to the London Assembly's Transport Committee inquiry into the Government's aviation strategy. If you would like any further information please feel free to contact me on the contact details provided in our attached letter.

The Case against an Estuary Airport

The Government's objectives for future aviation policy must combine the need for the UK to remain competitive within the global economy with ensuring that air travel remains accessible for general consumers. Above all the Government's strategy must be based on practicality, affordability and common sense.

The Government should reject ill-thought out and ill-conceived plans to 'solve' Britain's capacity shortfall by building an airport in the Thames estuary, a plan without any known financial backing, poor connectivity, a disastrous environmental impact and with a disastrous impact on West London.

Britain faces a number of challenges in staying competitive in global aviation, most notably the present threat posed by Schiphol, Frankfurt and Charles De Gaulle Airports. Commentators agree that as a result of our competitors' growth and a decade of inactivity, the threat posed by other European airports is clear, present and very real. It is this threat that is central to the current debate and to why proposals for an airport in the Thames estuary are not the solution to helping the UK remain competitive.

To remain competitive, there is acceptance that the UK needs to increase capacity now and within the next five years, to take account of both the growth of our competitors and the "lost decade of inactivity". Recently Daniel Moylan, former Deputy Chair of TFL and adviser to Boris Johnson has claimed that an estuary airport could be built within four years, if there was 'enough political will.' These claims are idealistic at best and add little if anything of significance to the pressing debate.

Practicality

Best estimates suggest that an Estuary Airport could be built within fifteen to twenty years, stretching a lost decade to thirty. In thirty years it is highly probable that our competitors will have moved ahead of Heathrow as the premier European hub, making the UK not only uncompetitive in aviation, but also with negative knock on effects for UK PLC, in terms of potential loss of revenue and investment and the loss of at least one hundred thousand jobs in West London owing to the likely closure or at least downgrading of Heathrow Airport.

It is widely accepted that international tourists and businesses alike prefer (hub) airports to be located close to city centres so as to minimise their travel and transit time as far as possible.

The Mayor of London, in his recent speech on aviation has admitted that “surface access connections to [a new] airport are a fundamental part of its success” and that any new hub should therefore offer a journey time to central London “of ideally half an hour and no more than 45 minutes¹”.

Locating a new hub airport on the Hoo Peninsula or the Isle of Grain in the Thames estuary, as recent research by Tim Leunig² for the think tank Policy Exchange shows, would fail to meet any of these requirements as its “wrong location” means it would be “slow and expensive to get to”.

As Leunig highlights, an estuary airport would be accessible by public transport only from a relatively limited number of places. Indeed, current proposals of a 30-minute high speed service from St Pancras every 10 minutes, a 50-minute traditional service on existing tracks from other London stations every 30 minutes and tentative suggestions to build a £20bn semi-orbital railway running across the top of London down to Maidenhead do not offer a convincing solution to the core consideration of accessibility of any new hub airport, both in terms of costs and feasibility. In addition to the relative inconvenience of a limited number of (public transport) services, an additional consideration to take into account is the likely cost of rail fares to the new airport, currently estimated at more than £70 per ticket. Private journeys by car or cab, moreover, would also have serious implications for the already congested road network in the estuarine area.

The mouth of the Thames estuary is important to the UK’s energy supply, the proposed airport’s proximity to Thamesport, one of the UK’s busiest container ports which unloads one fifth of the UK’s liquid natural gas supplies and poses an inherent risk to a multi-runway airport with low flying aircraft in close proximity. We believe that the risks this presents should be assessed by an independent expert led inquiry before any decision on the construction of a new airport in the area are made.

The area is also home to the EON grain power station, a major investment that would be forced to close down by the construction of an Estuary Airport. Speaking at the opening of the site, the Energy Secretary Edward Davey MP stated that he believed that “airport strategy needs to take into account gas, so it will.”

The Government should consider the impact of aviation on the local environment and our commitment to reduce carbon emissions and continue to work with airport operators and airlines to reduce and mitigate the environmental impact and crucially the noise impacts. They must also work with industry to ensure that they take advantage of technological innovations and design advancements to reduce emissions. The environmental impact of aviation must be a key consideration in the Government’s aviation strategy and should be a strong factor when considering the feasibility of proposals to build a new hub airport in the Thames estuary. We are of the view that these proposals are incompatible with the UK’s environmental commitments on both national and international levels.

The mouth of the Thames estuary is a site listed under a myriad of international and national designations and special protection areas (*Globally - The Ramsar Convention, at a European level - The Habitats Directive (Special Areas of Conservation) and Birds Directive*) that the Government has committed to. Not only would each of the designations have to be broken in order for an airport in the Thames estuary to go ahead, the airport would also destroy the habitat for over 350,000 migrant birds that rely on the area for feeding and roosting during the winter. Many thousands more use the estuary as a stop-over as they fly south for the winter and before turning north again for the feeding grounds of the arctic.

Building an airport in the Thames estuary will not only have a negative environmental impact on the prospective site of a new airport, but more widely, would also destroy a significant amount of countryside

¹ http://www.london.gov.uk/media/press_releases_mayoral/mayor-tells-government-speed-aviation-timetable-or-risk-economic-stagnation

² <http://www.policyexchange.org.uk/publications/category/item/bigger-and-quieter-the-right-answer-for-aviation>

across Kent. The infrastructure required to build an airport in the estuary would lead to the removal of or significant effect on whole communities (approximately 40,000 people) all of whom would require new homes in the Medway area. On top of this, the airport is likely to employ approximately 70,000 people bringing new families to the region. Birmingham Airport's Head of Government Relations, John Morris claims "you would need a city the size of Manchester to support it in an area that already requires five new reservoirs"³. Housing required at such a significant level is simply not available in Medway. Currently the average number of houses built per year is approximately 750 and there is no evidence or viable solution that has been put forward to suggest where these people are likely to be housed.

The Climate Change Act 2008 committed the Government to a legally binding, long-term framework to tackle carbon emissions. This means a reduction of at least 34 percent in greenhouse gas emissions by 2020 and at least 80 percent by 2050. Any new airport at the suggested size and scale as the Thames estuary proposals is likely to have an effect on the UK's carbon emissions output. Figures from the Department for Transport (DfT) in their latest UK Aviation Forecast published in August 2011, outline that currently airports and the aviation sector CO₂ output is 34 MtCO₂ (approximately 5% of the UK's total carbon emissions) in 2010 and this is expected to rise to 48 MtCO₂ by 2030. WWF have suggested that an airport in the Thames estuary is likely to create the single biggest source of CO₂ in the UK, even bigger than Drax coal fired power station in Yorkshire.

The Government must make the environmental impact of aviation a key consideration when formulating any future strategy. Both airlines and airport operators have made significant progress on reducing the impact of environmental and noise considerations on existing airports, progress that should be applauded, progress that would be undone if an airport was constructed in the Thames Estuary.

Affordability

A number of commentators have repeated figures of an estimated £20bn for the proposed Foster & Partners' multi-runway Thames Hub airport on the Isle of Grain and an additional £30bn for the required infrastructure. Financial analysts, however, have questioned the accuracy of these estimates, particularly in light of the projected £9bn cost for only one new runway at Heathrow Airport.

A recent research study by Parsons Brinckerhoff Ltd summarises the cost assumptions as ranging between £40bn and £70bn for a Thames estuary airport, associated infrastructure and the building of a "multitude of new railways lines" connecting the airport to London, but warns that "even the £70bn being discussed is a conservative estimate". The Mayor of London himself has suggested that the construction cost of the airport would be closer to £80bn.⁴

Parsons Brinckerhoff Ltd point to historical evidence that "large UK infrastructure projects, much less technically complex than this, have suffered considerable cost overruns" - the Channel Tunnel, originally planned at £4.7bn, ultimately costing £9.5bn is only one example of that.

In addition, it is estimated that the planning for a Thames estuary airport would span a period of at least ten years. From a base figure of the estimated £20bn cost, adding 3 per cent construction cost inflation for that period would result in £600m annually increasing the cost of the airport to £26bn even before construction has started.

Analysts have further warned that current cost estimates fail to factor in the current amount of BAA's £12.5bn debt levels which are a result of the expansion at Heathrow Airport. Should Heathrow close, responsibility for

³ <http://www.travelweekly.co.uk/articles/2012/06/01/40657/aviation-experts-rubbish-thames-estuary-replacement-for.html>

⁴ http://www.london.gov.uk/media/press_releases/mayoral/mayor-tells-government-speed-aviation-timetable-or-risk-economic-stagnation

that debt will have to be assumed. Mike Redican of Deutsche Bank warns that it is likely that “the Government will have to fork out an awful lot of money to BAA and others as a closure cost of Heathrow”.

There seems to be widespread consensus that a large part of the required funding would have to be met by public – taxpayer – funding, particularly with a view to the connecting infrastructure investment necessary to support an estuarine airport.

In addition, while it is assumed that private investors will meet the cost of building a new airport in the Thames estuary, analysts have warned that private bond markets prefer safe and secure risks, guaranteed by public investment. Sovereign wealth funds dislike volatile yields and tend to invest in existing infrastructure and Chinese investment is likely to be forthcoming only if construction contracts can be secured for Chinese companies as a result. In addition, recently proposed, more detailed funding models have been denounced by aviation industry representatives.

Proposals to raise in excess of £15bn from landing charges at Heathrow between 2018 and 2028 and the redevelopment of the airport thereafter and offering a controlling equity stake to the Ferrovial-led consortium owner of Heathrow were described as “crazy” by International Airlines Group (IAG) Chief Executive, Willie Walsh. BAA Chief Executive, Colin Matthews, moreover, made clear that BAA’s parent had no interest in the idea of relinquishing the airport in exchange for a controlling stake in a new hub, stating that “to take an interest you have to think it is going to happen, and we don’t think it is going to happen”.

The high capital requirements mean that the financial viability for the project would be threatened if demand proved to be weaker than forecast, or if airlines and passengers simply did not use the airport. Evidence suggests that 90 per cent of airlines that are currently using Heathrow are opposed to an estuary airport and will be reluctant to fly there, arguing in part that they will want to retain their existing investment in Heathrow. This is added to forecasting showing that the financial viability of a new estuarine airport would likely depend on government intervention to try to ensure early take up of new capacity by passengers and airlines.

With little political power to direct aircraft to use any particular airport, encouraging airlines to leave Heathrow will be challenging – unless there is an overwhelming economic advantage in favour of a Thames estuary airport. Calculations to date, however, allow for the conclusion that airport charges in the Thames estuary would be even higher than those currently in place across other London airports and would therefore be not particularly attractive for airlines. Estimates are that landing charges per passenger at a Thames estuary airport could be as much as £60-70 per passenger, as compared to the current £15 landing fees at Heathrow.

Another aspect of this debate, as of yet not given enough consideration is the future of Heathrow, with most agreeing that the construction of a Thames Estuary airport would lead to the closure of Heathrow. Heathrow International provides a total of 114,000 jobs in the local area: one in five people across 9 local authorities in West London rely on the operation of Heathrow for their source of income, either through direct employment within the Airport boundary, through indirect employment with suppliers or because local expenditure of Heathrow employees supports a further 18,600 jobs.

The closure of Heathrow as a result of the construction of a new Thames estuary hub airport could mean that some boroughs will have more than a fifth of their population suddenly without a job. This must be taken into consideration by the Government and by the London Assembly.

Common sense

The proposals to build an airport in the Thames Estuary are simply not sensible. To remain competitive globally we need an airport that can be built in a timeframe that will allow us to remain competitive with our European rivals, that does not have a disastrous environmental impact, that will not require significant taxpayer subsidy and will attract airlines.

The proposals to build an estuary airport fail on each and every one of these criteria and are not a viable solution to the UK's future aviation needs.

More rational use of existing airport capacity

The Government must view the UK's airports as a group rather than a collection of single entities. London, for example, currently has six runways (located at five different airports), three of which are being underutilised. Before constructing any new airports or runways, these resources should be maximised.

It is impossible to deny that Heathrow, the UK's sole hub airport is currently approaching capacity and also impossible to deny that this is having a major impact on Heathrow's ability to accommodate flights to Brazil, India, Russia and in particular China.

However this is not the case for other airports throughout the UK, or indeed the capital's airports. Gatwick Airport is currently operating well below its capacity with Stansted operating with space for a further 17 million passenger per annum⁵. Luton Airport, which can be reached from London in a little over half an hour, has potential to accommodate an extra 11 million passenger per annum.

It should also be noted that Gatwick Airport has recently attracted a number of airlines from the emerging nations that will be pivotal to the UK remaining internationally competitive, Hong Kong Airlines, Air China and Korean Air are amongst those major airlines to commit to Gatwick Airport, disproving the view that airlines will not fly into the UK outside of Heathrow.

However, any new strategy from the Government must view the aviation sector as part of an integrated transport strategy, ensuring that airports such as Gatwick and Stansted are not constrained by poor rail connectivity.

It is clear that the UK's existing airports and runways could and should be used more efficiently to meet the challenges we face. Whilst Gatwick and Stansted Airports have significant spare capacity they are constrained by poor rail connectivity. The Government should, as a matter of urgency, review the rail links between London and Stansted and London and Gatwick; for example it currently it takes 53 minutes to get to Stansted Airport from Liverpool Street Station. A more dedicated and high speed service between London and these two airports would dramatically increase their connectivity and passenger numbers. Improving connectivity, especially with Stansted due to be sold by BAA, would greatly increase Gatwick's and Stansted's ability to play their role in a thriving UK aviation industry.

Expand the role of the UK's regional airports

With the debate focusing largely on the UK's hub capacity, there is a danger that the Government ignores a small, yet significant potential part of the solution, our regional airports.

Our regional airports are not a solution to the UK's hub capacity, but they do have a valuable role to play in the future of UK aviation. It is essential that regional airports are not ignored by the Davies Commission, owing to the more detailed discussions over hub capacity. Our regional airports have an enormous role to play in providing point to point services and a key objective of the Government's policy going forward must be to look at ways of supporting regional airports, potentially looking at measures to incentivise a broader spread of air travel, where practical throughout the UK. These measures could be as simple as improving rail and road connectivity and as challenging as reviewing air passenger duty (APD), to potentially introduce differing levels of APD.

⁵ [Kent County Council - Bold Steps for Aviation](https://shareweb.kent.gov.uk/Documents/News/Bold%20Steps%20for%20Aviation%20May%202012.pdf) -

<https://shareweb.kent.gov.uk/Documents/News/Bold%20Steps%20for%20Aviation%20May%202012.pdf>

It is also essential that aviation policy becomes a part of a much clearer and more integrated transport system, with an acceptance that rail and road policy is inextricably linked to aviation policy, for example, Gatwick and Stansted Airports are constrained by poor and inefficient rail links.

Manston Airport in Kent provides a clear example of the need for greater support for our regional airports. Recently, KLM Airlines announced that they would begin twice daily flights from Manston Airport to Schipol Airport⁶, highlighting the airports large catchment area. This catchment area is hindered by poor rail links, a constraint that could be easily solved by extending the high speed rail network, a solution that would bring Manston's spare capacity into play, potentially taking the strain of some point to point flights from London's busier airports.

The Government must also look to work with the larger regional airports outside of the South East, such as Birmingham International Airport and Manchester Airport to ensure that they can attract a wider range of flights, especially given the impact the High Speed 2 will have on connection times between Birmingham and London.

Conclusion

To remain competitive in global aviation, it is essential that action is taken both to increase capacity at UK airports and to ensure that measures are taken to ensure that existing airports operate to their full potential. We can increase capacity by twenty million through improving our rail infrastructure, a move that would free up valuable space at Heathrow for flights to emerging markets.

The Government must ensure that aviation policy becomes a part of a much clearer and more integrated transport system, a move that is highlighted by constraints placed on a number of our airports including Gatwick, Stansted and Manston.

During the aviation debate to date, a number of proposed solutions have been put forward, from a third runway at Heathrow, to a four runway airport at Stansted, to the proposals to construct a new hub airport in the Thames Estuary. The Davies Commission must view all of these proposals evenly and ensure that any future Aviation Policy is based on practicality, common sense and affordability.

⁶ <http://www.manstonairport.com/news-and-events/klm-announcement.html>

**London Assembly Transport Committee
Call for Evidence – Airport Capacity
January 2013**

Submission by NATS

1. Introduction

1.1 NATS is the UK's leading provider of air traffic management (ATM) services. NATS is licenced by the Civil Aviation Authority (CAA) as the monopoly provider of en-route air traffic services in the UK and the eastern North Atlantic. NATS also provides air traffic services at 15 UK airports through commercial contracts; in the London area these include Heathrow, Gatwick, Luton, Stansted and London City.

1.2 Airspace is a pillar of the UK's transport infrastructure – airports don't work without it. NATS seeks the most efficient use of airspace to maximise its use (capacity), minimise delay, minimise environmental impact (noise and CO2 emissions) and maximise flight efficiency (less fuel burn) while maintaining a high standard of safety. More efficient use of airspace and more efficient flights can help reduce the environmental impact to enable sustainable growth.

1.3 In 2011/12 NATS handled more than 2.2 million flights in UK airspace. This equates to around 6,000 flights per day, some 4,000 of them to and from the five main London airports, making the airspace in south-east England the most complex in the world.

1.4 NATS is also responsible for designing and implementing airspace changes, subject to CAA approval. This may involve a requirement for public consultation for proposed changes at lower levels.

1.5 Airports have historically expanded without strategic oversight or consideration of the airspace network. NATS has had to design and manage airspace on a reactive and incremental basis. This has had particular impact on the crowded airspace over the London airports.

1.6 The Civil Aviation Authority (CAA), together with the DfT, MOD and NATS has developed the Future Airspace Strategy (FAS) to provide the safest and most efficient airspace possible, aligned with European developments and technological changes, reducing the impact of aviation on the environment and balancing the needs of all airspace users. NATS fully espouses these aims.

1.7 Airspace should, therefore, be at the heart of the Government's Aviation Policy Framework (APF), which is expected to be published in March 2013. Fundamental changes to the UK airspace structure are a cornerstone of the FAS and while we note the Government's support for the strategy in the draft APF, we would like to see more emphasis to underline its importance in achieving Government aims for the sustainable development of the aviation sector.

1.8 NATS is currently in the early stages of developing the airspace design which will deliver our part of the FAS through two major design programmes in the north and the south of England; clear environmental parameters within the APF are crucial to that work.

1.9 Getting the environmental parameters for the APF right is, in our view, critical to future development through the FAS. Clarity, stability and predictability in the policy framework are clearly vital in underpinning the integrity of any future airspace change proposals.

1.10 With this kind of assurance, NATS can deliver benefits in line with Government ambitions, wherever the Government decides further airport capacity should be provided. Such assurance, though, is necessary because of the level of investment required in a period of uncertain economic strength and within the context of a new regulatory framework for ATM in Europe which has the potential to limit NATS' ability to deliver tangible benefits in the future.

1.11 NATS has unrivalled environmental credentials in establishing and managing innovative solutions to the environmental impacts of ATM; NATS was the first ATM provider to set targets for reducing CO2 emissions for aircraft under our control. We were also the first ATM provider in the world to devise a metric for measuring our environmental performance; this was introduced as part of our regulatory mechanism at the start of 2012 and we hope will provide a model for the rest of Europe and, potentially, further afield.

1.12 *Aviation Policy Framework:* NATS' response to the Government's consultation focused on the importance of clear guidance from Government, particularly with respect to environmental parameters, to enable best practice airspace management and design, and ATM procedures. The draft APF document specifically acknowledged the importance of airspace and the FAS to enable sustainable growth and we very much welcome that.

1.13 *The Davies Commission:* NATS welcomes the establishment of the independent Davies Commission to investigate options for ensuring appropriate hub capacity to support economic growth and to assure the UK's position as a leading global trading centre; and the intention that its interim report in late 2013 will address interim measures to address the south east airspace capacity pending development of future hub strategy.

1.14 The DfT has made it clear that the Commission will need to wait until the APF is published before it can make its own recommendations on hub capacity. NATS is also keen that while the APF must establish a clear framework and guidelines, it should be sufficiently flexible to accommodate various options for future change that may be recommended by the Davies Commission.

In response to the Committee's specific questions, NATS offers the following answers:

1. What are the arguments for and against changing existing airport capacity in London? What is the evidence in support of these arguments?

1.1 Runway capacity in the south east is currently insufficient to support demand. Additional runway capacity is required to promote hub connectivity, allow room for growth and improve operational resilience. Heathrow and Gatwick are the busiest dual and single runway airports in the world, by a large margin (see Appendix 1).

1.2 The only UK airport currently operating as a hub is Heathrow, which is scheduled to more than 98% of its capacity. At Heathrow this extremely high level of utilisation causes delay and a lack of resilience. We need a solution for the short/medium term as well as longer term. Heathrow accounts for more than 91% of CO2 emitted by aircraft in holds waiting to land; this is entirely due to lack of runway capacity.

1.3 If nothing changes then the current situation will worsen, meaning greater risk of delay and more airborne holding, and less resilience, as more pressure is brought to bear on already busy airports and airspace.

1.4 Adding a new airport would of course be feasible, albeit challenging, given the complex airspace interactions between a large number of airports within a small geographical area; and the very dense population in the region (see Appendix 2 and Appendix 3).

1.5 Adding another 4-runway airport in the south-east would have various implications, including impact on other airports in the area; it would also require entirely new flight paths, some of them at low level – not only affecting people in the vicinity of the new airport, but also those living under flight paths to/from other London airports, which would also be likely to have to change. This would obviously require significant consultation with local communities.

2. What are the options in the short, medium and long term for addressing the issue of airport capacity?

2.1 NATS fully supports the principle of making better use of existing airports. It is cheaper, quicker and more efficient than seeking brand new solutions and is in any case a basic requirement for an interim solution before any long term solution arising from the Davies Commission can be delivered.

2.2 Airspace changes in the medium term (to 2020) are a cornerstone of the FAS that will both improve performance and enable sustainable growth. NATS has developed a world-leading capability in making maximum use of constrained runway capacity in south-east England, but the full benefits of what could be delivered will only be realised through the infrastructure developments that will be considered by the Davies Commission.

2.3 NATS has fully supported, and committed considerable resource to, the trial of operational freedoms at Heathrow with the view to improving resilience in the short term and to supporting sustainable development in line with the FAS objectives.

2.4 A Government decision to build a new hub airport would be a long term plan requiring cross-party support to provide stability and predictability to generate the required investment. A new airport would also inevitably require further airspace redesign to support it. (See para 1.4 above.)

2.5 We welcome the Government's decision to appoint an Independent Commission, with cross-party support, to consider how to ensure the UK retains international hub status and connectivity. Airports don't work without the airspace to support them, so it is crucial that the Davies Commission keeps airspace at the core of its work. We will play a full part in supporting it.

2.6 Any new airport project in the south east is "do-able" in airspace terms should the Government decide to pursue any of the options currently being aired by a number of different development consortia. NATS has already responded to a number of enquiries setting out in very broad terms the scope of any feasibility study (which will obviously differ slightly depending on the proposal).

2.7 Any new airport (or runway) would require new flight paths at low level, requiring significant public consultation under CAA guidelines – not only with people in the vicinity of the new airport, but also those living under flight paths to/from other London airports, which would also be likely to have to change.

2.8 NATS has not conducted a detailed study into the impact of an estuary airport – because there are several different options, and because we have not to date been commissioned to do one. In our view, a comprehensive study would take around 18 months to complete and therefore carries a considerable cost. Modelling work to examine potential options would require certain assumptions as a starting point – e.g. closure of other airport(s) in the region.

- 2.9 In terms of an estuary airport, the airspace implications include:
- o Interactions with existing airports in this very busy corner of the UK: There would be implications for other airports, most notably London City, Southend, Stansted and Biggin Hill. A 4-runway estuary airport, in our expert view, could not operate in tandem with Heathrow if Heathrow remains the same size as today. This would need to be a replacement for Heathrow.
 - o Airspace redesign in Northern Europe due to the proximity to the borders of UK airspace: It is not simply a matter of shifting current traffic patterns to the east. The eastern boundary of UK airspace is an important factor. Belgian and Dutch airspace – and the proximity of airports such as Schiphol and Brussels – means that climb and descent profiles would be affected which requires international cooperation.
 - o Wind direction: The likely positioning of the airport and prevailing winds (with westerlies prevailing for 70% of the time) would lead to departures being consistently at a low level over London.

2.10 NATS has unrivalled expertise in safe and efficient airspace design and management and wherever the Davies Commission recommends providing

additional new runway capacity, NATS can build the supporting airspace infrastructure.

4. What issues need to be considered when assessing each option for addressing airport capacity?

4.1 In addition to those issues already set out above, an accepted balance of benefits is key to delivering successful airspace development, and achieving this balance means gauging their relative importance to a range of stakeholders.

4.2 For example, avoiding noise over a populated area will often involve lengthening a route to go around it, resulting in higher fuel burn and increased CO2 emissions (much like a ring road around a town will always be longer than a straight road through it).

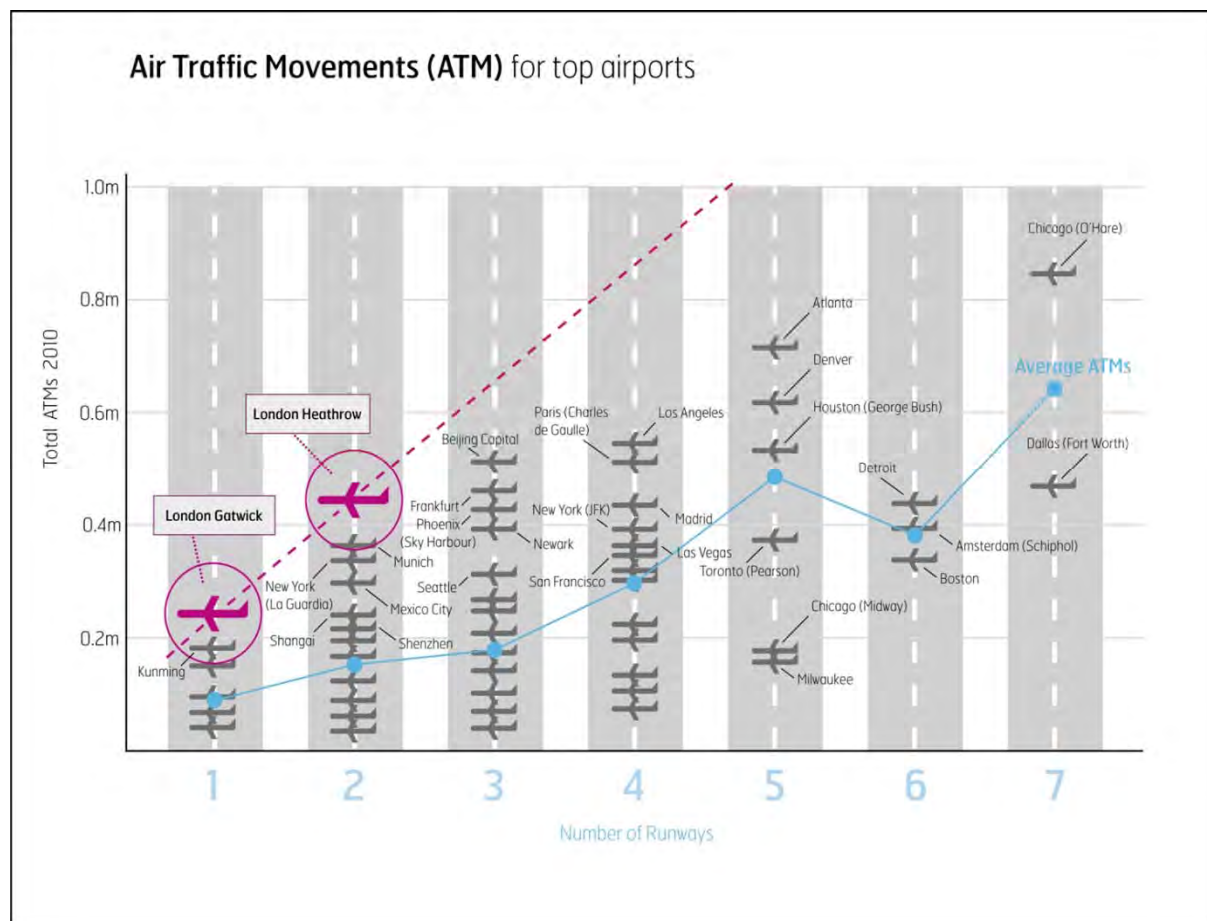
4.3 Consultation is an important means of assessing the relative importance of different impacts among a variety of stakeholders. It is also expensive and, in order to assure value for money and certainty for those people in the consultation areas, we need to know that changes can be for the long term. Consultation only happens once there are design proposals, so it is important to have clarity around relative priorities; the Government is currently reviewing its 2002 Environmental Guidance which we hope will provide this.

4.4 The FAS Deployment Plan will realise climate change benefits through major redevelopment of parts of the route network (in particular the South East and Manchester areas). An enabler for this redevelopment is the upgrade of all existing airspace structures to utilise modern RNAV navigation standards.

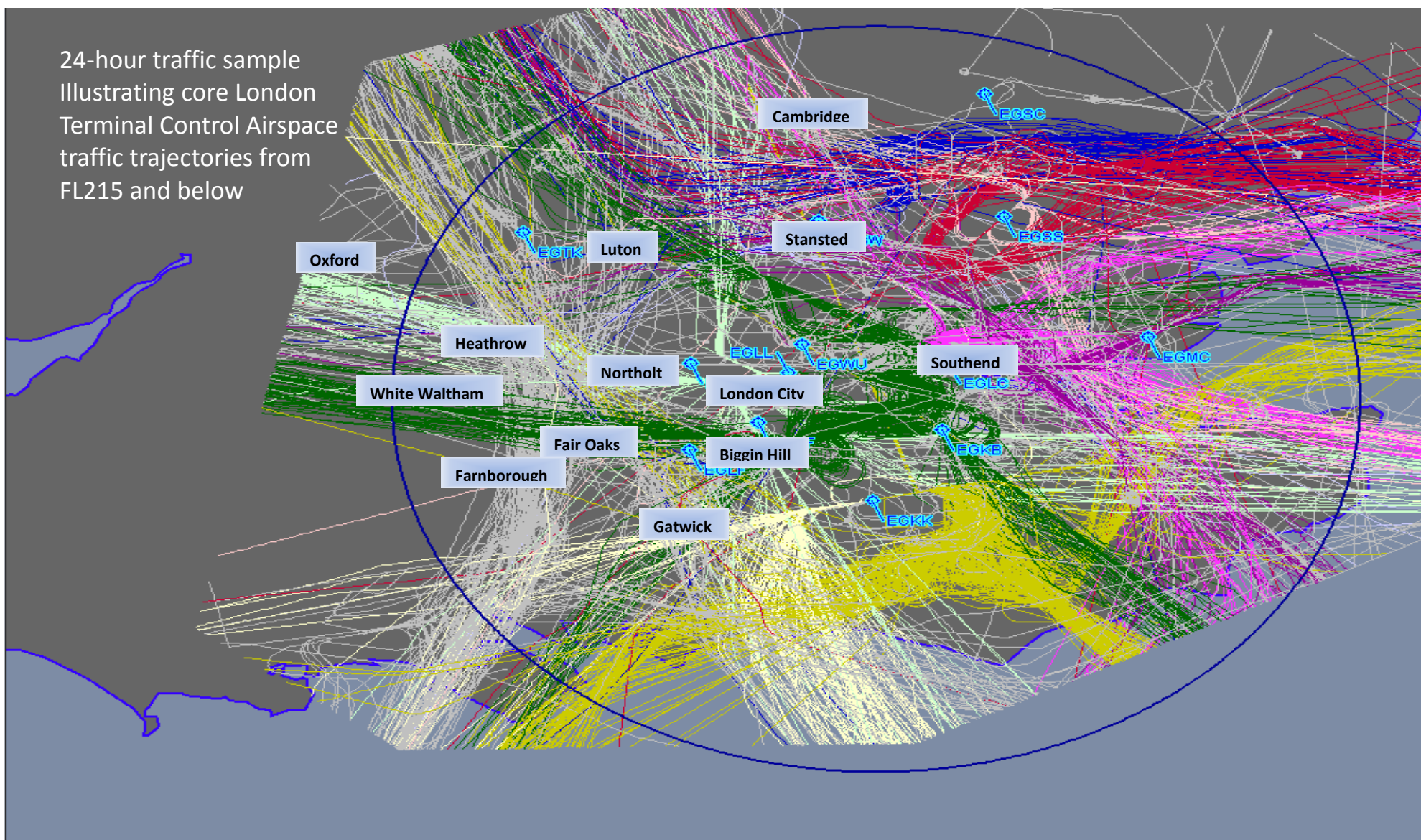
4.5 Sustainable Aviation (SA) Noise Roadmap: National initiatives still, however, have a place in the drive for CO2 efficiency and they need to be encouraged, incentivised (eg through sponsorship for research) and acknowledged. NATS is a founder member of Sustainable Aviation (SA), a unique cross-sector initiative to identify how ATM, aerospace, airports and airlines can work together to achieve efficiencies.

4.6 SA's CO2 Roadmap, setting out the long term strategy of the aviation industry to drive down carbon emissions out to 2050, has been well received by stakeholders including Government, recognizing that this is a robust cross-industry approach to producing workable and deliverable solutions. SA is now developing a similar Noise Roadmap to define the industry's view of the future noise environment around airports. It is addressing potential improvements in noise across five workstreams - technology, operational improvements, operating restrictions, communication and community engagement and land use planning. The Roadmap is expected to be published early in 2013 in time to inform the Government's final APF document.

Appendix 1



Appendix 2



Appendix 3:

Figure 1

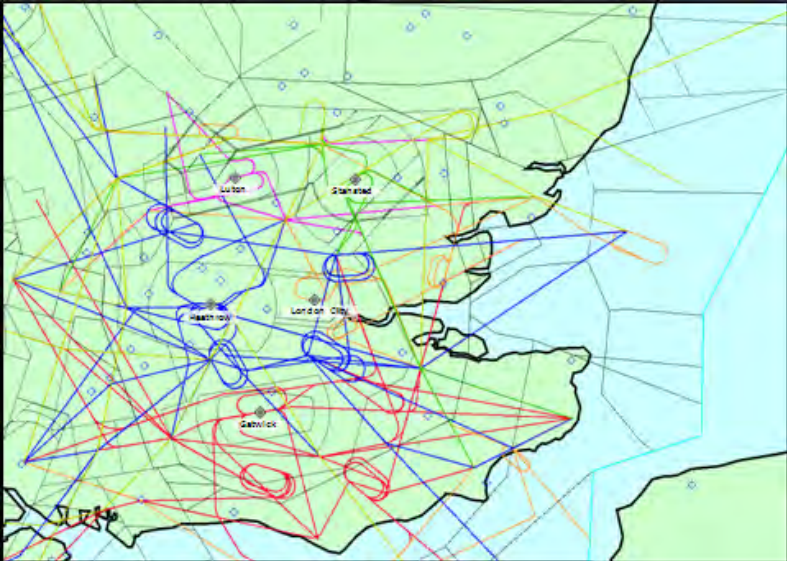


Figure 2

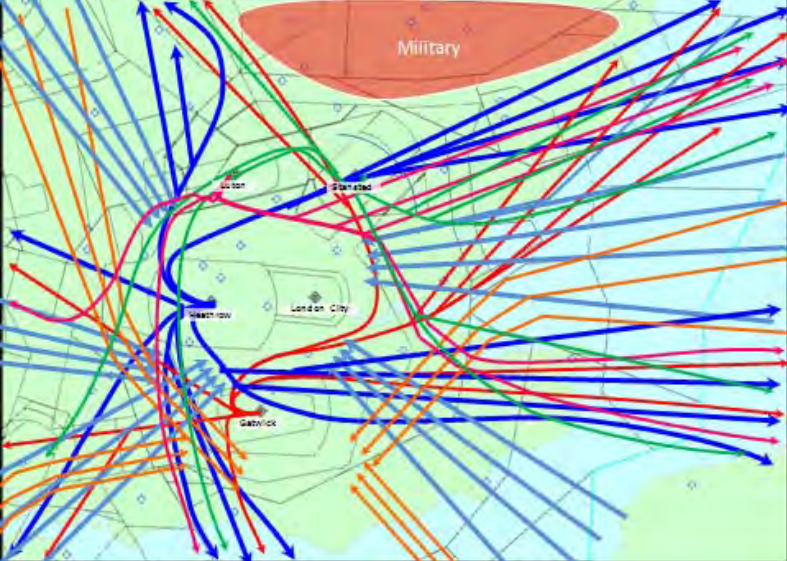


Figure 3

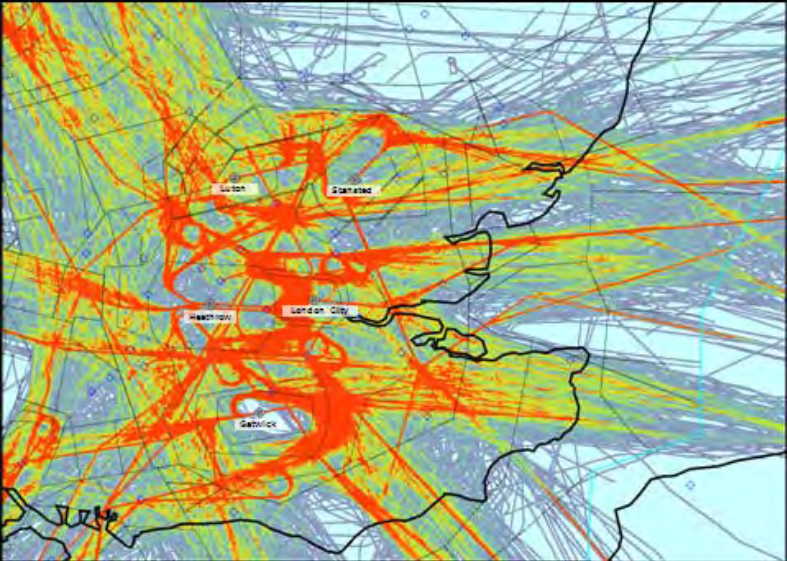
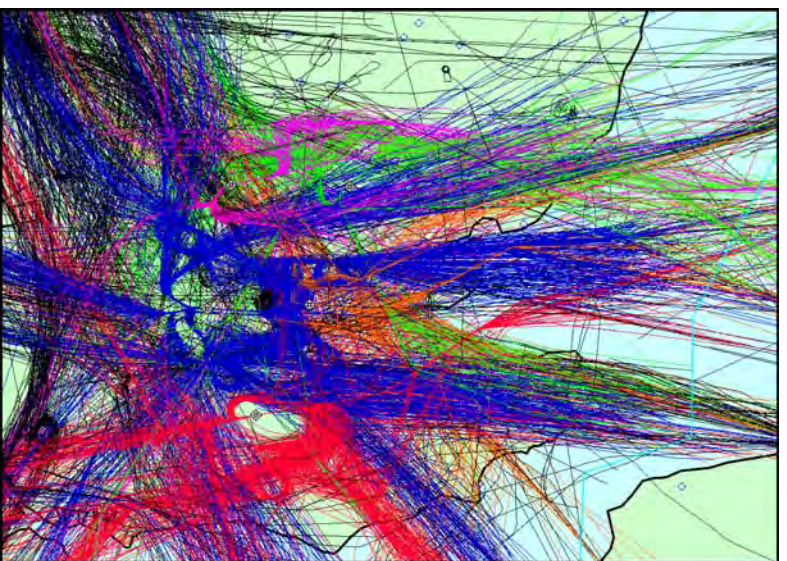


Figure 4



Key to Figures 1-4

Figure 1 Figure 1 shows the Standard Instrument Departures (SIDs), Standard Arrival Routes (STARs) and hold locations for airports in the south east. <table> <tr> <td>Heathrow</td><td>Blue</td></tr> <tr> <td>Gatwick</td><td>Red</td></tr> <tr> <td>Stansted</td><td>Green</td></tr> <tr> <td>Luton</td><td>Pink</td></tr> <tr> <td>London City</td><td>Orange</td></tr> </table>	Heathrow	Blue	Gatwick	Red	Stansted	Green	Luton	Pink	London City	Orange	Figure 3 Figure 3 shows the trajectory of flights departing from airports in the south east of England, using a density heat map. Reds and yellows show areas with high densities of flights.										
Heathrow	Blue																				
Gatwick	Red																				
Stansted	Green																				
Luton	Pink																				
London City	Orange																				
Figure 2 Figure 2 shows the partial schematic of flows of aircraft to/from airports in the south east of England <table> <tr> <td>Heathrow</td><td>Arrivals: light blue Departures: dark blue</td></tr> <tr> <td>Gatwick</td><td>Arrivals: Orange Departures: Red</td></tr> <tr> <td>Stansted</td><td>Arrivals not shown Departures: Green</td></tr> <tr> <td>Luton</td><td>Arrivals not shown Departures: Pink</td></tr> </table> NB aircraft flows from London City are not shown.	Heathrow	Arrivals: light blue Departures: dark blue	Gatwick	Arrivals: Orange Departures: Red	Stansted	Arrivals not shown Departures: Green	Luton	Arrivals not shown Departures: Pink	Figure 4 Figure 4 shows the trajectory of flights flying 25,000ft and below. They are classified by the airport they are arriving/departing in the south east of England. <table> <tr> <td>Heathrow</td><td>Blue</td></tr> <tr> <td>Gatwick</td><td>Red</td></tr> <tr> <td>Stansted</td><td>Green</td></tr> <tr> <td>Luton</td><td>Pink</td></tr> <tr> <td>London City</td><td>Orange</td></tr> <tr> <td>Other airports, including military</td><td>Black</td></tr> </table>	Heathrow	Blue	Gatwick	Red	Stansted	Green	Luton	Pink	London City	Orange	Other airports, including military	Black
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Heathrow	Blue																				
Gatwick	Red																				
Stansted	Green																				
Luton	Pink																				
London City	Orange																				
Other airports, including military	Black																				

Points to note:

The data behind these images was taken on one day, 5 August 2011, a typical all-westerly day. Prevailing winds in the UK are from the west about 70% of the time. Aircraft generally take-off and land into the wind. Other westerly days will generally be similar but never identical.

For an all-easterly day, the trajectory patterns (Figure 4) will be different closer to the airports, as aircraft are taking off from the opposite direction, but will become similar to the westerly pattern the higher/further away they are.

The patterns would further differ depending on the combination of easterly and/or westerly runways in use at each individual airport, as flow interactions change, and move geographically and vertically. It is important to note that aircraft fly at different heights, which is not easy to demonstrate on paper without multiple height “slices”.

KEY TO DATA

05 Aug 2011 (All traffic 25,000ft and below) – this is a Westerly day

1st chart: Amsterdam and Brussels traffic isolated from all other traffic

2nd chart: Amsterdam and Brussels traffic highlighted within all other traffic

Arrivals to Amsterdam from all departure points	Pink	(86 flights)
Departures from Amsterdam to all arrival points	Green	(68 flights)
Arrivals to Brussels from all departure points	Blue	(36 flights)
Departures from Brussels to all arrival points	Orange	(37 flights)
All other flights (2 nd chart only)	Grey	

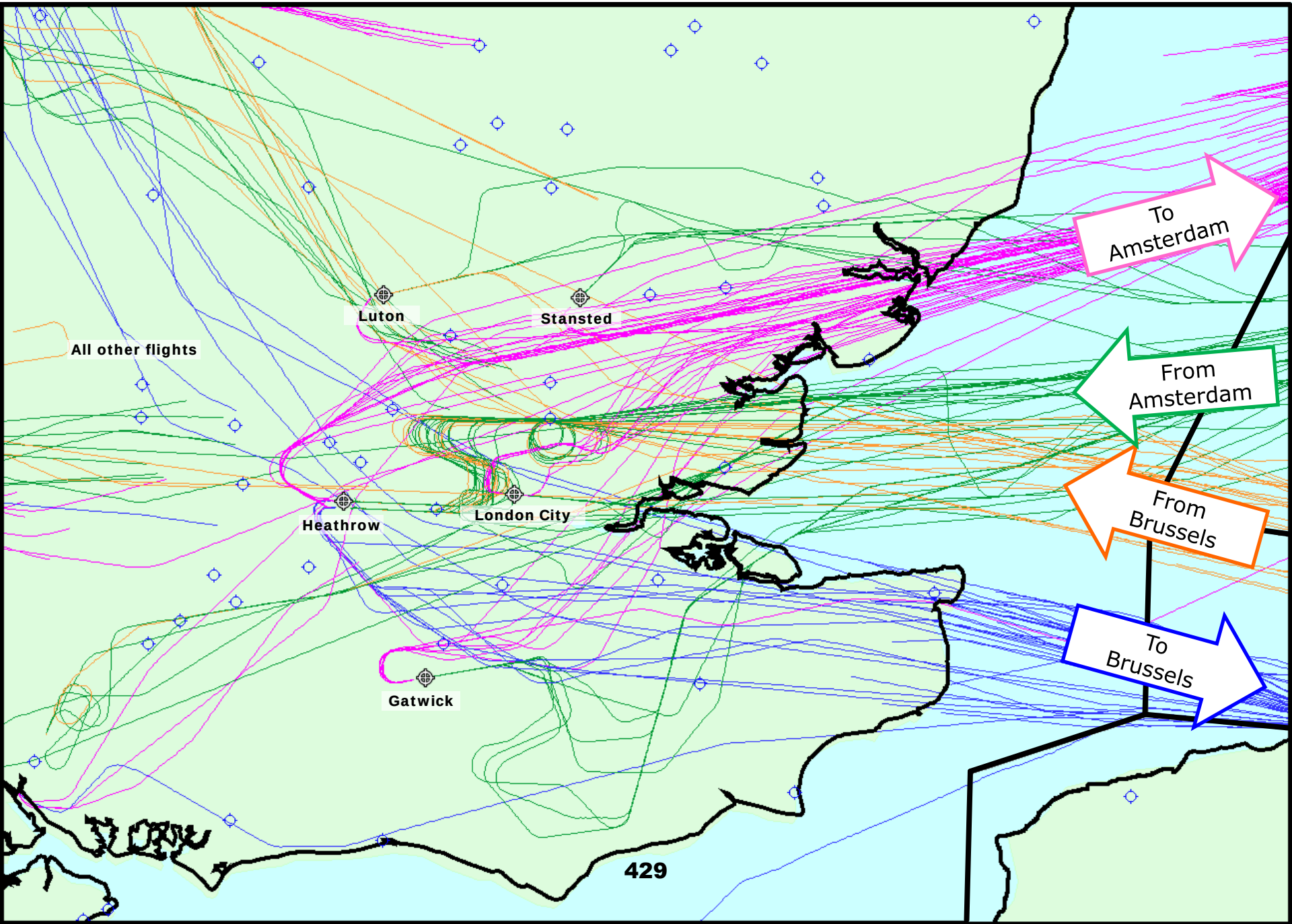
NOTES

These highlights are for the individual airports AMS (EHAM) and BRU (EBBR), **not** for traffic to/from other nearby airports that may serve the same cities

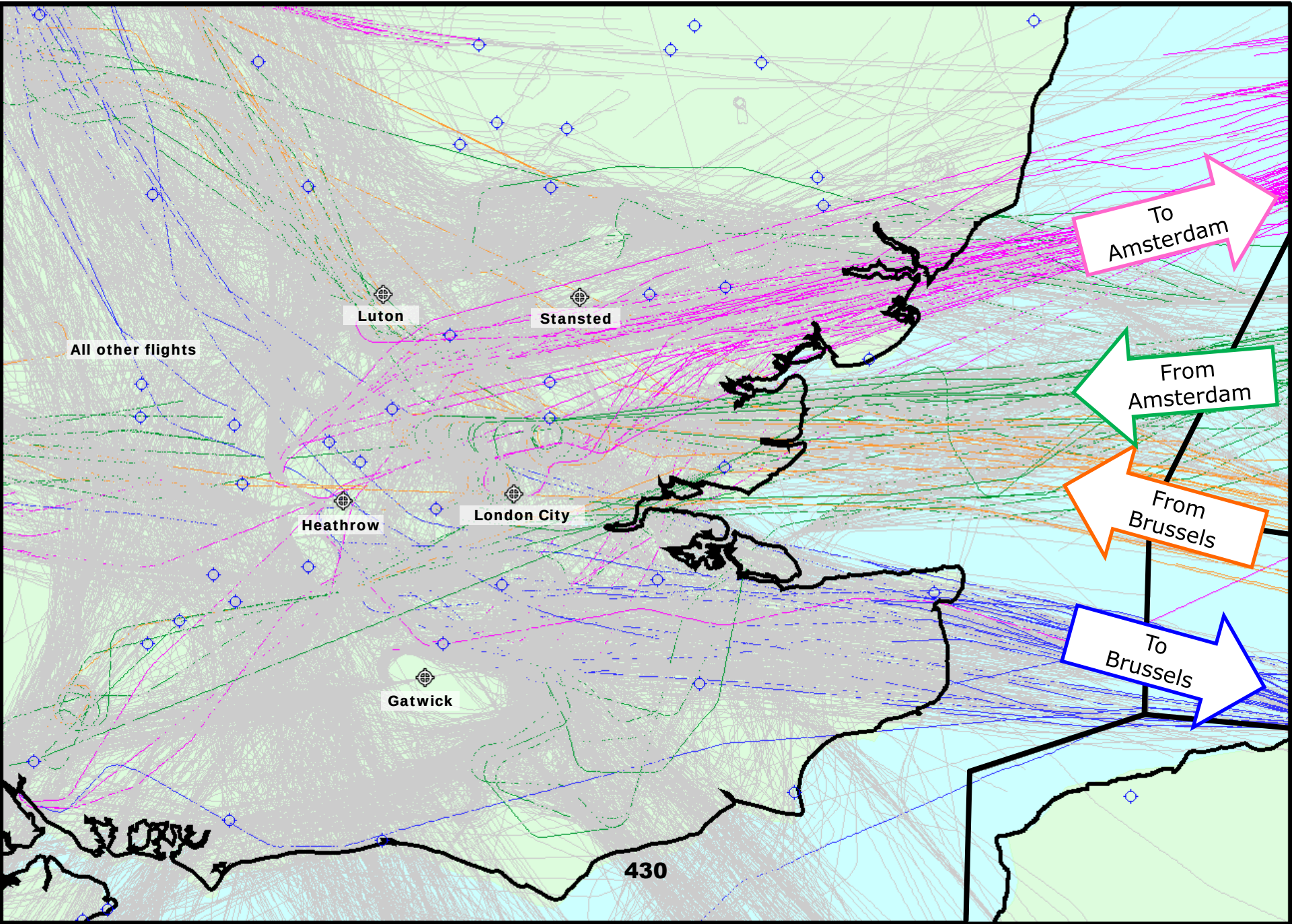
The traffic to/from AMS/BRU serves **all** destinations, not just the LTMA (e.g. other UK, USA, Eire...)

“Gaps” in some tracks (e.g. tracks on the west side of the chart) are caused by traffic climbing above 25,000ft (not shown) and then descending (shown again on passing 25,000ft)

05 Aug 2011 (Isolated AMS and BRU traffic 25,000ft and below)



05 Aug 2011 (All traffic 25,000ft and below, AMS and BRU flows highlighted)



KEY TO DATA: 3rd Chart based on TSC “Fig 4”

This chart discards the colour code for the previous two slides and shows LTMA “colours” as priority over AMS/BRU colours, i.e. the same colours as used in the Transport Select Committee’s “Fig 4”.

The monochrome arrows show the AMS and BRU flows against the following colour scheme:

Heathrow arrivals light blue, departures dark blue

Gatwick arrivals light red, departures dark red

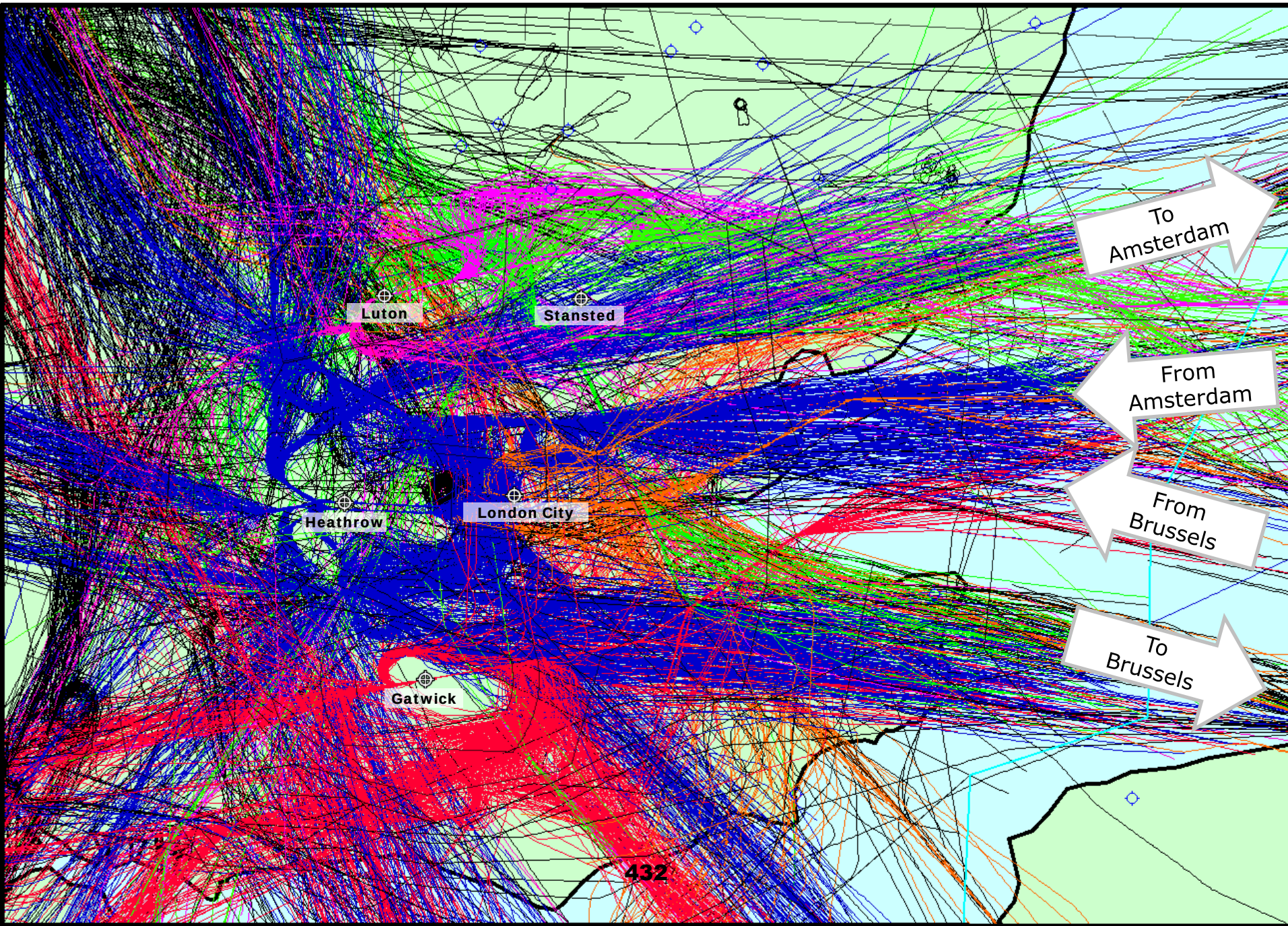
Stansted arrivals light green, departures dark green

Luton arrivals magenta, departures purple

London City arrivals light orange, departures brown

All other flights in dark grey

05 Aug 2011 (All traffic 25,000ft and below, AMS and BRU flows highlighted)



Note of Transport Committee's site visit to National Air Traffic Services (NATS) centre at Swanwick on 21 February 2013

Present:

- Transport Committee Members: Caroline Pidgeon AM; Jennette Arnold AM; Victoria Borwick AM; Tom Copley AM; Darren Johnson AM; and Richard Tracey AM.
- London Assembly staff: Laura Warren and Katie Smith.
- NATS staff including: Juliet Kennedy; Paul Haskins; Simon Hocquard; and Jane Johnston.

Overview of site visit:

The site visit comprised presentations from NATS on the current and future management of airspace over London and the South East, and tours of the London Area Control Centre and London Terminal Control Centre to see air traffic controllers at work.

The remainder of this note sets out some of the main points covered during the site visit.

1. Current management of airspace over London and the South East

- NATS provides air traffic management services at 15 airports in the UK including the five main London airports (Heathrow, Gatwick, Stansted, Luton and London City). NATS was privatised 12 years ago. It is part owned by the Government (49 per cent), airlines (42 per cent), Heathrow Airport Ltd (4 per cent) and its employees (5 per cent). It has both an economically regulated business and a commercial business with a total of around 4500 staff.
- Safety is the main priority for NATS. It has realised improvements in recent years with the number of risk-bearing airprox reducing from 8 in 2002 to none in the period 2008-12.
- NATS handles around two million flights per year with the Swanwick Centre handling an average 5000 flights per day. The Swanwick Centre includes the London Area Control Centre, the London Terminal Control Centre and the London Air Traffic Control Centre (Military). NATS operates another centre at Prestwick covering airspace in the north.
- The London Terminal Control covers the airspace from the southern Midlands to the south coast of England. The London airspace is unique because it is a small amount of airspace with many airports.
- Aeroplanes land and depart into the wind so aircraft using all the different London airports interact e.g. the 45 aircraft per hour flying into Heathrow will interact with the 18 aircraft flying out of London City airport. Most runways at London airports provide for aircraft to take off in a westerly direction but Stansted has a different runway orientation which adds further complexity. The interaction between the airports means that no one airport in London can be treated in isolation.
- Air traffic controllers have to position air traffic so they maintain a minimum distance apart horizontally (3 miles) or 1000ft vertically. This can be affected by many factors including the type of aircraft; some airplanes are able to ascend more quickly or fly faster than others. Bad weather such as fog is also an issue where NATS has to work to "low visibility procedures" which means spacing between aircraft is increased to as much as 4-5 miles so an aircraft can land and clear the runway before a following aircraft is given landing clearance.
- Heathrow is so busy that any changes in usual flights due to bad weather etc can lead to delays. These delays can build up in a domino effect and can only be resolved by taking some flights out of the planned rotation. Each aeroplane has to fly with a plan for an alternative destination and sufficient fuel to get there in the event of an unexpected issue.
- NATS cannot prioritise planes and has to serve aircraft on a 'first come, first serve' basis. It will use holding stacks (aeroplanes circling near airports) at busy periods of the day to help manage air traffic.

2. Future management of airspace over London and the South East

- NATS is planning changes to the use of airspace in future. It is aiming for improvements in flight trajectories to reduce delays, lessen noise and other environmental issues, enhance safety and cater for more air traffic. This is part of the wider single European Sky Programme. In future, the aim is to reduce holding stacks. These are caused when there are more aircraft waiting to land than the runway can accommodate. Aircraft are only measured on the basis of when they depart rather than when they arrive so airlines can turn up early or late at airports without penalty which increases the likelihood of them having to queue in the stack. In America, a different approach is now being taken so it is important for airlines to meet both planned arrival and departure times.
- NATS is doing work on the future use of airspace in advance of the independent Airports Commission's findings on any need for more runway capacity because any new runway capacity will not be delivered for many years.
- NATS has not been requested to look in detail at any of the proposals for new runway capacity. It has identified that capacity exists at airports such as Stansted and Luton but the demand to travel from these airports is less than at Heathrow. Heathrow is popular because of its connectivity.
- NATS would suggest that it is more economical to add to an existing airport than create a new airport elsewhere because a new airport would require complete redrawing of airspace to serve it, but in principle it could be done. There is no problem with airspace capacity but there is a need to address runway capacity because Heathrow is full.
- NATS has been doing an analysis of the operation freedoms trial at Heathrow which has provided for different use of its runways. NATS is providing data to Heathrow Airport Ltd on this trial. Changes in the use of airspace close to Heathrow are a matter for the airport to consult on. NATS is only required to consult on changes in use of airspace generally above 4,000 ft.
- NATS has identified airspace issues in relation to building a new airport in the Thames Estuary. This proposal would mean four runways in an east to west direction and because of prevailing westerly winds and aircraft having to fly into the wind all departing aeroplanes would have to fly in a direction over London. To accommodate this with the existing air traffic from other London airports, these aircraft would need to fly at a low level over central London. The alternative options are for aircraft using an airport in the Thames Estuary to fly north or south around central London but this would mean longer journeys resulting in more fuel use and increased carbon emissions.
- NATS has also identified a new airport in the Thames Estuary would have European airspace implications given the eastern border of UK airspace. This relates to neighbouring French, Belgium and Dutch airspace boundaries particularly. The proximity of airports such as Schiphol and Brussels means that climb and descent profiles of aircraft would be affected which would require international cooperation for changes in the use of airspace. NATS can provide a map showing the flights from Schiphol and Brussels to show this issue.
- Airspace is only one issue in relation to the debate on increasing airport capacity. A key issue is where people want to fly from. Today the most popular airport is Heathrow although this could change in future. A hub airport gives passengers many more choices. There are examples from abroad where a new airport has been built and successfully operated e.g. Bangkok but this has depended on closing an existing airport.

London Assembly Transport Committee Investigation: Airport Capacity in London Submission from NetJets Europe

1. Summary

1.1 NetJets Europe welcomes the London Assembly Transport Committee's investigation into aviation capacity in London. We are pleased to set out in this submission our responses to the topics where we believe we can offer the most helpful view to the Committee. We would be pleased to provide further details.

1.2 We believe that the Committee should reference the following in its submission to the Airports Commission:

- The primary objective of aviation policy should be to achieve sustainable, long-term economic growth.
- Maintaining and growing London's connectivity is essential for businesses accessing key markets.
- Business aviation plays a vital role in complementing the scheduled network in London.
- Destinations must be connected by air transport links in a way that is convenient for the user.
- Any proposals to limit access to smaller aircraft at the busiest airports in London must take account of the crucial economic role of business aviation in supporting connectivity.

Background

1.3 NetJets Europe was founded in 1996 and today is the leading business aviation company in Europe.

1.4 With around 130 aircraft, NetJets Europe operates four times as many aircraft as the next largest business aviation company and flies to thousands of airports around the world.

1.5 Business clients make up around 80% of our customer base, with NetJets Europe customers including CEOs of FTSE 100 companies.

1.6 Business aviation supports London's economic growth by facilitating transport links for business leaders, helping maintain the capital's competitiveness.

2. Introduction

2.1 As the name implies, and as published in a recent report by Oxford Economics, "business aviation is devoted to the needs of commerce" and is predominately used by business leaders who are helping to drive economic growth.¹

2.2 Business aviation plays a unique and complementary role in servicing demand and connecting London to destinations that are not commercially viable for scheduled carriers. As the Mayor has recognised, business travel helps London attract £52bn in foreign direct investment each year.² As such, we call on the Committee to highlight

¹ Oxford Economics: *The Role of Business Aviation in the European Economy* (October 2012)

² Section 2.2 of the Mayor of London's Response to the Draft Aviation Policy Framework (October 2012)

business aviation's unique attributes and features in its response to the Airports Commission.

- 2.3** The Committee's response to the Airports Commission should consider the unique role of business aviation, which is often overlooked in the aviation debate. Indeed, it is frequently grouped together with 'general aviation', which represents more than 90% of the civil aircraft registered in the country³, and includes flights taken on leisure aircraft.

3. Existing capacity in London (question one)

- 3.1** As has been widely acknowledged, London remains an internationally competitive finance and business centre, partially because of its excellent connectivity. It is also the most dynamic region of the UK's economy, accounting for more than one fifth of the country's Gross Value Added.⁴ Business aviation plays a crucial role in enhancing connectivity by filling in the gaps left by the scheduled network. Business aviation users typically fly to and from London for commercial reasons, which helps drive economic growth. While finding a long-term solution to the capacity crunch is vital in order to maintain the Capital's global competitiveness, any reforms must not impact on the ability of business aviation operators to access airports in London.

4. Current levels of airport capacity in London (question two)

- 4.1** London is a vital centre for business aviation users. NetJets Europe makes nearly 12,000 flights per year to and from airports serving London (on average, 2004 – 2011), primarily to smaller airports.
- 4.2** Within London, NetJets Europe makes significant use of smaller airports where possible. From 2004 -2011, NetJets Europe operated on average 2,700 annual flights to and from Northolt, while the corresponding figure was 1,200 for Biggin Hill. However, for business aviation users in London, who are likely to be key decision-makers on high value-added trips, continued access to London City Airport and London Luton Airport remains crucial.
- 4.3** As important business aviation facilities, NetJets Europe's clients would oppose any proposals that would restrict access at Northolt, London City and London Luton airports. In particular we are concerned about suggestions that RAF Northolt could be closed to business aviation and used as a satellite airport for Heathrow. RAF Northolt is an important airport for business aviation access to London, currently accounting for some 10% of business aviation movements into and out of London. Furthermore prospects for business aviation growth at other London airports are likely to be limited as London City and Luton are coordinated airports and Farnborough is subject to a movements cap. As well as reducing already limited business aviation access to London, we believe this proposal faces insurmountable operational and logistical challenges.

5. How should we make the best use of existing aviation capacity (question three)?

- 5.1** As is widely acknowledged, the UK faces a medium to long-term capacity challenge, particularly in London and the South East. Consequently, opportunities in the short term

³ According to the British Business and General Aviation Association (BBGA)

⁴ Section 1 of the Mayor of London's response to the Sustainable Aviation Framework Scoping Document (Oct 2011)

to introduce new direct routes to growing markets may be severely limited. While such destinations could be accessed indirectly through other hubs, this would involve time and flexibility penalties; as a result, the complementary service offered to the scheduled routes by business aviation is likely to be even more crucial if London is to maintain the business connectivity it needs.

- 5.2** The recent growth in business aviation flights to emerging markets demonstrates the potential for business aviation to facilitate both inward and outward investment, as well as the export opportunities that the rebalancing of the London and wider UK economy demands.⁵
- 5.3** Business aviation passengers often use companies like NetJets Europe because of the ability to avoid congested airports and the flexibility enjoyed by the user. This is an excellent example of where business aviation differs significantly in its business model from commercial aviation, which serves a distinct market based on scheduled flights. However, NetJets Europe is concerned by the Mayor's assertion that business aviation is "more transferable to smaller airports than commercial aviation".⁶ While business aviation clients often make use of regional facilities, they also place a premium on flexibility which includes the need for continued access to congested airports.

6. What issues need to be taken into account when assessing each option for addressing airport capacity (question four)?

- 6.1** NetJets Europe agrees with the Mayor that "aviation is central to the capital's economy".⁷ The economic contribution of business aviation must be considered before short and long-term solutions to the capacity crunch are finalised. For instance, a 2012 Oxford Economics study found that each passenger flown on a business aviation flight generates the same economic benefit as nine business passengers on a scheduled flight.⁸
- 6.2** While we are pleased the Committee highlighted the importance of connectivity to London's economy in its terms of reference, we urge the Committee to consider the vital link between connectivity and flexibility. London's business aviation users must be connected by links that are convenient for the user.
- 6.3** For business aviation users, *flexibility* and *responsiveness* are vital, and in many instances a business necessity. As a 2012 report by Mergermarket found, approximately two-thirds of executives believe that face-to-face meetings are crucial in completing M&A deals.⁹ Business aviation plays a crucial role in maintaining and enhancing UK business connectivity, by complementing the scheduled network. As Oxford Economics noted, users are able to fly multi-legged journeys that are either not covered by the scheduled network or would require unacceptable delays between trips.¹⁰
- 6.4** This degree of flexibility makes business aviation very different from the scheduled network. As Oxford Economics found, the scheduled network provides "thick connectivity", based on economies of scale and concentrated at major cities, while

⁵ Oxford Economics: *The Role of Business Aviation in the European Economy* (October 2012)

⁶ Section 28 of the Mayor of London's Response to the Sustainable Aviation Framework Scoping Document (Oct 2011)

⁷ Page 2 of the London Assembly Transport Committee's terms of reference

⁸ Oxford Economics: *The Role of Business Aviation in the European Economy* (October 2012)

⁹ Mergermarket: *Doing the Deal* (2012)

¹⁰ Oxford Economics: *The Role of Business Aviation in the European Economy* (October 2012)

business aviation offers “thin connectivity”, carrying a low volume of passengers between a much larger number of destinations.¹¹

6.5 The importance of this “thin connectivity” is highlighted by the fact that, in 2011, business aviation connected 88,800 European city pairs. Of these 88,800 city pairs, 96% do not have a daily scheduled connection.¹² This contrasts with the 360 international destinations served from the UK by scheduled airlines as noted in the framework.¹³

6.6 As the Committee will be aware, access to congested airports is regulated through the European Commission and a revision of the existing regulation is currently taking place.

6.7 Historically, business aviation has been the first to be excluded from airports when capacity becomes tight. Given the importance of London as a leading market for business aviation within the EU, NetJets Europe believes that the Committee should encourage the UK Government to work with other Member States to ensure fair competition between commercial carriers and business aviation for access to congested airports.

7. Economic benefits of business aviation

7.1 NetJets Europe agrees with the Mayor’s assertion that the London economy is “uniquely reliant on the aviation sector”.¹⁴ As such, we have included an additional section on the economic benefits of business aviation.

7.2 The economic impact of the aviation sector is increasingly understood by policymakers. According to the draft aviation framework, the sector contributes £17billion of economic output and employs 220,000 people directly.¹⁵ However, the significant economic contribution of business aviation is often less understood. A PricewaterhouseCoopers study into the direct contribution of business aviation to the European economy found that, in the UK, business aviation generates €4.2bn of Gross Value Added (GVA), and supports almost 50,000 full-time jobs.¹⁶

7.3 As the Mayor acknowledges, economic growth is increasingly dependent on links to emerging markets and business aviation does and can continue to help in achieving enhanced access to markets and new business opportunities across the globe.¹⁷ In 2011, there were almost 49,000 business aviation flights between Europe and emerging economies outside Europe.¹⁸

7.4 Business aviation operations play a crucial role in driving demand in a much wider set of activities, including maintenance, research and development, training services and hospitality. For example, at TAG Farnborough Airport in the UK, direct on-site employment is estimated at around 1,000, but an additional 4,000 jobs in the local area are part of the airport’s wider supply chain.

¹¹ Oxford Economics: *The Role of Business Aviation in the European Economy* (October 2012)

¹² Oxford Economics: *The Role of Business Aviation in the European Economy* (October 2012)

¹³ Section 2.17 of the draft aviation framework

¹⁴ Section 1 of the Mayor of London’s Response to the Sustainable Aviation Framework Scoping Document (Oct 2011)

¹⁵ Section 1.8 of the draft aviation framework

¹⁶ PricewaterhouseCoopers: *The Economic Impact of Business Aviation in Europe* (2008)

¹⁷ Section 2.3 of the Mayor of London’s Response to the Draft Aviation Policy Framework (October 2012)

¹⁸ Oxford Economics: *The Role of Business Aviation in the European Economy* (October 2012)

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Paul Harwood
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5 February 2013

Dear Caroline

Re: London Assembly Transport Committee's investigation into airport capacity in London

Thank you for the opportunity to speak to the transport committee on 13 February as part of your investigation into airport capacity in London. Please find below some information and comments ahead of the meeting. I have restricted these to the issue of surface access to airports.

Airport capacity and surface access

Network Rail does not hold a view on the aviation capacity needs of London or aviation policy in general. We would however highlight that any additional airport capacity can, of course, only be fully utilised if appropriate surface access can be provided for passengers wishing to use the airports. It is our view that planning for any future airport development should be based on an assumption that the majority of passengers would be able to access the airport by public transport. This would minimise the impact on the environment from surface access and avoid the road congestion often associated with airport traffic.

Our current investment programme across London and the South East (in particular Thameslink and Crossrail) has been developed in close consultation with airport operators and aims to provide as much additional rail capacity to airports as possible, while balancing their needs against those of commuters and other users.

Similarly, our future planning and modelling of rail capacity takes account of Government aviation policy. Plans for future schemes such as High Speed 2 or Crossrail 2 are mindful of the desire to encourage the highest proportion of passengers use rail to access airports.

I have set out here a site by site analysis of the current rail access provision for London's airports and the plans that we currently have underway or in development to provide additional capacity for airport services.



Heathrow

In addition to London Underground services to Heathrow, national rail access is available via the Heathrow Express (15 minutes from London Paddington, every 15 minutes during the day), Heathrow Connect services and rail-air links from Feltham, Woking and Reading.

Significant extra capacity is being created through the Crossrail project. Crossrail will provide a direct link to Heathrow from stations in the West End and Canary Wharf and replace the Heathrow Connect service with four, ten car trains each hour to the airport. Consideration is being given to the eventual integration of the current Heathrow Express services into the Crossrail service.

Plans in our Strategic Business Plan for Control Period 5, published on 8 January 2013 (for the period 2014-19), would see the creation of a western access route to Heathrow from the Great Western Mainline via Reading and Slough. While BAA have dropped plans for an 'Airtrack' scheme linking the airport to Waterloo station, a future proposal for 'southern' access is still possible, albeit problematic due to capacity constraints on these routes.

The development of High Speed 2 would see a link to Heathrow from Old Oak Common in west London along with enhanced access via this interchange from the West London Line and West Coast Mainline. Phase 2 of High Speed 2 could see a spur created to serve Heathrow from the north of the country.

Gatwick

Gatwick Airport is currently served by Thameslink route services from the Midland Mainline and Sussex via the City (Bedford to Brighton) operated by First Capital Connect. This provides a direct link to Luton airport. Southern services also call at the airport on the Sussex route between Brighton and London Victoria. First Great Western services serve the airport from stations to Reading. This is currently an hourly service but once the new Platform 7 at Gatwick and Platform 0 at Redhill are constructed, a half-hourly service should be possible in most hours. Gatwick Airport is also served by 'Gatwick Express' services from London Victoria which take around 30 minutes and run every 15 minutes during the day.

There is currently a capacity constraint on 'peak hours' services operating on the Brighton Mainline. Network Rail's 2011 London South East RUS showed a further 36% growth in peak passenger numbers into Victoria and 83% growth on routes via London Bridge forecast by 2031.

Phase two of Thameslink, due for completion in 2018, will provide significant improvements to those services that operate via London Bridge, with new rolling stock, 50% longer trains and improved connections as trains run through the core onto the East Coast Mainline.

In the longer term, significant additional capacity can only be created through an upgrade of the Brighton Mainline. Network Rail is currently undertaking early studies and modelling of how this might be achieved with a view to bidding for funding for implementation at the time of major signalling renewals on the route circa 2020.

Work is also being undertaken to create some additional rail capacity to the airport through the provision of additional platforms at Reading station.

Stansted

Stansted Airport is served by the Stansted Express service from London Liverpool Street station. The service also calls at Tottenham Hale station and takes around 50 minutes to reach the airport from London Liverpool Street, operating every 15 minutes during the day. The airport is also served by rail services from Birmingham New Street via Peterborough, providing an hourly service.

The West Anglia Main Line (from London Liverpool St) is now running at the limit of its capacity in the 'peak' and there is little to spare during the day. The current mix of slow (all-stations passenger and freight) and fast (Stansted Express and Cambridge) trains makes reduced journey times impractical, coupled with the single track tunnel leading into Stansted Airport station.

Provision of additional lines or 'four tracking' would enable separation of fast and slow services to the benefit of both; fast services could be accelerated, slow services increased in frequency.

Within Network Rail's Strategic Business Plan for CP5 is a scheme to construct a third track from Coppermill Junction northwards. Such proposals are compatible with future 'four-tracking' of the line through the Lea Valley.

It should also be noted that one route under consideration for 'Crossrail 2' would be via the Lea Valley. Were this route to be chosen it would require 'four tracking' and provide capacity relief on the lines serving London Liverpool Street station, potentially providing significant additional capacity for the airport.

Luton

Luton airport is currently served by Luton Airport Parkway station (journey time from London between 20 and 45 minutes) which is linked to the airport terminal by shuttle bus. The station is on the Midland Mainline and served by Thameslink trains operating on the Bedford to Brighton route. This provides a direct link to Gatwick Airport and stations on the Sussex Mainline and through the City. Some high speed trains operating on the Midland Mainline from St Pancras also call at Luton Airport Parkway.

Phase two of Thameslink, due for completion in 2018, will provide significant improvements to services to Luton Airport Parkway, with new rolling stock, 50% longer trains and improved connections as trains run through central London to destinations south of the capital.

Network Rail's Strategic Business Plan proposes full electrification of the Midland Mainline from London to Sheffield. Electrification of the line would not only deliver environmental

benefits but would allow modern trains to run at a higher frequency and with reduced journey times.

Birmingham

Although not a London Airport, Birmingham International is served by intercity and regional services from London Euston with a minimum journey time of around 70 minutes.

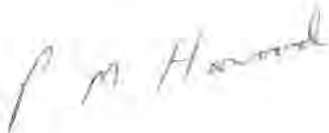
Plans for High Speed 2 are primarily aimed at providing more capacity on this route, the country's busiest rail 'artery'. As well as relieving overcrowding on trains to Birmingham International, HS2 could see journey times to 'Birmingham Interchange' of 38 minutes and on completion of Phase 2 a journey of 33 minutes between there and Heathrow, should the Government decide to proceed with a 'spur' to serve the airport.

A new airport

Aside from the locations mentioned above, any new airport is likely to require the construction of additional rail infrastructure to serve it. Network Rail has not to date developed a scheme to provide new lines to serve any proposed future airport.

I hope this information is helpful to you and I look forward to discussing this with you on 13 February. In the meantime, if you would like any further information on these points, please contact Rob Smith in our public affairs team on 020 3356 9396 / rob.smith@networkrail.co.uk

Yours sincerely



Paul Harwood

**Principal Strategic Planner
(London and South East)
Network Rail**

London Assembly

Investigation into Airport Capacity in London

Response by Newcastle International Airport Ltd

1. Introduction

Newcastle is the largest airport in the North East of England and 11th largest in the UK, serving a catchment area that includes Tyne and Wear, Northumberland, County Durham, Teesside, as well as parts of Cumbria, North Yorkshire and Southern Scotland. The Airport is critical to the economy of the North East. The Airport supports 7800 jobs in the region, and contributes almost £402m to the regional economy every year.

Our Airport accommodated 4.4 million passengers in 2011, but has terminal capacity to handle between 7 and 8 million, and a runway that could accommodate 20 million or more. There are relatively few environmental constraints to the future development of the Airport, a lower noise impact than most other airports, strong regional support and a balanced view from the local community about the benefits of having an airport.

Newcastle has a reasonable network of air services across the UK and Europe, and in 2007 secured its first long haul scheduled service with Emirates' daily flight to Dubai. The Emirates service has helped significantly increase the region's connectivity and led to increased economic activity in the region with a positive impact upon employment. The service has had a significant impact upon the level of business activity, for example assisting an increase in trade between the North East and Australasia from under £150m in 2007 to just under £275m in the last 12 months, and trade with the UAE, Saudi Arabia, and other more easily accessed economies has grown strongly. The service has recently been enhanced through the introduction of a larger Boeing 777-300 aircraft.

2. Proposed objectives of Government policy

The objectives of Government, and London Assembly, policy on aviation should be to:-

- place aviation at the centre of economic policy, with the aim of using it to help grow the economy and making the UK more competitive;
- recognise the economic benefits of providing more airport capacity, and plan for this alongside other infrastructure requirements;
- view aviation and high speed rail as being complementary to one another, ensure that they are properly integrated, and recognise that for regions further north aviation is a better option than even high speed rail for domestic and short haul journeys;

- recognise that it is in the interests of the UK that it retains its important hub role, and plan for additional hub capacity to serve London and the rest of the UK. Heathrow Airport presents the most viable and deliverable option in the medium term, although other options should be considered;
- ensure that as part of the planning permission for the above that some of the additional capacity is ring-fenced for regional air services;
- create the conditions for regional airports to flourish, including support for the use of differential rates of Air Passenger Duty (APD) to stimulate new regional air services, thereby encouraging the use of under-utilised runways in the regions, and reduce the need for surface travel within the UK;
- ensure the environmental costs of aviation are balanced with the economic benefits.

3. Importance of connectivity to the North East

The UK economy, including regions like the North East, must compete within a global marketplace. Businesses require convenient access to key markets, headquarters, customers, offices, factories, conventions, etc. and will make their locational and investment decisions based on this. In our research we asked businesses in the North East for their views, and of particular note are the comments from the following.

“Without Newcastle Airport, the Company would need to take some serious decisions regarding its operations in the North East” - Arriva Plc

“Formica has its European HQ in the North East. The services that Newcastle Airport offers are an important part of what makes the region a viable location for the company HQ” - Formica

4. Economic impact

Aviation and airports are critical in supporting economic activity, in keeping people and businesses moving, and in linking places that are trading as part of a globalised economy. Aviation accounts for 3.6% of the UK economy, creates wealth of about £50bn and sustains 921,000 jobs. Newcastle Airport delivers multiple benefits to the North East economy, including connectivity, jobs, GVA, inbound tourism, journey time savings, exports and revenues to the exchequer. In 2012, we commissioned York Aviation to assess the economic impact of Newcastle Airport, and their key findings were as follows:-

- a. The Airport supports 7,800 jobs, including 3,200 on site, a further 500 off site through direct effects, and a further 4,100 across the North East through indirect and induced effects;
- b. A total of £402.5m in Gross Value Added is generated annually;
- c. The Airport supports £57m per year via tourism impacts, and 1,750 tourism jobs;
- d. The journey time benefits generated as a result of services provided by the Airport will bring net economic benefits to the region of £243.3m in 2012. Journey time benefits are derived from shorter journey times for passengers and businesses, and the producer benefits triggered by these;
- e. The value of exports shipped via the Airport is £173.6m per annum. Of this £150m is carried on the Emirates service, which highlights the transformational effect a single long haul scheduled service can have;

- f. APD paid by passengers flying from Newcastle in 2012 is expected to be £48.8m, compared to a total turnover for Newcastle International Airport Ltd of £52m. This highlights the scale of tax take compared to the overall size of our business. In 2013 APD take will outstrip turnover.

Newcastle Airport is a public-private partnership between a private sector shareholder and 7 Local Authorities (Durham, Gateshead, Newcastle, Northumberland, North Tyneside, South Tyneside, and Sunderland.) In addition to providing the Local Authorities with dividends, we work very closely with them, the North Eastern LEP, and the North East Chamber of Commerce on a range of economic development, tourism and inward investment activities.

5. The role of Air Passenger Duty

Air Passenger Duty has reached levels that are making the UK economy uncompetitive. We recognise that it raises important income for the Exchequer but believe that lowering APD would generate other taxation revenues. With this in mind we support the calls for a comprehensive review of the impact of APD on total tax take and the economy. We would also request that government is more joined up, i.e. that aviation and taxation policy and looked at alongside each other.

Regional Airports have long argued APD has a disproportionate impact on the regions. Regional airports and airlines have a lower percentage of business travellers or inbound tourists than the London airports and have been hit hard by the economic downturn.

International air connections are recognised as a key factor in determining where companies choose to locate and invest. We believe the Government should provide economic incentives to encourage airlines to make better use of those regional airports where capacity is available. A 'congestion charge' on the busiest London airports, or a lower rate outside of London, could have a transformational impact in terms of protecting key routes and attracting new ones.

The Government has stated that it wants to explore how to create the right conditions for regional airports to flourish. We are strongly of the view that intervention in respect of APD is by far the biggest lever available, and that the Government should act now, before it is too late.

6. Interaction with rail

Aviation must sit within an overall transport strategy that aims to integrate various modes, such as rail, road and air, and ensure that they complement one another. Policy must move away from an assumption that rail is good and air is bad, and that high speed rail will replace domestic aviation. For regions further north, including the North East, the high speed rail journeys to London, to connecting flights at Heathrow, and to near continental destinations, will be too long compared to the equivalent air services.

The suggestion by the Government that demand for UK internal flights could be reduced by the introduction of high speed rail may well be correct, but such a displacement would not be in the best interests of the more peripheral regions, including the North East. There are a number of aspects to this concern, as set out below.

Almost 500,000 passengers fly between Newcastle and Heathrow each year. Of these, half are connecting and the remainder travel point to point. Some of those

travelling point to point between the North East and London/South East may well be well served by a HSR alternative, but given that the rail market share between Newcastle and London is already 64%, one has to assume that those flying are doing so for a good reason, for example business trips to West London and the M4 corridor, which are very conveniently served via Heathrow.

Almost 250,000 passengers connect via Heathrow to a wide range of European and long haul services. HSR will not provide an acceptable alternative for these customers. Connecting air services allow passengers to clear security and check in baggage to their final destination, rather than carrying it on and off trains, with at least one rail to rail interchange, and at least two security screening processes. The projected journey time savings between conventional rail and HSR are highly questionable, with the HSR assumptions seemingly based upon unrealistic connection times and timetabling.

HSR will not adequately serve connections between the North East and other major cities in the UK. Abstraction from air to HSR of just a few passengers could nevertheless undermine the viability of services to centres such as Southampton, Bristol, Cardiff, and Exeter. Often business travellers need to make short trips to these places, sometimes in a day, and rail travel, even with HSR, would not permit this.

The assumption that short haul aviation could be reduced by further international high speed rail services from cities across the country using a direct link via the High Speed 1 line to the Channel Tunnel is not practical. Those regions furthest north, including the North East, are the least likely to benefit from such provision. Journey times of 7, 8 or 9 hours to cities such as Paris, Brussels, Amsterdam and Frankfurt are far too long for business travelers. Furthermore, if we assume that people from the North East are no longer connecting by air via Heathrow, then there would be a greater reliance on connections via the near European hubs. Should these services be undermined by competition from international HSR, particularly in respect of leisure passengers, then the connectivity of regions like the North East will again be seriously threatened.

7. South East capacity

We would support mixed mode operations at Heathrow in order to unlock extra capacity, and we would be supportive of additional capacity at other South East airports, but only as part of a package that also includes a third Heathrow runway.

The political parties need to stop treating aviation as a 'political football' and take brave decisions on major capacity projects. The UK will otherwise fall behind not only the European countries we are competing with, but also the emerging economies where dozens of runways are being built.

We strongly support the retention and expansion of a prominent hub airport on UK soil. We are firmly of the view that third runway at Heathrow would be the most beneficial, deliverable, and viable option. We would also support a second runway at Gatwick. Other options should be considered but not are likely to be attractive. We remain unconvinced that a Thames Estuary airport would be deliverable or indeed affordable for regional air services.

Our support for Heathrow is on the basis that some of the additional capacity provided should be ring-fenced via planning agreement from regional air services.

The development of an alternative hub and possible closure of Heathrow would have serious consequences. A massive amount of investment has been made in the facilities at Heathrow, including a huge new terminal still under construction. It is nonsensical to think that this could all be scrapped at a time when resources are so scarce. Moreover, businesses have located in west London because of Heathrow. Its demise could have a damaging impact on many companies, their employees and the wider economy.

Expanding Heathrow would support the continued role of London as a global business centre and would have a number of positive impacts on the UK economy. It would allow BA and Virgin to grow and increase employment within the UK. It would also ensure that the UK remains in control of its own destiny as there is no guarantee that UK airports will have access to European hubs as these hubs become congested. A strategy which is based upon UK regions being served solely through overseas hubs would mean that its future was based upon the decisions of other Governments or foreign businesses regarding capacity at airports over which we would have no influence.

A region like the North East will always be reliant upon a mix of hub and point to point connections. In addition to UK hub connections and other domestic services the key destinations for Newcastle are continental European hubs (Paris, Amsterdam, Brussels, and, in the future, Copenhagen and Frankfurt) together with Dubai (secured) and New York (target.) There will need to be more connections, both direct and via hubs, to the rapidly increasing number of airports in emerging economies, including China, India, Brazil, and SE Asia. We see hub connections at Dubai and New York as assisting significantly with this requirement in respect of the North East of England, but both of these would be complementary to Heathrow, which remains our single most important hub connection.

There will be significant costs, particularly in terms of noise, but these must be balanced with the much larger benefits to the whole of the UK and its competitive position.

LONDON AIRPORT CAPACITY

This is a personal submission to the consultation.

1 The scope of the examination of London Airport Capacity should be widened to look at an overall UK transport strategy. Failure to do this will risk, once again, arrival at a sub-optimal solution to a key, national issue.

2 The Davies Commission has the intellectual capacity and political influence to be able to persuade HMG that it must look at transport overall rather than looking at aviation in isolation.

3 To undertake this wider review requires HMG to answer a number of questions, the answers to which will have a major impact on the level of demand for air transport.

4 What is the national rail strategy? Decisions about HS2 should not be taken until the location of airport capacity is established. The number of domestic flights could be reduced by designing and building a UK rail network linked with airports.

5 Is HMG prepared to sponsor a second Channel Tunnel to allow major development of rail travel into Europe? There are regular through services only to Paris and Brussels rather than a wide range of European destinations which could be served by improved rail services.

6 Is HMG prepared to consider regulation of aviation and challenge EU competition rules? The rail industry is controlled through the franchise system – down to specifying the number of carriages in a train – while aviation operates in a free, competitive market. The number of aircraft movements could be reduced by replacing many narrow body and smaller wide body flights with larger aircraft. Regulating the aviation industry would help protect the environment, reduce global warming, conserve finite oil supplies and reduce noise pollution.

7 The aviation lobby points to a need to serve new long haul destinations, but business lobbyists appearing at the House of Commons Transport Select Committee did not make a convincing case. BA has just used three daily pairs of the LHR slots it acquired with the BMI take-over to inaugurate thrice daily services to Rotterdam.

8 There is confusion about the type of air service required. Some lobbyists advocate “hub” airports, while what they lament is the absence of point to point services to aid British competitiveness. If new long haul destinations are vital, they would be justified by UK and other end of route originating traffic. The position for competitor countries would also improve by having their traffic filter through a London hub.

9 The Davies Commission should develop, and consult over, the criteria by which alternative outcomes will be judged in advance of any making recommendations. Economic cases need to be presented rather than repeating the mantra that a new runway or a new airport must be built.

10 It is nevertheless my opinion that the UK must, in the national interest, “bite the bullet” and provide a state of the art new airport fit for the next 50 years.

11 There are no inland sites in SE England where a new airport can be built without major environmental impact. However, the UK is fortunate in being an island nation. The best offshore location – possibly Goodwin Sands – should be selected, and opened initially as a four runway facility, with the ability to extend to six runways. The new airport would become the anchor point for a new high speed rail network, which can then be planned properly to link major UK cities rather than launching HS2 as so far specified.

12 This solution would enable complete closure of Heathrow, Gatwick, Stansted, Luton and City airports, thus freeing millions of residents from noise and atmospheric pollution. Any additional runways at LHR, LGW or STN would be merely temporary solutions bolted onto tired, inadequate and poorly located infrastructure.

13 While investing in the massive undertaking of a new airport, short term measures could be taken to alleviate the current lack of capacity, especially at LHR through use of Northolt.

14 Attention needs to be paid to processes to facilitate passenger movement and improve UK competitiveness. Joining the Schengen Agreement would obviate the need for border controls for travel between the UK and EU and EFTA areas. Easing UK visa processes worldwide would encourage both business and tourist visitors. Bringing the Heathrow Express into the London oyster card system would make using LHR more attractive for many passengers than using the Underground.

15 Failure to make such improvements raises the question whether this country really is serious about the whole issue. Some short term actions would speak loudly among the many words in the debate about airport capacity.

Paul Hopper MA, MSc, MBA, DIC, DMS
19 January 2013

London Assembly Transport Committee

INVESTIGATION INTO AIRPORT CAPACITY IN LONDON

SUBMISSION BY THE RICHMOND HEATHROW CAMPAIGN

January 2013

This submission is made in response to the invitation by the London Assembly Transport Committee to submit written evidence relevant to the Committee's investigation into airport capacity in London.

The Richmond Heathrow Campaign represents three amenity groups in the London Borough of Richmond upon Thames: The Richmond Society, The Friends of Richmond Green and The Kew Society, which together have over 2,000 members.

Our members are affected adversely by noise from Heathrow's flight paths, particularly in the night period. We oppose the use of mixed mode on the existing runways at Heathrow and the development of additional runways at Heathrow. We nevertheless recognise the importance of air transport for London and we seek to make a positive contribution to the Committee's investigation.

In the time available since the invitation to submit evidence, we have concentrated on responding to the Committee's question on the options in the short, medium and long-term for addressing the issue of airport capacity for London.

In addition to the options identified by the Committee, we consider that the forecast additional passenger numbers could be handled, and the resilience and connectivity needs met, by increasing the number of passengers per aircraft movement, as was envisaged at the Heathrow Terminal Five Public Inquiry. We consider that this option - applied to London's five main airports, and supplemented by abandoning the hub model at Heathrow in favour of more direct services - would mean that there would be no significant increase in the existing number of aircraft movements and that there would be no need for additional runway capacity at Heathrow or elsewhere in the London area.

We consider that this alternative approach would be less controversial and less costly than the development of additional runway capacity at Heathrow or elsewhere in the London area. Moreover, increasing the number of passengers per aircraft movement could be introduced incrementally, and could begin within a very short timescale.

Larger passenger numbers per aircraft movement may result in fewer CO2 emissions than the increase in the number of aircraft movements implied by the provision of additional runways. But the sheer increase in the number of passengers will nevertheless have adverse local environmental impacts even if the number of aircraft movements remains unchanged.

We would be happy to provide additional information and would welcome the opportunity to give oral evidence. We are content for our response to be published.

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What are the options in the short, medium, and long-term for addressing the issue of airport capacity?

1. The aviation industry argues that an increase in passenger numbers over the next thirty years will mean an increase in the number aircraft movements in order to handle the additional passengers; and that an increase in runway capacity is required in order to handle the additional aircraft movements. The industry's preference in the London area is for a third runway at Heathrow and a second runway at one of London's other main airports (Gatwick, London City, Luton, Stansted).
2. We argue below that additional runway capacity at Heathrow and elsewhere in the London area is not necessary if better use is made of the existing runway capacity by carrying significantly more passengers per air transport movement at Heathrow and at London's other main airports. We also argue that good international aviation connectivity from the London area does not depend now on the existence of a dedicated hub airport; and that the sheer increase in the number of passengers in future should result in an increased demand for more direct routes at more airports, with a reduced demand for transfers.

A. Increase the number of passengers per aircraft movement at Heathrow

3. We consider that better use could be made of existing capacity at Heathrow to improve resilience in the short term and to increase passenger numbers (including to new destinations) in the medium term, while continuing to operate in unbroken segregated mode and within the existing limit of 480 000 air transport movements per year. We also consider that the efficient use of this capacity would also enable movements to be phased out in the night period.
4. The Terminal Five Public Inquiry found that Heathrow - operating in unbroken segregated mode and with Terminal Five in full use - would have the capacity to handle 480 000 air transport movements (ATMs) per year carrying 90 million passengers (equivalent to an annual average of 187.5 passengers per ATM). The number of ATMs at Heathrow in 2011 (476 000) virtually reached the forecast maximum number of ATMs per year with unbroken segregated mode, while the number of passengers (69.4 million, equivalent to an annual average of 145.8 passengers per ATM) was 20.6 million short of the forecast maximum number of passengers per year.
5. In view of the fact that Heathrow is operating within its forecast ATM and passenger capacity, it must follow that the apparent lack of spare runway capacity - with which (a) to manage promptly periodic disruptions to flight schedules (particularly for arriving aircraft) and (b) to serve new destinations - is not due to the number of ATMs or passengers exceeding their forecast capacity. In our view both problems have arisen from a failure to utilise the capacity efficiently, with the disruption problem due to over-scheduling the number of ATMs in particular hours of the day; and the new destinations problem - in so far as it can be said to exist in reality at present ¹ - due to the shortfall between the number of passengers per ATM anticipated at the Terminal Five Public Inquiry and the actual number of passengers per ATM.
6. We consider that the disruption problem could be resolved by giving the airlines incentives (e.g. differential airport charges) to spread their slots more evenly across the day in order to avoid spikes in the number of slots in particular hours that are vulnerable to disruption. We set out in Annex 1 to this response more details of the scheduled movements per hour at Heathrow. The simultaneous use of both runways for arrivals should be reserved only for the most extreme cases of disruption and not for routine disruption.
7. As regards new destinations and passenger numbers, we estimate that Heathrow's 90 million passenger capacity would not be fully utilised until 2027 if the airlines increase the number of passengers per ATM to

¹ Business leaders have complained in the media in recent months that direct flights are not available from Heathrow to certain destinations in the Far East. But BA has acquired additional slots at Heathrow from BMI and has indicated that a proportion of these slots will be re-directed from existing short haul destinations to new long haul destinations as they become commercially viable. (The displaced passengers on the short haul routes can presumably be accommodated in the flights that BA already undertakes to those destinations). A more immediate route development has been the announcement by Virgin Atlantic that it will run six additional flights per day between Heathrow and Manchester from next spring, presumably a reflection that at present there is more actual demand on that route than on the Far Eastern routes to which the business leaders drew attention.

the level envisaged at the Terminal Five Public Inquiry and assuming a similar rate of increase to the annual average since 1991 ¹. We set out our analysis in more detail in Annex 2 to this response.

8. Increased passenger numbers per ATM in the short term could be delivered if the airlines aimed at a higher ratio of passenger numbers to passenger capacity in their existing fleet. The number of seats per ATM at Heathrow averaged at about 200 over each of the last five years, with the number of passengers per ATM in 2011 averaging at 145.8, a seat capacity use of about 73 per cent ². There is therefore scope to increase the average number of passengers per ATM, particularly on the most popular routes that are served by many flights per day ³.

9. Increased passenger numbers per ATM in the medium term could be delivered if the airlines replace much of their existing fleet at Heathrow with aircraft with larger passenger capacities. This would not mean switching every aircraft to Jumbo size; but it would mean more aircraft with seats for more than 200 passengers and fewer aircraft with seats for less than 200 passengers ⁴. This could be done incrementally in line with routine fleet replacement, with the option of code-sharing between airlines to further defray the costs of switching to larger capacity aircraft. The additional costs of increasing fleet passenger loads over routine fleet replacement costs would arise gradually over time and compare favourably with the large up-front investment and risk inherent in runway development.

10. More passengers per ATM would enable the same number of passengers to be carried in fewer daily movements, particularly on the most popular routes, which in turn would free up slots for new destinations.

11. It is not clear why market forces and the rules of supply and demand - congestion pressures at Heathrow and competition between the airlines - have not resulted in larger passenger numbers per ATM. But carrying more passengers per ATM would create unused slots that would have to be surrendered without compensation under the European Union “use it or lose it” rule. The airlines may wish to retain the slots that they currently hold in order to open new routes in the future; or in order to keep competing airlines out; or in order to sell slots at their most lucrative value ⁵.

12. The authorities should investigate the extent to which market imperfections are hindering an increase in the number of passengers per aircraft movement at Heathrow at the rate envisaged at the Terminal Five Public Inquiry, particularly on the most popular routes for which there are many daily movements and where the scope for larger passenger loads appears to be most obvious and pressing.

13. **Environmental impacts** Carrying more passenger numbers per aircraft in the existing number of movements may result in fewer emissions CO₂ than would be the case from the increased number of aircraft movements for which additional runway capacity is proposed. But the sheer number of additional passengers is likely to aggravate the existing adverse local environmental impacts at Heathrow, regardless of whether the additional passengers are carried in larger numbers per movement or in more movements. Air quality close to Heathrow and air traffic noise (particularly at night) already fall short of what can be considered acceptable. Road congestion from the access of passengers, cargo and supplies to Heathrow (with knock-on implications for air quality) is approaching the limits of acceptability.

¹ Assuming also the continued growth in transfer passengers at Heathrow and no loss of terminating passengers from Heathrow to other UK airports. We argue below that the UK should abandon the hub model, with its emphasis on attracting large numbers of overseas passengers to transfer at Heathrow.

² Data from the Civil Aviation Authority and Airports Co-ordination Limited websites.

³ Our analysis - incomplete at the time of preparing this response - suggests that the ratio of passenger numbers to passenger capacity is lower on the most popular routes from Heathrow than the aggregated ratio on all routes from Heathrow.

⁴ At present about 65 per cent of ATMs at Heathrow have a passenger capacity of less than 200 seats (data from Airports Co-ordination Limited website).

⁵ The sale value would presumably be higher from a gradual release of spare slots rather than a sudden flooding of the market with all the available spare slots.

14. **Other London Airports** Passenger numbers at each of London's other main airports (Gatwick, Stansted, Luton, London City) have increased steadily over the last forty years and in aggregate at a faster rate than at Heathrow ¹. We consider that the arguments that we have put forward about making better use of Heathrow's capacity by increasing the number of passengers per ATM could apply to London's other main airports ².

15. We consider also that existing capacity at London's five main airports could be put to better use if there was more co-ordination and less duplication of the destinations served by those airports. Between 1977 and 1991 air traffic distribution rules were in operation at Heathrow and Gatwick in order to ease congestion at Heathrow and to assist the development of Gatwick. None of London's five main airports needs development assistance now, but the consequence of past development has been that many of the most popular destinations are now served by three or more of the airports. There may be a case for introducing new air traffic distribution rules across the region in order to promote larger passenger numbers per movement but with an overall reduction in the number of movements to the most popular destinations, thereby freeing up capacity for additional routes at all the airports.

(B) Abandon the obsolete hub model at Heathrow

16. At most airports the great majority of passengers (described as terminating passengers) fly direct to or from their destinations, while a small number of passengers (called transfer and transit passengers ³) are on flights between two other airports. At the so-called hub airports such as Heathrow there is the much higher proportion of transfer and transit passengers relative to terminating passengers ⁴.

17. Those who continue to argue for the hub model at Heathrow do so on the assumption that airports handling a large number transfer passengers have the best connectivity profiles. The transfers are said to enable more destinations to be served and with a greater frequency than would be economically viable with only terminating passengers. But the hub model theory and the reality at Heathrow have diverged over the last twenty years. Given the centrality of the hub model in the debate about the UK's future aviation strategy, the Heathrow experience merits close analysis.

18. The number of transfer passengers at Heathrow has increased since 1991 in absolute terms and at a faster rate than terminating passengers ⁵. Also, over the same period the number of air transport movements increased from 362 000 in 1991 to 476 000 in 2011. According to the hub model, Heathrow should have served more destinations in 2011 than it did in 1990, but the data show that in fact Heathrow served fewer destinations in 2011 than in 1990 ⁶.

19. It is also the case that Gatwick now serves more destinations than Heathrow ⁷, even though: (a) the total number of passengers at Gatwick is half the total number at Heathrow; and (b) the number of

¹ See Annex 3 to this response which shows the steady increase in passenger numbers at London's main airports since 1972, with a diminishing proportion at Heathrow from a peak of 75 per cent to around 50 per cent in recent years.

² See Annex 4 to this response which gives number of passengers per ATM at the five airports in 1991, 2001 and 2011.

³ Transfer passengers arrive at the hub in one aircraft and depart in a second. Transit passengers arrive at and depart from the hub in the same aircraft. Transfer passengers greatly outnumber transit passengers.

⁴ See Annex 5 to this response for a breakdown of the number of terminating and transfer passengers at Heathrow in 2010, further sub-divided into business and leisure on international and domestic flights.

⁵ See Annex 6 to this response for fuller details on the numbers of terminating and transferring passengers at Heathrow since 1972. The breakdown between terminating and transferring passenger numbers has been published annually only since 1996. 1991 has been taken as the base year for this exercise partly to review the trend over twenty years and partly because 1991 is the earliest year in which the proportion of transfer passengers began to increase relative to terminating passengers compared to the years prior to 1991 (i.e. 1972, 1978, 1984, 1987) for which data have been published.

⁶ See Annex 7 to this response for fuller details on the number of destinations served by Heathrow in 1990, 2001 and 2011. 1990 has been taken as the base year for this exercise because air travel was depressed in 1991 and it is assumed that 1990 would have been more representative of Heathrow's destinations approximately twenty years ago. A comparison has not been made between 1990 and 2010 because air travel in 2010 was still in recession in line with the global economic downturn.

transfer passengers are far fewer at Gatwick than at Heathrow, both in absolute numbers and in proportion to their respective number of terminating passengers.

20. A closer examination of the changed destination profile at Heathrow since 1990 indicates that the lost destination were in declining order: (i) within the UK; (ii) to Western and Central Europe; and (iii) to the Near East and Africa. The great majority of lost destinations were on routes carrying less than 2 000 passengers per year. Some of these low demand destinations and the majority of lost destinations carrying larger passenger numbers (e.g. Antwerp, Corfu) are now served by one or more of London's other main airports (Gatwick, Stansted, Luton, London City), so the loss of destinations at Heathrow has not meant a loss of destinations for London.

21. Over the same period Heathrow has opened new destinations to Eastern Europe, the Far East and the Americas. But the largest impact of the net loss of destination connectivity appears to have been an increase in the frequency of services to destinations for which there was already a demand in 1990. Thus many popular destinations now have multiple daily services across the day, evening and night periods on long haul (e.g. New York) and short haul (e.g. Manchester) which have squeezed out services to less popular destinations.

22. The trend towards fewer destinations at Heathrow cannot be explained by a lack of capacity. As we have argued above, Heathrow has now reached virtually its runway capacity in unbroken segregated mode, but there is still considerable unused actual terminal capacity and potential passenger capacity per aircraft movement. Moreover, the largest decrease in the number of destinations served by Heathrow occurred between 1990 and 2001¹, during which period there was considerable spare runway capacity².

23. The foregoing considerations suggest that: (a) there is no law of aviation economics that a hub airport will always have better connectivity than a non-hub airport; (b) enhanced destination connectivity is possible without enhanced runway capacity; and (c) the provision of extra runway capacity would not automatically translate into enhanced destination connectivity but could translate into increased (arguably excessive) frequency to the most popular destinations.

24. Turning to the question of passenger preference (something that the supporters of hubs rarely consider), it is likely to be the case that most passengers would - if given the choice - prefer to fly direct to their ultimate destination rather than transferring at a hub, because direct flights should be quicker and cheaper than transfers³.

25. In the early days of civil aviation there were relatively few passengers, so transferring at hubs emerged as the only economically viable option for destinations for which there was insufficient direct demand. But the projected growth in future passenger numbers should mean that many more direct services between many more airports will become economically viable. If the airlines respond to passenger preference, there should be a gradual decrease in the number of transfers; and hence a diminished need for hub airports at Heathrow or elsewhere.

26. It is not clear why the number of transfers at Heathrow should have increased at a faster rate than the number of terminating passengers over the last twenty years. BAA said in its evidence to the Terminal Five Public Inquiry that the increase in transfers reflected a new airline strategy. But this strategy seems counter-intuitive, given the likely consumer preference for direct flights over transfer flights. The strategy may therefore have been stimulated by a combination of two state interventions and anti-competitive considerations between the airlines.

27. In 1993 the European Union adopted the "use it or lose it" rule for holders of slots at major airports, whereby slot holders had to use their slots for not less than 80 per cent of the allocation or surrender them (with no compensation) to competing airlines⁴. In 1994 the UK Government introduced Air Passenger

⁷ According to the respective websites for Heathrow and Gatwick.

¹ See Annex 7 to this response.

² The number of air transport movements increased from 362 000 in 1991 to 458 000 in 2001.

³ Direct flights should also have a lower environmental cost per return journey (i.e. two ATMs instead of four ATMs).

⁴ Council Regulation (EEC) No 95/93 of 18 January 1993 on common rules for the allocation of slots at Community airports.

Duty, but with an exemption for transfer and transit passengers for the specific purpose of encouraging transfers and transits at UK airports (primarily Heathrow) ¹.

28. The desire by the airlines to hold onto their highly coveted existing their slots at Heathrow (and to acquire the remaining slots that had not yet been allocated) at the expense of competing airlines may have prompted them to run more frequent services than would be strictly justified economically, with transfers and transits (helpfully exempt from the new Air Passenger Duty) stimulated in order to mitigate the costs of “over supply”.

29. But despite these market distortions, the airlines will start to take account of passenger preference for direct flights. The number of transfers at hubs will begin to diminish, freeing up additional capacity for the increasing number of terminating passengers ².

¹ *We are concerned to maintain the international position of the British air transport industry particularly that of Britain's hub airports, such as Heathrow, and to help the airlines serving them, by preventing the tax from acting as a disincentive to passengers changing planes in Britain:* Sir John Chope MP (Paymaster General), Hansard, 31 Jan 1994, Col. 643.

² The number of transfers at Heathrow fell slightly in 2010 and 2011 compared with the number of terminating passengers (see Annex 6 to this response). It is too soon to say whether this is a short term consequence of the economic recession or the beginning of a more permanent reversal of the twenty year trend.

Heathrow: Runway scheduling limits - movements per hour

	2006/07			2007			2010/11			2011		
	<i>arrive</i>	<i>Depart</i>	<i>total</i>	<i>arrive</i>	<i>depart</i>	<i>total</i>	<i>arrive</i>	<i>depart</i>	<i>total</i>	<i>arrive</i>	<i>depart</i>	<i>Total</i>
0600-	35	26	61	36	27	63	37	28	65	38	25	63
0700-	36	41	77	40	43	83	35	41	76	39	46	85
0800-	34	42	76	38	42	80	33	43	76	37	43	80
0900-	39	41	80	39	42	81	41	42	83	40	43	83
1000-	41	42	83	39	40	79	40	42	82	40	41	81
1100-	38	42	80	42	42	84	37	42	79	41	42	83
1200-	42	43	85	40	41	81	43	44	87	39	41	80
1300-	39	41	80	43	43	86	39	40	79	43	43	86
1400-	42	38	80	41	41	82	42	39	81	43	42	85
1500-	44	43	87	44	44	88	44	43	87	41	44	85
1600-	43	46	89	42	44	86	44	46	90	42	43	85
1700-	41	45	86	42	43	85	40	45	85	43	43	86
1800-	40	44	84	43	44	87	40	42	82	44	44	88
1900-	40	42	82	43	44	87	39	43	82	43	44	87
2000-	38	40	78	39	39	78	38	40	78	38	38	76
2100-	40	37	77	44	39	83	41	36	77	44	38	82
2200-	20	21	41	21	30	51	22	21	43	21	31	52
Total	652	674	1 326	676	688	1 364	655	677	1 332	676	691	1 367
Hourly average												
	38.4	39.6	78.0	39.8	40.5	80.3	38.5	39.8	78.3	39.8	40.6	80.4

Source: Airport Co-ordination Ltd (ACL), seasonal reports for Heathrow, unnumbered tables entitled “Runway Scheduling Limits - Movements per Hour”.

Notes: The table shows the scheduled number of aircraft arrivals departures in each hour at Heathrow between 0600-2300 in the winter seasons Oct-March 2006/07 and 2010/11 and the summer seasons March-Oct 2007 and 2011.

Comment: Heathrow handled its largest number of ATMs (476 000) in 2007 and 2011, so the seasons in the table reflect the near-capacity scheduling of movements. It can be seen that the number of scheduled arrivals and departures varies depending on the hour. A more even spread of the traffic across the day and evening would produce a scheduling in each hour that is closer to the hourly average, which would reduce the risk of disruption in “over-subscribed” hours from movements ahead of or behind schedule.

Heathrow: Number of passengers per aircraft movement 1991 - 2011

Years	Passengers		Movements		Average per movement	
	(millions)	%	(thousands)	%		%
1991	40.3	100.0	362	100.0	111.3	100.0
1992	45.0	111.7	388	107.2	116.0	104.2
1993	47.6	118.1	396	109.4	120.2	108.0
1994	51.4	127.5	412	113.8	124.8	112.1
1995	54.1	134.2	421	116.3	128.5	115.5
1996	55.7	138.2	428	118.2	130.1	116.9
1997	57.9	143.7	431	119.1	134.3	120.7
1998	60.4	149.9	442	122.1	136.7	122.8
1999	62.0	153.8	451	124.6	137.5	123.5
2000	64.3	159.6	460	127.1	139.8	125.6
2001	60.5	150.1	458	126.5	132.1	118.7
2002	63.0	156.3	460	127.1	137.0	123.1
2003	63.2	156.8	457	126.2	138.3	124.3
2004	67.1	166.5	470	129.8	142.8	128.3
2005	67.7	168.0	472	130.4	143.4	128.8
2006	67.3	167.0	471	130.1	142.9	128.4
2007	67.9	168.5	476	131.5	142.6	128.1
2008	66.9	166.0	473	130.7	141.4	127.0
2009	65.9	163.5	460	127.1	143.3	128.8
2010	65.8	163.3	449	124.0	146.6	131.5
2011	69.4	172.2	476	131.5	145.8	131.0

Source: Civil Aviation Authority, *UK Airport Statistics*

Notes: The source gives the number of passengers and air transport movements, from which the number of passengers per movement have been calculated. The percentage columns are calculated from 1991 as the base year.

There are minor discrepancies in the passenger numbers given in *UK Airport Statistics* compared with the Civil Aviation Authority's *Air Passenger Surveys*. The *Air Passenger Surveys* are published later in the year than *UK Airport Statistics* and presumably contain the more accurate data. But the *Air Passenger Surveys* have been published annually for Heathrow only since 1996, so *UK Airport Statistics* have been used to compile this table.

Comment: The report to the Secretary of State on the Heathrow Terminal Five Public Inquiry advised that Heathrow would have an annual runway capacity of 480 000 air transport movements operating in unbroken segregated mode and would be able to handle 90 million passengers per year with Terminal Five fully operational. 480 000 movements carrying 90 million passengers is equivalent to an annual average of 187.5 passengers per movement.

The number of air transport movements (ATMs) per year increased from 362 000 in 1991 to 476 000 in 2011, an increase over twenty years of 114 000 ATMs (31.5 per cent). At the end of 2011 there was spare capacity to handle a further 4 000 ATMs per year (i.e. 480 000 less 476 000). The rate of increase in the number of ATMs between 1991 and 2011 was equivalent to an average annual increase of approximately 5 700. If the same rate of increase continues, the 4 000 spare capacity would be fully utilised by late 2012.

The number of passengers per year increased from 40.3 million in 1991 to 69.4 million in 2011, an increase over twenty years of 29.1 million (72.2 per cent). At the end of 2011 there was spare capacity to handle a further 20.6 million passengers per year (i.e. 90 million less 69.4 million). The rate of increase in the number of passengers between 1991 and 2011 was equivalent to an average annual increase of approximately 1.45 million. If the same rate of increase continues, the 20.6 million spare capacity would be fully utilised by early 2027.

The average number of passengers per movement increased from 111.3 in 1991 to 145.8 in 2011, an increase over twenty years of 34.5 passengers per movement (31.0 per cent). At the end of 2011 there was spare capacity - as implied by the findings of the Terminal Five Public Inquiry - to handle a further 41.7 passengers per movement (i.e. 187.5 less 145.8). The rate of increase in the number of passengers per movement between 1991 and 2011 was equivalent to an average annual increase of approximately 1.7 passengers. If the same rate of increase continues, the 41.7 spare capacity would be fully utilised by early 2036.

In view of the legal limit of 480 000 on the permitted number of ATMs per year and the impending arrival at that number of ATMs, the only way that Heathrow can make full use of its 90 million annual passenger-handling capacity is to increase significantly the number of passengers per ATM.

Passenger numbers at London airports 1972 - 2011

	Gatwick		Heathrow		London City		Luton		Stansted		Total	
	<i>millions</i>	%	<i>millions</i>	%	<i>millions</i>	%	<i>millions</i>	%	<i>millions</i>	%	<i>millions</i>	%
1972	5.3	20	18.3	68	-	-	3.1	11	0.3	1	27.0	100.0
1973	5.7	19	20.3	69	-	-	3.2	11	0.2	1	29.4	
1974	5.1	19	20.1	73	-	-	2.0	7	0.2	1	27.4	
1975	5.3	18	21.3	74	-	-	1.9	7	0.2	1	28.7	
1976	5.7	18	23.2	75	-	-	1.8	6	0.3	1	31.0	
1977	6.6	20	23.4	73	-	-	1.9	6	0.3	1	32.2	
1978	7.8	21	26.5	72	-	-	2.1	6	0.3	1	36.7	
1979	8.7	22	28.0	71	-	-	2.2	6	0.3	1	39.2	
1980	9.7	24	27.5	69	-	-	2.1	5	0.3	1	39.6	
1981	10.7	27	26.4	67	-	-	2.0	5	0.3	1	39.4	100.0
1982	11.2	28	26.4	66	-	-	1.8	5	0.3	1	39.7	
1983	12.5	30	26.8	65	-	-	1.7	4	0.3	1	41.3	
1984	14.0	31	29.2	64	-	-	1.8	4	0.5	1	45.5	
1985	14.9	31	31.3	65	-	-	1.6	3	0.5	1	48.3	
1986	16.3	32	31.3	62	-	-	2.0	4	0.5	1	50.1	
1987	19.4	34	34.7	60	-	-	2.6	4	0.7	1	57.4	
1988	20.7	33	37.5	60	0.1	-	2.8	4	1.0	2	62.1	
1989	21.1	32	39.6	61	0.2	-	2.8	4	1.3	2	65.0	
1990	21.0	31	42.6	63	0.2	-	2.7	4	1.2	2	67.7	
1991	18.7	30	40.2	64	0.2	-	2.0	3	1.7	3	62.8	100.0
1992	19.8	29	45.0	65	0.2	-	1.8	3	2.3	3	69.1	
1993	20.1	28	47.6	66	0.2	-	1.7	2	2.7	4	72.3	
1994	21.0	27	51.4	66	0.5	1	1.8	2	3.2	4	77.9	
1995	22.4	27	54.1	65	0.6	1	1.8	2	3.8	5	82.7	
1996	24.1	28	55.7	64	0.7	1	2.4	3	4.7	5	87.6	
1997	26.8	28	57.8	61	1.2	1	3.2	3	5.3	6	94.3	
1998	29.0	29	60.4	59	1.4	1	4.1	4	6.8	7	101.7	
1999	30.4	28	62.0	57	1.4	1	5.2	5	9.4	9	108.4	
2000	31.9	28	64.3	56	1.6	1	6.2	5	11.8	10	115.8	
2001	31.1	27	60.5	53	1.6	1	6.5	6	13.6	12	113.3	100.0
2002	29.5	25	63.0	54	1.6	1	6.5	6	16.0	14	116.6	
2003	29.9	25	63.2	53	1.5	1	6.8	6	18.7	15	120.1	
2004	31.4	24	67.1	52	1.7	1	7.5	6	20.9	16	128.6	
2005	32.7	24	67.7	51	2.0	1	9.1	7	22.0	16	133.5	
2006	34.1	25	67.3	49	2.4	2	9.4	7	23.7	17	136.9	
2007	35.2	25	67.9	49	2.9	2	9.9	7	23.8	16	139.7	
2008	34.2	25	66.9	49	3.3	2	10.2	7	22.3	16	136.8	
2009	32.4	25	65.9	51	2.8	2	9.1	7	19.9	15	130.1	
2010	31.3	25	65.7	52	2.8	2	8.7	7	18.6	15	127.2	
2011	33.6	25	69.4	52	2.9	2	9.5	7	18.0	13	133.6	100.0

Sources: Civil Aviation Authority, *Passengers at London Airports in 1991* (published in 1993), Table 1, for the years 1972 - 1991. Civil Aviation Authority, *UK Airports - Annual Statements of Movements, Passengers and Cargoes*, for the years 1992 - 2007. Where the totals do not sum this is due to rounding.

Note: The entries marked in bold indicate a decrease in the number of passengers compared with the previous year.

Comment: The table shows that the number of passengers have increased significantly at all of London's main airports in the period between 1972 and 2011.

As regards the distribution of the total number of passengers between the individual airports, Heathrow accounted for more than 70 per cent between 1974 and 1979, reaching a peak of 75 per cent in 1976. Since then the general trend has been for the other airports to account for an increasing proportion of passengers, with Heathrow's share decreasing to 49 per cent in the years 2006 - 2009, before increasing to 52 per cent in 2010 and 2011.

Number of passengers per aircraft movement at London's main airports

	1991	2001	2011
Heathrow			
Passengers	40 245 000	60 453 000	69 391 000
ATMs	362 000	458 000	476 000
Passengers per ATM	111.2	132.0	145.8
Gatwick			
Passengers	18 690 000	31 097 000	33 644 000
ATMs	163 000	244 000	245 000
Passengers per ATM	114.7	127.4	137.3
Stansted			
Passengers	1 685 000	13 654 000	18 047 000
ATMs	36 000	151 000	137 000
Passengers per ATM	46.8	90.4	131.2
Luton			
Passengers	1 957 000	6 540 000	9 510 000
ATMs	28 000	56 000	72 000
Passengers per ATM	69.9	116.8	132.1
London City			
Passengers	172 000	1 619 000	2 993 000
ATMs	10 000	54 000	61 000
Passengers per ATM	17.2	30.0	49.1

Source: Civil Aviation Authority, *UK Airport Statistics*

Notes: The source gives the number of passengers and air transport movements, from which the number of passengers per movement have been calculated.

Heathrow: Passenger Profile in 2010 (1)

Passenger Categories	Terminating		Transfer		Total	
	000's	%	000's	%	000's	%
1. International flights						
<i>Business passengers</i>						
- UK resident	6 402	9.7	549	0.8	6 951	10.6
- Non-UK resident	6 159	9.4	4 798	7.3	10 957	16.7
Business passenger total	12 561	19.1	5 347	8.1	17 908	27.3
<i>Leisure passengers</i>						
- UK resident	15 440	23.5	1 468	2.2	16 908	25.7
- Non-UK resident	12 059	18.4	13 952	21.2	26 011	39.6
Leisure passenger total	27 499	41.9	15 420	23.5	42 919	65.3
International total	40 060	61.0	20 768	31.6	60 828	92.6
2. Domestic flights						
<i>Business passengers</i>						
- UK resident	1 143	1.7	346	0.5	1 489	2.3
- Non-UK resident	59	0.1	341	0.5	400	0.6
Business passenger total	1 202	1.8	687	1.0	1 889	2.9
<i>Leisure passengers</i>						
- UK resident	768	1.2	1 293	2.0	2 061	3.1
- Non-UK resident	107	0.2	783	1.2	890	1.3
Leisure passenger total	875	1.3	2 076	3.2	2 951	4.5
Domestic total	2 077	3.2	2 763	4.2	4 840	7.4
3. Combined total	42 137	64.2	23 531	35.8	65 668	100.0

Source: Compiled from data in the Civil Aviation Authority's *Passenger Survey Report 2010*. The percentages are calculated from the total number of passengers (terminating and transferring combined) at Heathrow in 2010. Where the totals do not sum this is due to rounding.

Comment: Heathrow is often described as the businessman's airport, but an analysis of the different categories of passengers indicates a significant preponderance of leisure passengers among both terminating and transferring passengers:

- For terminating passengers, the split between business and leisure passengers was 1 : 2 on international flights, with business passengers outnumbering leisure passengers 3 : 2 on domestic flights.
- For transferring passengers, the split between business and leisure passengers was 3 : 7 on international flights and 2 : 3 on domestic flights.

Leisure passengers are therefore more responsible for present levels of congestion at Heathrow than business passengers. With no expansion in capacity at Heathrow, it might be expected that in future the proportion of business passengers would increase, with a corresponding decrease in the proportion of leisure passengers, reflecting the fact that: (a) business tickets are generally more expensive than leisure tickets and therefore provide the airlines with greater scope for profit; and (b) the most popular leisure destinations may not be a priority destination for business passengers¹. To some extent this has already started to happen, with many leisure destinations - including Bologna, Corfu, Dubrovnik, Innsbruck, Marseille, Alicante, Las Palmas, Palma and Tenerife - now served by one or more of London's other main airports (Gatwick, Stansted, Luton, London City) rather than Heathrow (see table 9 for fuller details).

¹ Oxford Economic Forecasting, in its study for the aviation industry *The Contribution of the Aviation Industry to the UK Economy* (1999), commented that one of the consequences that might be expected from not developing a third runway at Heathrow would be that airlines would aim to concentrate the loss of potential passengers on those who yield the least revenue - transfer passengers, followed by some leisure passengers (page 45).

Heathrow: Passenger Profile in 2010 (2)

<i>Passenger categories</i>	<i>Passenger numbers</i>	
	000's	%
1. UK resident leisure passenger on terminating international flight	15 440	23.5
2. Non-UK resident leisure passenger on transfer international flight	13 952	21.2
3. Non-UK resident leisure passenger on terminating international flight	12 059	18.4
4. UK resident business passenger on terminating international flight	6 402	9.7
5. Non-UK resident business passenger on terminating international flight	6 159	9.4
6. Non-UK resident business passenger on transfer international flight	4 798	7.3
7. UK resident leisure passenger on transfer international flight	1 468	2.2
8. UK resident leisure passenger on transfer domestic flight	1 293	2.0
9. UK resident business passenger on terminating domestic flight	1 143	1.7
11. Non-UK resident leisure passenger on transfer domestic flight	783	1.2
10. UK resident leisure passenger on terminating domestic flight	768	1.2
12. UK resident business passenger on transfer international flight	549	0.8
13. UK resident business passenger on transfer domestic flight	346	0.5
14. Non-UK resident business passenger on transfer domestic flight	341	0.5
15. Non-UK resident leisure passenger on terminating domestic flight	107	0.2
16. Non-UK resident business passenger on terminating domestic flight	59	0.1
Total	65 668	100.0

Source: The data in the table Heathrow Passenger Profile in 2010 (1) has been re-ordered above according to the descending number of passengers per category of passenger.

Heathrow: Terminating and transfer passengers 1972 - 2011

Years	Terminating passengers		Transfer passengers		Total passengers	
	(millions)	%	(millions)	%	(millions)	%
1972	14.3	76.4	4.4	23.6	18.7	100.0
1978	20.8	77.2	6.1	22.9	26.9	
1984	22.6	76.6	6.9	23.4	29.5	
1987	27.0	76.9	8.1	23.1	35.1	
1991	29.8	73.8	10.6	26.2	40.4	
1996	37.3	66.8	18.5	33.2	55.8	100.0
1997	38.6	66.6	19.1	33.0	57.9	
1998	40.6	67.4	19.6	32.5	60.3	
1999	?	?	?	?	?	
2000	44.7	70.2	19.0	29.8	63.7	
2001	41.1	68.6	18.8	31.4	59.9	100.0
2002	39.6	64.0	22.3	36.0	61.9	
2003	40.1	63.7	22.8	36.3	62.9	
2004	43.6	65.2	23.3	34.8	66.9	
2005	43.6	65.3	23.2	34.7	66.8	
2006	44.2	65.9	22.9	34.1	67.1	100.0
2007	44.0	65.8	22.9	34.2	66.9	
2008	43.2	64.6	23.6	35.3	66.8	
2009	40.9	62.1	24.9	37.9	65.8	
2010	42.2	64.2	23.5	35.8	65.7	
2011	45.9	66.4	23.3	33.6	69.2	100.0

Source: Civil Aviation Authority *Passenger Surveys Reports*¹. Where the totals do not sum this is due to rounding. At the time of preparing the table the Report for 1999 had not been consulted.

Note: The Reports for the years 1972 to 1998 give the number of terminating and transfer passengers only as percentages of the annual total number of passengers. The numbers in the table for the years to 1998 have therefore been calculated from the percentages and the total number.

Comment: The table shows consistent growth in the total number of passengers at Heathrow between 1972 and 2004, with stabilisation between 2004 and 2010 and renewed growth in 2011. Within this overall growth there were increases in the absolute number of terminating and transferring passengers throughout the period. But since 1991 the rate of growth has been faster among transfers, who have accounted for one or more passengers in three since 2002 compared with less than one passenger in four prior to 1991. The number of air transport movements (ATMs) at Heathrow increased from 362 000 in 1991 to 476 000 in 2011.

The large number of transfer passengers increase the present levels of congestion at Heathrow. It is argued that transfers enable the airlines at Heathrow to serve a wider range of destinations than would be economically viable with only terminating passengers. But the period of exponential growth in transfers since 1991 coincided with a fall - rather than an implied increase - in the number of destinations served by Heathrow (see separate table for details).

¹ The surveys have been undertaken annually at Heathrow since 1996, and at less frequent intervals prior to 1996.

Heathrow: Number of destinations in 1990, 2001 and 2011

<i>Region</i>	<i>1990</i>			<i>2001</i>			<i>2011</i>		
United Kingdom	24	(18)	(6)	14	(10)	(4)	11	(7)	(4)
Western Europe	54	(40)	(14)	33	(32)	(1)	35	(29)	(6)
Central Europe	53	(41)	(12)	33	(31)	(2)	35	(32)	(3)
Eastern Europe	16	(13)	(3)	26	(23)	(3)	21	(21)	(-)
Near East	20	(17)	(3)	18	(17)	(1)	15	(14)	(1)
Africa	29	(24)	(5)	24	(21)	(3)	23	(23)	(-)
Far East	25	(25)	(-)	29	(28)	(1)	30	(30)	(-)
Americas	43	(33)	(10)	35	(34)	(1)	41	(36)	(5)
Totals	264	(211)	(53)	212	(196)	(16)	211	(192)	(19)

Source: Civil Aviation Authority, *Aviation Statistics*, Table 12.1 (International Air Passenger Traffic to and from Reporting Airports) and Table 12.2 (Domestic Air Passenger Traffic to and from Reporting Airports)

Notes: The table sets out the number of destinations per listed region served by air transport movements from Heathrow in the years 1990, 2001 and 2011. The first column of numbers is the total number of destinations. The second column of numbers is the number of destinations to which 2 000 or more passengers (arrivals and departures) were transported. The third column of numbers is the number of destinations to which less than 2 000 passengers (arrivals and departures) were transported.

The number of passengers at Heathrow increased from 45.6 million in 1990 to 60.4 million in 2001 (an increase by 32 per cent compared with 1990), and to 69.4 million in 2011 (an increase by 52 per cent compared with 1990). The number of air transport movements (ATMs) increased from 368 000 in 1990 to 458 000 in 2001 and to 476 000 in 2011.

Comment: The table shows that the total number of destinations served by Heathrow decreased by approximately 20 per cent in 2001 compared with 1990, with a further decrease of less than one per cent in 2011 compared with 2001, despite the increase in the number of ATMs in 2001 and 2011.

The number of destinations that carried less than 2 000 passengers in 1990 decreased by approximately 65 per cent. The number of destinations that carried 2 000 or more passengers in 1990 decreased by approximately 5 per cent.

The table shows that changes in the number of services to destinations carrying more than 2 000 passengers in 1990 varied between regions, with five regions experiencing net decreases and three regions experiencing net increases.

The largest decreases in destinations served affected the United Kingdom (down from eighteen destinations to seven), Western Europe (down from forty destinations to twenty nine) and Central Europe (down from forty one destinations to thirty two), with smaller decreases in the Near East (down from seventeen destinations to fourteen) and Africa (down from twenty four destinations to twenty three).

There were increased services to Eastern Europe (up from thirteen destinations to twenty one), the Far East (up from twenty five destinations to thirty) and the Americas (up from thirty three destinations to thirty six).

Analysis of the individual destinations within the regions served by Heathrow shows variation between regions and within countries, with some destinations closed and others newly opened. The data upon which the table is based indicate that the majority of destinations that are no longer served by Heathrow (e.g. Antwerp, Corfu, Las Palmas) are now served by one or more of London's other major airports (Gatwick, Stansted, Luton, London City).



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10 December 2012

Dear Ross Jardine.

Thank you for your email of 4 December about the Transport Committee's investigation into airport capacity in London. I note that the Committee is proposing to make a submission to the Airports Commission.

Stop Stansted Expansion (SSE) will also be making a submission to the Commission, and I do not wish at this stage to anticipate what we shall be saying then. I am however attaching the evidence which we submitted last month to the House of Commons Transport Committee. You will see that in this submission we seek to demonstrate that there is no need for any increase in runway capacity in the south-east until at least 2030.

The alleged need for additional runway capacity is, we are told, the first issue to which the Airports Commission will be addressing itself. If it rejects our argument that no additional runways are needed then it will consider a wide range of airport expansion options across the south east.

In this context we are appalled and dismayed that the Mayor of London has in effect already ruled out expansion of every existing airport in the south-east except Stansted. Three times the question of additional runways at Stansted has been considered by independent inquiries, and three times they have been ruled out. In our view the Mayor's statements about Stansted are both premature and perverse.

Yours sincerely

Peter Sanders
Chairman

Patron: Terry Waite CBE

Stop Stansted Expansion is a working group of the North West Essex and East Herts Preservation Association

House of Commons Transport Committee

Inquiry into Aviation Strategy

Submission from Stop Stansted Expansion 19 October 2012

This submission focuses on the issue of UK airport capacity and simply seeks to address the question: **Do we need more runways?**

1. In 2011, UK airports handled 2.0 million air transport movements ('ATMs') and 219 million passengers, and the Committee on Climate Change ('CCC') has assessed that the maximum number of ATMs compatible with the target of stabilising UK aviation emissions at their 2005 level (37.5 MtCO₂) by 2050 is 3.4 million per annum.¹

2. The UK currently has runway capacity to handle 5.7 million ATMs per annum² and, with some investment in terminals, taxiways and aprons – but without new runways – this can be increased to about 6.7 million annual ATMs. By way of international comparison, the UK has more commercial runways than Germany, France, Spain and Italy. We even have more runway capacity than Japan even though Japan has twice our population and twice our GDP.³

3. Converting ATM capacity into passenger capacity, in 2011 there were, on average, 110 passengers per ATM⁴ and on this (simplistic) basis UK airports could handle over 700 million passengers per annum ('mppa') by 2030 without any new runways. Moreover, the average number of passengers per ATM has grown by 2% a year over the past 20 years and an increase of just 1% a year between now and 2030 would increase the capacity of UK airports to over 1,000 mppa – three times the most recent DfT passenger demand forecast for 2030.⁵

4. Ten years ago, in the lead-up to the 2003 Air Transport White Paper ('ATWP'), the key issue to be addressed was the DfT's 'unconstrained' demand forecast of 500 mppa by 2030. The ATWP set down a policy framework, including four new runways in the UK, to meet a 'constrained' demand forecast of 484 mppa.⁶

5. The outlook today is far less bullish. The latest DfT forecasts, published in August 2011, show unconstrained demand of 345 mppa by 2030, and this forecast was based on:

- the IMF's April 2010 *World Economic Outlook*;
- the OBR's March 2011 *Economic and Fiscal Outlook*; and
- DECC's March 2009 *Fossil Fuel Price Assumptions*.

In each of these areas the outlook has since deteriorated, so far as the air traffic demand forecasts are concerned⁷ and, using the sensitivity analysis provided by the DfT⁸, it can be estimated that the 2030 unconstrained demand forecast is now about 305 mppa.⁹

6. It is therefore clear that the challenge of meeting the future level of demand on our UK airports is far less today than was anticipated ten years ago. The reduction in the unconstrained demand forecast is equivalent to the capacity of more than four runways.

7. However, the main shortcoming with all of the above analysis is that it considers the UK as a whole and ignores the over-concentration of air travel on airports in the south east. In 2011, 62% of UK air travel was from airports in the south east but the south east accounts for only one third of the UK population and just 12% of the UK land area. It is the most crowded part of the UK and it has the most crowded airspace in the world.

8. Without additional runways, airports in the south east will be capable of handling c.220 mppa by 2030, i.e. 72% of the projected demand for the whole of the UK, and so even in the south east, taken as a whole, there is more than adequate airport capacity until about 2030.

9. The DfT has produced demand projections beyond 2030 – to as far out as 2080 – which *do* predict a capacity shortfall in the south east. In our view, however, it is neither sensible nor necessary to look at air traffic demand forecasts for more than 20 years ahead. There are so many uncertainties associated with the future demand for air travel that it is delusionary to try to predict demand more than about 20 years ahead. Moreover, if extra capacity is genuinely needed, it could be delivered within a 20 year time horizon.

10. We acknowledge however that there is a particular problem in meeting market demand at Heathrow, and there are those who believe that there are associated problems arising from the alleged need for more hub capacity. For obvious environmental reasons, we are firmly opposed to the development of a third Heathrow runway, just as we are firmly opposed to any additional runways at Gatwick or Stansted. Instead, we believe that the Government should use the policy tools which it has at its disposal to manage the demand for air travel.

11. Amongst the simplest policy tools available to Government is Air Passenger Duty ('APD'). Higher levels of APD can be justified at a number of levels (see Annex A) and could quite reasonably and logically be used to temper the demand for air travel. In addition, differential rates of APD could be used to shift demand away from congested airports, and this would have particular implications for Heathrow as a hub airport.

12. In seeking to persuade the Government of the need for more airport capacity, the aviation industry constantly emphasises the importance of connectivity to UK business but the number of business flights by UK residents has fallen by 20% since 2000 and only one in every eight overseas flights by UK residents last year was for business purposes.¹⁰ The decline, at least in part, must reflect the fact that companies are increasingly taking advantage of video and web conferencing technology as an alternative to (at least some) face-to-face meetings.¹¹

13. Even at Heathrow, business trips – including by foreign residents and including transfer passengers – accounted for only 31% of its passenger throughput last year, compared to 38% in 2000. Leisure travel, including VFR¹², now accounts for 79% of all UK air travel.¹³ It is true that leisure travellers, when aggregated with business travellers, can sometimes help to justify a route and/or a more frequent service but this is not a universal truth. Some routes fall quite distinctly into one category or the other. In this context, it is worth noting that you can fly every day of the week from Stansted to Palma and Tenerife but there are no flights from Stansted to any of the key European business centres: Frankfurt, Paris, Zurich or Brussels.¹⁴ Heathrow also still has its fair share of predominantly leisure routes and, in 2011, flew more passengers to Miami than to mainland China and more passengers to Nice than to Brazil.¹⁵

14. In short, we believe that there is considerable scope to make better use of UK airport capacity. Differential rates of APD could be used as a tool to re-distribute demand away from the busiest airports and this would also help to prioritise the use of scarce capacity at our busiest airports because business travel is much less price sensitive than leisure travel.¹⁶

Deliverability

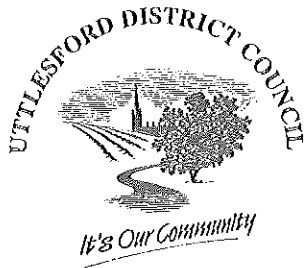
15. Finally, we have dealt in this submission solely with the issue of demand and whether or not extra runways are needed to meet that demand. There is, however, another major policy consideration, namely, the question of deliverability. Governments do not build runways – at least, not in the UK – and so there is no point in promoting a policy which is undeliverable for financial and/or commercial reasons. The outcome will finally be determined by market as well as political considerations.

References

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- ¹ 'Meeting the UK aviation target – options for reducing emissions to 2050', CCC, Dec 2009.
- ² Ibid, based on original estimates in Tables ES.2a and ES.2b, the former adjusted to incorporate developments since 2005 and the latter adjusted to remove capacity relating to additional runways.
- ³ Boeing Airport Directory, CIA World Factbook 2011, CAA, NATS AIS (Aeronautical Information Service) and azworldairports.com.
- ⁴ CAA airport statistics; excludes freight ATMs, which accounted for 2.7% of total ATMs in 2011.
- ⁵ 'UK Aviation Forecasts', DfT, August 2011, Table 2.7.
- ⁶ 'Passenger Forecasts: Additional Analysis', DfT, Dec 2003, p6. Note: The ATWP was presented as constraining demand, not 'predict and provide' but the policy was to provide for 97% of unconstrained demand (484 mppa out of 500 mppa).
- ⁷ For example, DECC's central oil price forecast for 2030 is now US\$130/brl compared to US\$90/brl used by DfT – see <http://www.decc.gov.uk/assets/decc/11/about-us/economics-social-research/2934-decc-oil-price-projections.pdf> and 'UK Aviation Forecasts', DfT, August 2011, para 2.33.
- ⁸ 'UK Aviation Forecasts', DfT, August 2011, Tables 2.9 and 2.10 and Annex C.
- ⁹ SSE modelling of the updated IMF, OBR and DECC forecasts/projections.
- ¹⁰ 'Travel Trends', Office for National Statistics, 2000 and 2011 editions, Table 3.07 air travel data.
- ¹¹ See, for example, 'Moving on: why flying less means more for business', WWF, Feb 2011.
- ¹² VFR = Visiting friends and relations.
- ¹³ Weighted average based on Table 2 data from the CAA Annual Passenger Surveys 2009 to 2011.
- ¹⁴ There are flights from Stansted to Frankfurt Hahn but this is 120km from Frankfurt. Also, it should be noted that in past years there have been some winter 'ski' flights from Stansted to Zurich.
- ¹⁵ CAA Airport Statistics, 2011, Table 12.1, International Air Passenger Route Analysis shows that Heathrow flew. 954,000 passengers to/from Miami, 663,000 to/from mainland China (Beijing/Shanghai), 537,000 to/from Nice and 526,000 to/from Brazil (Rio de Janeiro/Sao Paulo).
- ¹⁶ 'UK Aviation Forecasts', DfT, August 2011, p.15-19, especially the comparable price elasticities in Table 2.1 (p18).

Air Passenger Duty – Ten Key Points

1. APD was introduced in 1994 by Ken Clarke, the then Chancellor of the Exchequer, not as an environmental tax but because he considered the aviation industry to be lightly taxed compared to other sectors, largely arising from its exemption from fuel duty and VAT.
2. APD was initially set at £5 for short haul economy flights, which account for three quarters of all air travel. In 1997 Ken Clarke doubled APD to £10 for short haul economy flights.
3. Gordon Brown halved the short haul economy rate of APD in 2001, put it back up again to £10 in 2007 and Alistair Darling raised it to £11 in 2009. George Osborne increased it to £12 in 2010. There was no increase in 2011 but it was raised to £13 in April 2012. Thus, for the vast majority of passengers APD has increased by just £3 (30%) over the past 15 years.
4. APD is payable only on departure from a UK airport and so the basic Band A rate of £13 is for a round trip to an overseas destination. APD is however payable on both legs of a domestic round trip within the UK.
5. APD raised £2.6 billion for public finances in 2011/12 and this is planned to increase to £3.9 billion by 2016/17. APD would, however, need to rise to four times its current level to offset the value of the industry's exemption from fuel duty and VAT. If airlines paid the same level of fuel duty and VAT as road users, the cost to the aviation industry would be around £10.5 billion a year.
6. Not only do airlines pay no VAT on fuel, they are exempt from VAT on everything they buy relating to the provision of air transport services. Mostly, VAT is not charged in the first place; aircraft and aviation fuel, for example, are zero rated. Where VAT is charged, it can be claimed back. In 2010/11, HMRC paid UK airlines a VAT rebate of £583 million (net).
7. In 2010/11, the latest year for which a detailed HMRC breakdown is currently available, 77% of passengers paid APD at the short haul economy rate (Band A).
8. Whilst it is true that "passengers can end up paying £184 tax on some flights", as we are repeatedly told by the industry, this is the top rate of APD and applies only to first class and business class passengers on long haul flights to countries whose capital city is over 6,000 miles from London. Less than 0.4% of all air passengers fell into this category in 2010/11.
9. Regarding the alleged negative impacts on the UK economy of the recent hikes in APD, it is worth noting that overseas leisure trips by UK residents fell from 60.1 million in 2008 to 49.2 million in 2011 – down 10.9 million (21.5%) whilst the number of foreign tourists coming to the UK fell by less than 300,000 (1.6%) over the same period, from 23.8 million to 23.5 million. The effect of this was to reduce the UK's tourism deficit by £6.8 billion and to boost spending in the domestic UK tourism industry by £5.1 billion over the same period (2011 vs 2008).
10. Finally, those in the aviation industry who are pressing the Government for APD to be reduced should explain how they would propose to make up the revenue shortfall to the Exchequer. Should we sack some more policemen, teachers or nurses? Should we cut pensions or welfare benefits? Or should we raise VAT and/or extend its scope?



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2012

17th December 2012

Laura Warren
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Your ref:

Our ref: JGP / Stansted Airport
General

Please ask for Jeremy Pine on 01799 510460
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Dear Ms Warren

LONDON ASSEMBLY TRANSPORT COMMITTEE - INVESTIGATION INTO AIRPORT CAPACITY IN LONDON

As part of its investigation, the Transport Committee has said that it would welcome receiving written submissions by Friday 28 December 2012. As the local planning authority for Stansted Airport, this Council has an obvious interest in the Committee's investigation.

To set the context, throughput at Stansted is currently 17.3mppa, just under half the permitted 35mppa. Throughput has been in decline since February 2007, when it peaked at about 23.9mppa. The current number of annual Air Transport Movements is 131,400, again just under half of the permitted number of 264,000 at 35mppa. As you will be aware, Stansted Airport is currently up for sale and it is anticipated that the sale will be concluded in the spring of next year. It is not yet known who the new owner will be, but whoever it is will no doubt be seeking to grow the business expeditiously.

It is clear from the Committee's scoping report that various options have been put forward for addressing airport capacity in London. For Stansted Airport these are identified as:

1. more rational use of existing capacity, and
2. build more runways at Stansted

More rational use of existing capacity

"More rational use" is described in the scoping report as managing airport capacity differently to better meet demand, e.g. fewer short-haul flights to free up capacity for more long-haul flights for business. Based on current evidence, it is difficult to see this outcome at Stansted Airport.

In the Council's view, Stansted Airport is likely to stay as the type of airport that it currently is, dominated by point-to-point services for the UK and foreign leisure markets operated by low fares airlines (84.3% of passenger throughput in 2011 according to CAA quarterly data). Long-haul services have never become established at Stansted, in contrast to the estimates provided by BAA Stansted in 1998 as part of its reserved matters planning application for expansion from 8-15mppa. At that time it was predicted by BAA that the long-haul share

would be 11% in 2006. Whilst extending the UK's fifth freedom policy to Stansted could incentivise some long-haul services if there is the regional demand, this is by no means certain and would not result in hub activity being established. There has never been an appetite amongst airlines to establish hub activities at Stansted in preference to Heathrow.

CAA data shows that Stansted handled 11.86m UK Leisure passengers in 2007, falling to 8.73m in 2011. This is the most significant drop of any passenger sector at Stansted, and is strong evidence of the effect of the recession on a discretionary activity. As per the DfT's central UK Aviation Forecasts of August 2011, it is likely that there will be uplift in Stansted's UK leisure market when the economy strengthens. However, the speed of the recovery is uncertain, and there will be a point when saturation of the leisure market occurs as people cannot afford to make additional leisure trips. The DfT's forecasts imply average annual passenger growth rates of 2%, just over half the rate experienced over recent years.

Assuming that there are no new UK runways, the DfT's forecasts show Stansted growing to 35mppa in 2030, when the implication is that all London airports will be at full capacity. From 2010 to 2030, the principal growth at Stansted is shown to be in the short haul UK leisure market (nearly doubling from 8 - 15mppa), with no contribution at all from long haul. This growth is likely to be achieved by higher loadings by UK based airlines and by more flights by European airlines using spare slots in between the current peaks.

Build more runways at Stansted

The previous "Generation 2" second runway proposal was formally withdrawn by BAA Ltd and Stansted Airport Ltd on 24 May 2010, following removal of Government support for the 2003 Air Transport White Paper, which advocated a "predict and provide" approach to managing airport capacity in the UK. This Council (as part of a consortium of local authorities) and other local groups, organisations and residents were strongly opposed to the proposal on a large number of grounds including noise and effect on the landscape.

Back in 1986 when planning permission was granted for expansion to 15mppa, a clear distinction was made by the Inquiry Inspector, Graham Eyre QC. He remarked that development to 15 or 25mppa (served by the existing runway) could be *"relatively satisfactorily contained by physical features and mitigated by landscaping"* but went on to comment that *"development of the safeguarded area (for a second runway) would constitute an environmental invasion on a scale without precedent in the history of the UK"* (Chapter 50 Paragraph 6.16 of his report). He made it clear in his formal recommendation that granting planning permission for expansion to 15mppa *"is wholly contingent upon Government making an unequivocal declaration of intention either prior to or contemporaneously with the grant of any planning permission that a second runway will not be constructed at Stansted Airport in the future"* (Chapter 60 Paragraph 1.2).

Whilst the Government did not give such a declaration, Graham Eyre's words remain as pertinent today as they did back in 1986, as the high quality landscape around the Airport perimeter still remains. The 1986 safeguarded area was more extensive than the proposed Generation 2 land-take, but land west of Bangers Green and at Molehill Green (east and northeast of the Airport) are common to both. The Council's former adopted District Plan (1995), current adopted Local Plan (2005) and its new emerging District Plan have all been based on the principle envisaged by Graham Eyre where airport-related development is contained within an airport boundary defined by structural landscaping areas. A Countryside Protection Zone adjoins the airport boundary to the north, east and south, the aim of which is to prevent coalescence between the airport and existing development and to protect the area's open characteristics. A copy of the plan showing the extent of the Countryside Protection Zone (Figure 2 from the 2005 Local Plan) is attached to this reply.

The Transport Committee's key questions

Whilst the Council is primarily concerned about what happens at Stansted Airport, there are some more general comments that can be made relating to the Committee's key questions set out in the scoping report.

What are the arguments for and against changing existing airport capacity in London? What is the evidence in support of these arguments?

One argument for increased capacity in the London area is the maintenance and improvement of the UK's hub capability to compete with other European hubs, namely Madrid, Paris, Amsterdam and Frankfurt. Arguments against include local environmental considerations and the need to balance the economic needs of the UK regions against the primacy of the London area. Heathrow Airport Limited has recently produced "One hub or none" which puts forward 12 criteria against which new hub airport capacity options could be assessed by the Davies Commission.

What are the current levels of airport capacity and the current and future estimates for aviation travel? What is the basis for these estimates?

The Council relies on the DfT forecasts of 2011 as referred to elsewhere in this reply.

What are the options in the short, medium and long-term for addressing the issue of airport capacity?

In the short and medium terms, the main option is to take up unused existing runway and terminal capacity at UK airports. Whilst there can be various growth scenarios, the DfT constrained forecasts show increased throughput at regional airports in 2030 when London airports are at capacity. In the longer term, a Government will eventually have to make a decision about what level of capacity is to be provided for in the UK and not continue to fudge the issue for whatever purpose. If in the long term the decision is still not to build a new runway in the southeast, the contribution from regional airports becomes even more significant in 2050 in the DfT forecasts.

What issues need to be taken into account when assessing each option for addressing airport capacity?

Any option that is put forward will require a balancing exercise between economic and environmental considerations, particularly as it is clear from studies such as ANASE (Attitudes to Noise from Aviation Sources in England) that people are less tolerant of aircraft noise than was previously thought. This balancing exercise has already started between proponents of Heathrow expansion and those promoting a new hub airport elsewhere. However, a fundamental consideration that the Council is not convinced receives full recognition is that of airspace management. London airspace is crowded and is currently subject to review under the London Airspace Management Project (LAMP). There are clear inter-relationships to consider, such as the future for Stansted Airport should major hub expansion at Luton be proposed ("The Right Answer for Aviation" Policy Exchange and Centre Forum 2012).

Conclusions

Stansted Airport is currently operating at only 50% of its approved passenger throughput, and has sufficient unused capacity to meet the DfT's 2011 central forecasts up to 2030. There is no evidence that the nature of operations at the airport will change to make it attractive as a hub. The airport is located within an area of high environmental quality, and the comments made by Graham Eyre QC back in 1986 are entirely relevant today.

I hope this reply is self-explanatory, but please let me know if I can assist the Committee any further, including attending one of the meetings in the New Year.

Yours sincerely

A handwritten signature in black ink, appearing to read 'J Cheetham', with a stylized flourish at the end.

Councillor Jackie Cheetham
Deputy Leader of the Council with Responsibility for Aviation

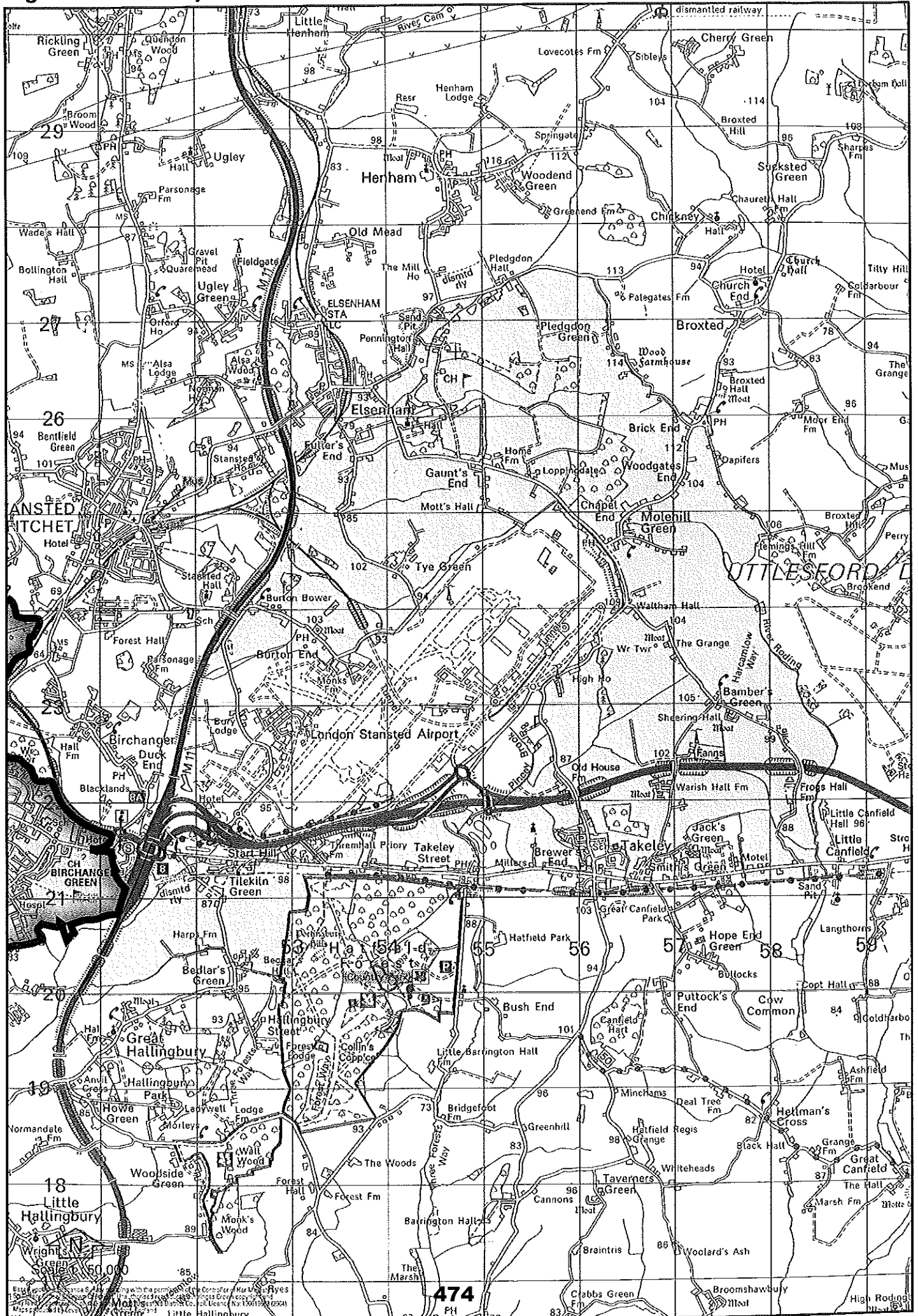
Enclosure

Figure 2: Uttlesford Local Plan 2005

Uttlesford Local Plan

Figure 2 : Countryside Protection Zone

Adopted Plan 2005



Virgin Atlantic Airways response to the London Assembly Transport Committee investigation into airport capacity in London

1. Virgin Atlantic is pleased to submit evidence to this inquiry. Over 28 years we have grown from a start-up airline to the UK's second largest global airline. We carried 5.28 million passengers and 210,000 tonnes of cargo in 2011.¹ We employ 9,000 people and operate 40 wide-bodied aircraft, serving 36 destinations across four continents. We operate long-haul flights from Heathrow, Gatwick, Manchester and Glasgow. New domestic services between Heathrow and Aberdeen, Edinburgh and Manchester will launch in spring 2013.

Existing Capacity

2. There is a surplus of runway capacity at point-to-point airports across the country, but an acute shortage of runway capacity at the only hub airport. Heathrow is effectively full now and is forecast to be unable to handle a single additional flight from 2015.²

Airport	Current max use runway capacity (ATMs, '000s)³	Runway use in 2011 (ATMs, '000s)⁴	Capacity utilisation (%)
Heathrow	480	476	99.2
Gatwick	260	245	94.2
Stansted	259	137	52.9
Luton	104	72	69.2
London City	120	61	50.8
Manchester	321	158	49.2
Birmingham	189	84	44.4
East Midlands	200	54	27
Bristol	200	53	26.5
Liverpool	200	46	23
All UK airports	5,790	2,046	35.3

3. Heathrow handled 69.4 million terminal passengers in 2011.⁵ The airport's terminal passenger capacity is 85 million.⁶ Millions more passengers could, in theory, be served using existing runway and terminal capacity (by using larger aircraft and through operational efficiencies). In practice, the airport is already under strain, so that scale of increase in passengers would leave absolutely no room for operational resilience, threatening the passenger experience. Even if it were possible, the Department for Transport forecasts that Heathrow will be handling 85 million passengers by 2030, so the airport will still be completely full for terminal passengers *and* ATMs in just 17 years.⁷

Future Demand Estimates

4. Following three years of decline, ATMs at UK airports increased by 2% in 2011 compared to 2010 and terminal passengers increased by 4%. There were 2.05 million ATMs and 219 million terminal passengers.⁸

¹ http://www.caa.co.uk/docs/80/airline_data/2011Annual/Table_0_1_6_All_Services_2011.pdf

² DfT, *UK Aviation Forecasts, August 2011*, p.159 <http://assets.dft.gov.uk/publications/uk-aviation-forecasts-2011/uk-aviation-forecasts.pdf>

³ Ibid, p.43

⁴ <https://www.gov.uk/government/statistical-data-sets/tsqb02>

⁵ http://www.caa.co.uk/docs/80/airport_data/2011Annual/Table_01_Size_of_UK_Airports_2011_Comp_2006.pdf

⁶ DfT, *UK Aviation Forecasts, August 2011*, p.43 <http://assets.dft.gov.uk/publications/uk-aviation-forecasts-2011/uk-aviation-forecasts.pdf>

⁷ Ibid, p.149

⁸ DfT, *Transport Statistics Great Britain*, 16 November 2012, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/28606/TSGB_2012_-_Aviation_summary.pdf

5. The Department for Transport (DfT) published aviation demand forecasts in August 2011. The number of passengers using UK airports is predicted to increase from 219 mppa (million passengers per annum) in 2011 to 335mppa in 2030 (within the range 300mppa to 380 mppa), and to 470mppa in 2050 (within the range 380mppa to 515 mppa). These forecasts imply average annual growth in passenger numbers to 2050 of 2.0% (within the range 1.5-2.3%).⁹
6. Forecasting passenger demand up to 2050 is inevitably fraught with difficulty. It is for the DfT to explain and justify its figures. Previous forecasts have been revised downwards and we have criticised their ambitious forecasts for regional airports which assume that demand that cannot be satisfied at the hub airport or the South East will disperse around the country. Nevertheless, significant passenger demand growth is widely predicted. For example, the European Commission's *Flightpath 2050* aviation vision document forecasts that the global volume of air traffic will increase to around 16 billion passengers annually in 2050 (compared to the 2.5 billion passengers in 2011).¹⁰
7. The Committee on Climate Change (CCC) has found that an increase in ATMs from 2.05 million in 2011 to a maximum of 3.4 million by 2050 is compatible with the previous Government's target to reduce UK aviation CO₂ emissions back to 2005 levels by 2050.¹¹ The CCC believes this is feasible and broadly cost-effective, with different scenarios for demand growth and technology deployment reaching a similar emissions outcome:

*'Our review of aviation emissions in 2009 showed that there are various options for meeting this target, including fuel efficiency improvement, operational efficiency improvement, use of biofuels, modal shift and constraints on demand growth. We presented scenarios with baseline demand growth of 150% from 2005 to 2050, falling to 115% when exposed to a carbon price that reaches £200/tCO₂ in 2050; in our 'Likely' scenario, emissions reductions were delivered through a 0.8% annual improvement in fuel efficiency, by meeting 10% of fuel demand with biofuels and by constraining demand growth to 60% from 2005 (a 75% increase from 2010 given that demand fell during the recession).'*¹²

Arguments for and against changing existing airport capacity in London

8. Virgin Atlantic believes the case for increasing the UK's hub airport capacity is overwhelming. Heathrow already serves fewer destinations than its three main EU competitors (Paris Charles de Gaulle, Frankfurt and Amsterdam Schiphol).¹³

No. of routes	Heathrow	Amsterdam	Frankfurt	Paris	Madrid
Short-haul	46	67	74	78	63
Long-haul	82	64	75	77	32
TOTAL	128	131	149	155	95

9. Heathrow is also poorly connected to some of the world's fastest growing economies. There are no daily flights between Heathrow and Mexico, Indonesia, Venezuela, Colombia, Chile, Philippines, Pakistan, Peru, Ukraine and Vietnam.
10. Constrained hub capacity has resulted in long-haul services squeezing out some short-haul services. This is not sustainable because most long-haul routes depend on the transfer passengers provided by short-haul services. As the figures for Amsterdam, Frankfurt and Paris show, successful hub airports have a mix of short-haul and long-haul services. The capacity crisis will not be solved by somehow forcing airlines to move short-haul flights out of Heathrow to other London airports.

⁹ DfT, *UK Aviation Forecasts, August 2011*, p.3 <http://assets.dft.gov.uk/publications/uk-aviation-forecasts-2011/uk-aviation-forecasts.pdf>

¹⁰ <http://ec.europa.eu/transport/modes/air/doc/flightpath2050.pdf>

¹¹ <http://www.theccc.org.uk/sectors/aviation>

¹² <http://www.theccc.org.uk/sectors/aviation/uk-aviation-emissions-to-2050>

¹³ Frontier Economics, *Connecting for growth: the role of Britain's hub airport in economic recovery*, September 2011

11. Constrained hub capacity restricts competition between airlines. British Airways operates over 50% of slots at Heathrow. Virgin Atlantic operates just 5% following its successful bid for the limited number of slots released by BA after its acquisition of bmi. The lack of available slots makes it difficult for Virgin Atlantic and other carriers to launch new services to offer much needed competition to the dominant carrier.
12. Constrained hub capacity limits the UK Government's ability to negotiate liberal bilateral air traffic agreements with other countries. Other countries are understandably reluctant to open up or extend access to their main airports for UK carriers, when the UK Government is unable to offer the same level of access to Heathrow. Pointing to spare capacity at Gatwick, Stansted or in the regions has so far proven unpersuasive.
13. Some argue that we don't need more hub capacity because other point-to-point and regional airports have spare capacity. If we are to maintain and increase long-haul services, particularly to the BRIC and emerging economies, we need a hub airport with more capacity because most long-haul services are not viable from our regional airports.
14. Hub airports combine significant point-to-point demand with domestic and international connecting traffic to make many more routes viable. This is particularly important for long-haul routes where airlines have higher fixed costs and larger aircraft to fill. Heathrow is the only UK airport that performs a significant transfer function.¹⁴
15. Our regional airports perform an important but different role. With relatively smaller catchment areas and limited connecting services, no frills, charter and scheduled airlines operate direct point-to-point short-haul services from regional airports. The biggest regional airports do support a limited number of long-haul leisure routes operated by UK airlines and business routes operated by overseas airlines feeding their home hub airport, but far fewer than Heathrow. The CAA does not foresee the development of significant hub-and-spoke networks at regional airports.¹⁵
16. The following table demonstrates the scale of the difference between our hub airport and our top point-to-point airports.

Airport	Total passengers (m)	Total passengers connecting ¹⁶	
		Number (m)	Share of all passengers
Heathrow	66.9	23.5	35%
Gatwick	34.5	4.5	13%
Stansted	23.6	2.2	9%
Manchester	21.6	0.6	3%
Birmingham	9	0.2	2%

17. Gatwick has attracted a handful of direct long-haul services to Vietnam, Korea and China in recent months. It remains to be seen if they can be made viable. Delta has recently dropped its Gatwick-Atlanta route, the carrier's last route from the airport, and started an additional Heathrow-Atlanta frequency.¹⁷

Short, medium and long-term options for addressing the issue of airport capacity and issues that need to be taken into account when assessing each option

18. In the short-term we support the implementation of the Future Airspace Strategy between now and 2020 which will enable airports to optimise runway efficiency. The CAA believes the Strategy will also deliver noise reductions and CO2 savings.¹⁸ However, this initiative will not result in significant increases in runway capacity.

¹⁴ http://www.caa.co.uk/docs/589/CAA_InsightNote1_Aviation_Policy_For_The_Consumer.pdf

¹⁵ Ibid

¹⁶ www.caa.co.uk/docs/5/Connecting_Passengers_at_UK_Airports.pdf

¹⁷ <http://www.business traveller.com/news/delta-drops-heathrow-miami-route>

¹⁸ <http://www.caa.co.uk/default.aspx?catid=2408&pagetype=90&pageid=14186>

19. We do not believe the Government should intervene in a well-functioning market by somehow forcing airlines and passengers to not fly from Heathrow or by distorting the aviation taxation system.¹⁹ We need more capacity where people want to fly. Airports with excess capacity can attract more passengers and airlines by reducing their charges, improving their passenger experience and marketing their services.
20. In the medium and long-term, Virgin Atlantic believes the UK needs one world class hub airport and successful point-to-point airports in London and across the country to meet future passenger demand. This is not an either/or question; we need both.
21. We supported the previous proposal for increased runway capacity at Heathrow. The proposal delivered significant extra capacity at an affordable cost, in a convenient location for passengers, within a relatively short timeframe. However, we are not wedded to one solution. If one or more superior alternative solutions come forward during the Airports Commission process they will receive our full attention. The Commission must analyse every credible solution that is put to them objectively on their merits.
22. Airport infrastructure is privately funded in the UK. If a solution is to reach fruition, it must be supported by a convincing business case that commands the confidence of those sections of the industry that will fund the project. In the absence of detailed proposals from existing airports (including Heathrow) or new developers, it would be premature to comment further at this stage.
23. We are extremely sceptical of the concept of a 'virtual' hub airport. Successful hub airports have low minimum connection times (the time it takes to leave one aircraft and board the next as part of an indirect journey). Even with a dedicated High Speed link between two UK airports, we cannot see how a 'virtual' hub could deliver either. Without a competitive transfer proposition, passengers will choose to connect at other competing hub airports, rather than in the UK.

Minimum connecting time in Europe²⁰	Minutes
Vienna	25-30
Munich	30-35
Copenhagen	45
Frankfurt	45
Amsterdam	50
Paris	60-90
Heathrow	60-90

24. Heathrow is today only capable of delivering minimum connection times of between 60-90 minutes. We cannot envisage how a Heathrow-Birmingham or Heathrow-Gatwick 'virtual' hub airport on two sites could deliver anywhere near the same connection times. For immigration and security reasons, it's difficult to envisage how passengers could remain airside for the whole transfer process.
25. We are not aware of a comparable successful 'virtual hub' airport operating anywhere else in the world. In countries such as France, Germany and Holland, each of their hub airports are on one site. A 'virtual' hub airport is no replacement for one hub airport that has sufficient capacity to meet future demand.
26. With regards to another airport taking on a limited hub role while Heathrow is at maximum capacity, we believe the UK is only able to support one internationally competitive hub airport. This is consistent with other comparable countries. We note that British Airways sought to run a second hub operation at Gatwick in the 1990s that was unsuccessful. The airline ended up consolidating its hub operations at Heathrow.

¹⁹ The CAA advises: 'any (taxation) measures should be non-discriminatory in order to minimise distortions and unintended consequences. Tax measures are likely to result in sub-optimal outcomes if they are used in an attempt to shape the sector.' http://www.caa.co.uk/docs/589/CAA_InsightNote3_Aviation_Policy_For_The_Future.pdf

²⁰ OAG Flight Guide, August 2010



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LONDON ASSEMBLY INQUIRY

Investigation into airport capacity in London

January 2013

Summary

- WWF believes that it is possible for the UK to maintain its premiere hub status and connectivity without major airport expansion in London. This will require better use of existing capacity, reforming slot allocation, renegotiating bilateral agreements, and moving flights of lower economic value to less congested airports. It will also require greater use of larger planes and higher passenger loading.
- WWF is not opposed to flying. However, the Committee on Climate Change (CCC) makes it clear that unconstrained expansion of airports is not consistent with the Climate Change Act which mandates a legally binding climate target, including aviation emissions, to reduce UK greenhouse gases by 80% by 2050, in comparison to 2005 levels.
- A strategy for aviation capacity should be based on the CCC's recommended limits to growth consistent with achieving this target; these allow for a 60% increase in passenger demand and 55% increase in Air Traffic Movements to 2050, compared to 2005 levels.¹
- WWF/AEF analysis of UK airport capacity² shows that there is ample capacity, even in the South East, to accommodate aviation growth to 2050 within these recommended limits.
- WWF believes that the Coalition Government is right to reject new runways at Heathrow, Stansted and Gatwick. WWF also believes that a Thames Estuary airport or other new or expanded hub would endanger UK climate targets and is not needed to meet future demand.

What are the arguments for and against changing existing airport capacity in London? What is the evidence in support of these arguments?

WWF believes that there are no persuasive arguments for expanding existing airport capacity in London. We believe that the main arguments for not supporting expansion are as follows:

- There is no clear evidence that airport expansion results in more jobs and economic growth
- Major airport expansion would come at the expense of UK climate targets and exceed the environmental limits to growth recommended by the Committee on Climate Change
- Such expansion is also unwarranted as future UK demand for air travel is likely to be lower than forecast, creating the prospect of 'stranded assets' if substantial new capacity is added
- There is already more than ample capacity to allow growth within environmental limits by using existing capacity better
- London is streets ahead of its Continental competitors in terms of connectivity to key markets so there is little likelihood of losing the UK's premiere hub status; it is also possible to add new routes to emerging markets without having to build new capacity

Our evidence for this is as follows:

Airport expansion won't guarantee economic growth or jobs

WWF accepts the economic importance of UK airports. However, this is routinely overstated in terms of net financial contribution to the economy taking into account the tourism deficit (which was £11.2 billion in 2011³), jobs created by the sector (120,000 according to ONS figures⁴ rather than the "200,000" often stated) and the assumption that business needs aviation growth in order to be profitable and competitive. WWF's *Moving On* research⁵ surveying FTSE-500 companies shows that the UK's leading businesses are flying less and are unlikely to return to pre-recession levels of flying as they have discovered significant benefits (cost and carbon savings, faster decision making, greater productivity, improved staff well-being) from increasing their use of videoconferencing and rail travel. This is also confirmed by WWF's own programme, the One in Five Challenge,⁶ which encourages lower carbon alternatives to flying. Members include several of the UK's leading and most progressive companies such as Marks & Spencer, Lloyds TSB, BT, BskyB and Balfour Beatty. Over two years, members have on average cut 41% of flights saving £2.4 million and 3,600 tonnes CO₂ per company⁷.

WWF rejects the simplistic argument that airport expansion will somehow lift the UK out of recession. The earliest any proposed expansion option could be ready is at least 10 years away, so not in the timeframe to provide immediate help to the economy. There is also no clear link between airport expansion and GDP growth. A recent study by Prime Economics shows similar rates of GDP growth in France, the Netherlands and UK, despite the former two countries having invested far more in airport expansion over the last decade.⁸ Research from the US, which examined the experience of 128 cities, found that 'simply increasing the frequency of flights to and from a city, or the number of destinations reachable from a city, will likely have little beneficial effect on its employment levels.'⁹

London airport expansion would endanger UK climate targets

Aviation emissions are the fastest growing source of UK greenhouse gas emissions and have more than doubled since 1990, at the same time that road transport emissions have only grown by 2% and emissions in other sectors have fallen¹⁰. Aviation emissions at high altitude also have approximately twice the warming effect of CO₂ alone¹¹. Therefore it is only right that aviation is included in UK carbon budgets and contributes its fair share to reducing emissions consistent with UK climate targets.

In WWF's view, future London airport capacity must adhere to the advice of the CCC in ensuring aviation growth remains fully consistent with UK climate targets¹². The CCC analysis rules out an 'unconstrained expansion' scenario, and recommends its 'likely scenario' as providing the best basis for planning future airport capacity. This scenario, which WWF supports, allows a 60% increase in passengers and 55% increase in ATMs to 2050, compared to 2005 levels.

A third runway at Heathrow would produce an extra 5 MtCO₂/year¹³ making it the single largest source of carbon in the UK, even greater than the Drax coal fired power station¹⁴. A Thames Estuary airport that is more than twice the size of Heathrow could be expected to emit more than 34MtCO₂/year¹⁵, excluding the carbon footprint of construction and new infrastructure. Such expansion would also pass on a high level of environmental debt to other sectors, expecting them to decarbonise by more than 90% in order to allow aviation to continue to grow¹⁶.

Lower growth forecasts do not warrant major expansion

This is discussed below.

There is already ample capacity

This is discussed below.

The danger of building more airport capacity than is needed is amply demonstrated in other countries. For example Spain's Ciudad Real airport, which was built to take the overflow of Madrid's Barajas airport, cost over €1 billion to build but now lies empty and is a symbol of wasteful spending. Another example of a 'stranded asset' due to adding too much airport capacity is Yangyang International airport, South Korea, and there are other severely underutilised airports in Taiwan, Saudi Arabia and the US.¹⁷

London's premiere hub status isn't threatened

Research by AirportWatch¹⁸ (commissioned by WWF) shows that Heathrow holds the position as the top European hub and it is not at any risk of losing its competitiveness. This conclusion is further supported by OAG statistics showing that London airports (including Heathrow) have 50% more seat capacity than the next largest European airport system which is Paris¹⁹.

Heathrow offers more flights to key business destinations than any other airport in Europe, more than the combined total of its two nearest rivals, Charles de Gaulle and Frankfurt.

Heathrow offers greater connectivity to 20 out of 27 key business destinations in North America, the Middle East and Asia. It also has more flights to Hong Kong (Asia's leading hub with its excellent links to second-tier Chinese cities) and the emerging economies of India and South Africa than other Continental airports. There is clear evidence that it is possible to increase flights to emerging markets using spare airport capacity. This is already happening at Gatwick and Birmingham airports where more routes to China, Korea and Vietnam are being added.²⁰ New routes from Heathrow to China, Sri Lanka and Mexico have also been added in recent

months.²¹ Most recent passenger figures at Heathrow and Gatwick also show a significant increase in flights to emerging markets²², without any increase in airport capacity.

What are the current levels of airport capacity and the current and future estimates of demand for aviation travel? What is the basis for the estimates?

Evidence shows that there is not a 'capacity crunch' in the South East that would support any major airport expansion. WWF/AEF analysis of UK airport capacity²³ shows that there is ample capacity, even in the South East, to accommodate aviation growth to 2050 within the environmental limits consistent with achieving UK climate targets, as recommended by the CCC, without needing to build new runways or terminals. As shown below, this analysis shows that there will be less than a 1% shortfall in South East runway capacity in 2050, based on larger planes and increased plane loading at Heathrow, as per BAA forecasts²⁴.

Region	2009 ATMs	Max mppa in 2050 under CCC emissions cap	Average passengers per ATM (2009)	ATMs Associated with CCC emissions cap in 2050	Maximum Available ATMs	Under / over provision
Scotland	319,639	36.8	67.8	542,773	867,200	324,427
Wales	20,537	5.1	79.37	64,256	170,000	105,744
Northern Ireland	83,229	11.3	86.15	131,167	240,000	108,833
North of England	328,459	75.5	106.56	708,521	1,300,918	592,397
Midlands	154,356	22.6	89.14	253,534	389,119	135,585
South West	98,277	11.3	80.08	141,109	635,000	493,891
South East (adjusted)	1,081,606	202.1	196 / 123 *	1,349,000	1,346,000	-3,000
Total	2,086,103	364.7	105.28	3,190,360	4,948,237	1,757,877

The DfT has historically overestimated future UK aviation demand. In each of its forecasts over the last 10 years, subsequent forecasts have been downgraded compared with the one before.²⁵ The DfT's latest 2011 forecast is a case in point as it is a 26% drop on the forecast made in 2009²⁶ and WWF understands from DfT officials that an even lower forecast will be published in 2013. Even though 2011 DfT forecast rates of growth are lower than previously, WWF still believes that they are still over-optimistic given the likelihood of lower rates of economic growth, higher oil prices and greater aviation taxation than are included in the DfT's modelling assumptions. According to sensitivity analysis conducted by the Aviation Environment Federation (AEF)²⁷, each of these more realistic assumptions would reduce demand by 10-25% below the DfT's forecasts and make it even less likely that the UK will run out of airport capacity by 2030.

What are the options in the short, medium and long-term for addressing the issue of airport capacity?

Existing airport capacity is sufficient for the needs of London and the South East. However, there are measures the Government should take to make better use of existing capacity to ensure the greatest economic benefit to the UK economy.

There is sufficient capacity at Heathrow, which although 'full' in terms of runway capacity under present usage, can still accommodate an extra 20 million passengers²⁸ in its terminals and increase passenger loading on departing flights, which are currently only 75% full.²⁹ The trend towards larger planes such as the A380, which according to BAA forecasts will increase average

loading at Heathrow from 143 to 198 passengers per aircraft³⁰, is also welcome and will help boost passenger numbers without more flights. The Government's stated policy of no new runways at Heathrow, Gatwick and Stansted should therefore be upheld, as existing airports should be used better rather than requiring expansion. Other major London airports have considerable amounts of spare capacity: 25% at Gatwick, 45% at Stansted and 15% at Luton.³¹ This capacity should be filled in preference to building new airports or runways.

There are several measures the Government could take to facilitate better use of existing capacity, including: reforming slot allocation; renegotiating bilateral treaties with key destinations such as China; and moving flights with lower economic benefit and fewer transfer passengers to less congested airports.

What issues need to be taken into account when assessing each option for addressing airport capacity?

The key issues that need to be taken into account are:

- Global environmental impacts (ie additional emissions produced as a consequence of airport expansion; compatibility with UK climate targets and Government commitment to keeping global warming to below 2° C)
- Local environmental impacts (ie noise, air quality, road congestion, public health)
- Cost:benefit analysis to include environmental and social costs (including extent of public investment necessary and likelihood of attracting private investors)
- Realistic assessment of future demand (does this warrant major expansion?)
- Modal shift and intermodality (eg airport rail links to replace connecting domestic flights and facilitate greater use of HSR, including links to Continent)

WWF is opposed to all options advocating an expansion of London airport capacity as we believe it is possible to achieve aviation growth within environmental limits with the capacity we already have. Any cost:benefit appraisal of airport expansion needs to consider environmental and social costs and be based on realistic future carbon prices. WWF, together with RSPB and HACAN, have recently commissioned CEDelft to prepare a new economic framework for aviation which will consider these issues and evaluate other cost:benefit appraisals on South East airport expansion. This work will be published in April 2013 and will be submitted as evidence to the Commission chaired by Sir Howard Davies.

Our views regarding the most commonly discussed options, Heathrow and the Thames Estuary, are as follows:

Heathrow

As has been pointed out above, the global environmental impacts of a third runway would be substantial, producing an extra 5 MtCO₂/year³². Although WWF does not work on local airport impacts, 28% of all those adversely affected by noise in the whole of Europe, 725,000 people, are Londoners who live under the Heathrow flight path. Adding a third runway would affect another 150,000 people³³. A third runway is also not supported by many local voters.

Given Heathrow's preeminent position as the UK's biggest hub airport with substantial existing infrastructure, WWF suggests that it should retain priority as the UK's main hub airport serving long haul destinations with a high percentage of transfer passengers. However, in order to prioritise these long haul flights and maximize the economic benefits to the nation (not to the operators), action must be taken to move short haul and point-to-point leisure flights which have low economic value away from Heathrow, which are causing the congestion of the airport. Regional airports, in contrast, should primarily provide point-to-point flights to leisure markets which have lower economic value, making use of their far greater levels of spare capacity than in the South East. Of all regional airports, Birmingham Airport has the most potential to function as a secondary (overflow) hub to Heathrow, especially once the HSR link is built. WWF believes there is much of merit in Birmingham Airport's proposal to balance UK aviation away from a single mega-hub³⁴, although we would prefer to see Birmingham Airport better linked to key hubs in emerging markets rather than offering more point-to-point flights to secondary destinations.

Previous work by WWF to appraise the cost:benefit of a third runway at Heathrow³⁵ showed a £5 billion loss, based on a higher future cost of carbon than the Government's assessment. WWF still stands by our assessment and can see no reason why these results would have changed. A third runway at Heathrow remains economically unviable.

Thames Estuary

WWF does not believe that this option is viable on either economic or environmental grounds. As stated previously, a new super hub would emit more than 34MtCO₂ annually. If a single new runway at Heathrow is economically unviable, a Thames Estuary airport of four new runways would be even less so. It is not surprising that a director of Deutsche Bank recently said that he considered it would be difficult to raise the necessary finance necessary for a new Thames Estuary airport and estimated that the Government would have to invest £60 billion to build it.³⁶ His views have been reinforced by a recent Oxera study commissioned by the Transport Select Committee, which also found that a Thames Estuary airport would require significant public investment and is unlikely to be economically viable.³⁷ A Thames Estuary airport would also lead to the closure of Heathrow and the likely loss of 100,000 jobs³⁸.

Environmentally, emissions from a new estuary airport would dwarf Heathrow, as has already been discussed. A Thames Estuary airport would also destroy a world-class wetland with serious impacts to birdlife³⁹ and could contravene the EU Habitats Directive to protect special areas of conservation⁴⁰.

Contact	Jean Leston, Senior Transport Policy Advisor, WWF-UK
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Date	22 January 2013

¹

<http://downloads.theccc.org.uk/Aviation%20Report%2009/21667B%20CCC%20Exec%20Summary%20AW%20v2.pdf>

² http://assets.wwf.org.uk/downloads/airport_capacity_report_july_2011.pdf

³ http://www.ons.gov.uk/ons/dcp171776_274235.pdf

⁴ <http://www.ons.gov.uk/ons/rel/abs/annual-business-survey/2010-revised-results/index.html>
⁵ www.wwf.org.uk/movingon
⁶ www.wwf.org.uk/oneinfive
⁷ [http://assets.wwf.org.uk/downloads/second one in five challenge annual report 2010 11 1.pdf](http://assets.wwf.org.uk/downloads/second%20one%20in%20five%20challenge%20annual%20report%2010%2011%201.pdf)
⁸ <http://www.primeconomics.org/wp-content/uploads/2012/09/Heathrow-3rd-runway-03092012.pdf>
⁹ <https://www.msu.edu/~zpneal/publications/neal-causalair.pdf>
¹⁰ <http://assets.dft.gov.uk/statistics/series/energy-and-environment/climatechange/factsheets.pdf>
¹¹ <http://www.tiaca.org/images/tiaca/PDF/IndustryAffairs/2009%20IPCC%20authors%20update.pdf>
¹² <http://downloads.theccc.org.uk/Aviation%20Report%2009/21667B%20CCC%20Aviation%20AW%20COMP%20v8.pdf>
¹³ <http://www.greenpeace.org.uk/files/pdfs/climate/case-against-heathrow-expansion.pdf>
¹⁴ [http://en.wikipedia.org/wiki/Drax power station](http://en.wikipedia.org/wiki/Drax_power_station)
¹⁵ [http://www.heathrowairport.com/static/Heathrow/Downloads/PDF/LHR Climate brochure.pdf](http://www.heathrowairport.com/static/Heathrow/Downloads/PDF/LHR_Climate_brochure.pdf)
¹⁶ <http://www.theccc.org.uk/reports/building-a-low-carbon-economy>
¹⁷ [http://www.huffingtonpost.com/Infrastructurist/the-6-most-underused-airp_b_1071584.html#s451072&title=2_Yangyang International](http://www.huffingtonpost.com/Infrastructurist/the-6-most-underused-airp_b_1071584.html#s451072&title=2_Yangyang_International)
¹⁸ [http://www.aef.org.uk/downloads/Business Connectivity Report August2011.pdf](http://www.aef.org.uk/downloads/Business_Connectivity_Report_August2011.pdf)
¹⁹ <http://www.oagaviation.com/OAG-FACTS/2012/December-Executive-Summary>
²⁰ <http://www.gatwickairport.com/business/media-centre/press-releases/air-china-to-launch-gatwick-beijing-services-in-2012/> ; <http://www.abtn.co.uk/news/2717289-birmingham-sets-sights-china-flights>
²¹ <http://mediacentre.heathrowairport.com/Press-releases/Heathrow-welcomes-new-route-for-Aeromexico-33d.aspx>; <http://www.heathrowairport.com/plan-and-book-your-trip/latest-destinations>;
²² http://www.britishairways.com/travel/new-routes/public/en_gb
²³ <http://www.abtn.co.uk/news/1117950-asian-routes-boost-heathrow-and-gatwick>
²⁴ [http://assets.wwf.org.uk/downloads/airport capacity report july 2011.pdf](http://assets.wwf.org.uk/downloads/airport_capacity_report_july_2011.pdf)
²⁵ Heathrow Airport, Interim Master Plan, BAA Heathrow, 2005
²⁶ <http://www.baa.com/assets/B2C/Portal/Static%20Files/LHRInterimMasterPlan.pdf>
²⁷ <http://www.airportwatch.org.uk/?p=2699>
²⁸ <http://www.ft.com/cms/s/0/8f2f0698-cf37-11e0-b6d4-00144feabdc0.html>
²⁹ [http://www.aef.org.uk/uploads/AEF Passenger Forecasts analysis 1.pdf](http://www.aef.org.uk/uploads/AEF_Passenger_Forecasts_analysis_1.pdf)
³⁰ Civil Aviation Authority data (2009) compared to total Heathrow capacity including Terminal 5
³¹ BAA monthly data (2010-2012)
³² [http://www.lbhf.gov.uk/Images/ERSP Interim Master Plan Report tcm21-39448.pdf](http://www.lbhf.gov.uk/Images/ERSP_Interim_Master_Plan_Report_tcm21-39448.pdf)
³³ Gatwick, Stansted and Luton airport passenger and ATM traffic data (2011)
³⁴ <http://www.greenpeace.org.uk/files/pdfs/climate/case-against-heathrow-expansion.pdf>
³⁵ <http://www.airportwatch.org.uk/?p=696>
³⁶ [http://www.westbournecoms.com/wp-content/uploads/2012/06/WES1684 westbourne aviation report 06.12 web.pdf](http://www.westbournecoms.com/wp-content/uploads/2012/06/WES1684_westbourne_aviation_report_06.12_web.pdf)
³⁷ http://www.wwf.org.uk/filelibrary/pdf/alchemy_economics.pdf
³⁸ <http://www.economist.com/node/21557527>
³⁹ <http://www.parliament.uk/business/committees/committees-a-z/commons-select/transport-committee/news/oxera-substantive/>
⁴⁰ <http://www.londonnet.co.uk/news/2012/jan/thames-estuary-airport-would-kill-heathrow-says-baa-boss.html>
⁴¹ <http://www.rspb.org.uk/ourwork/casework/details.aspx?id=tcm:9-304003>
⁴² http://europa.eu/legislation_summaries/environment/nature_and_biodiversity/l28076_en.htm

LONDON ASSEMBLY INVESTIGATION INTO AIRPORT CAPACITY IN LONDON

These are Westminster City Council's initial officer level comments for the London Assembly Transport Committee's investigation into airport capacity in London. Further submissions may be made by the City Council to the Committee if appropriate.

General Comments

The City Council's formal policies are set out in the adopted Core Strategy and draft City Management Plan.

Although physically distant from London's airports, Westminster is affected by the current surface access provision to them. In particular, the existing Gatwick Express, Heathrow Express and Heathrow Connect rail services have their central London termini in Westminster at Victoria and Paddington. This leads to increased pedestrian activity in and around the stations; additional demand for other public transport services, particularly underground services, serving the termini; and additional traffic, particularly taxis, on the road network, including residential roads, surrounding the stations.

Westminster is also affected by aircraft noise (particularly flights to and from Heathrow Airport and London City Airport) even though it is remote from the airports. A new runway at Heathrow Airport is likely to affect additional areas of Westminster as different flight paths would be required, and the City Council would welcome any measures to mitigate any potential aircraft noise issues resulting from flights to and from Heathrow Airport and London City Airport .

These concerns were set out in the City Council's response to the earlier consultation by the Department for Transport on airport capacity in the South East in 2003. The City Council's principal concerns, which have held since the 1980s, are still relevant in terms of improving access to central London and the important contribution of aviation to London and the UK economy has always been recognised.

The City Council has no particular views or policies about whether any additional airport capacity should be provided in London, or whether there should be a further hub airport, or where any new airport capacity should be provided. However, in the City Council's view, it is important to ensure that the provision of any new airport capacity is accompanied by adequate road and rail links to the airport and the provision of adequate onward transport facilities at the central London termini. The City Council also considers that the provision of any new airport capacity should address environmental concerns such as carbon reduction, climate change adaptation, air quality and noise pollution.

The City Council welcomes the Government's decision to set up the independent Commission, chaired by Sir Howard Davies, to identify and recommend options for maintaining the country's status as an international

hub for aviation, including the scale and timing of any requirement for additional airport capacity and how any need for additional capacity should be met.

The City Council also recognises that in the longer term London's economic future would be harmed by not having more airport capacity and given the global nature of the economy in Westminster this would undoubtedly impact on Westminster businesses

Heathrow

The City Council has specific policies which seek to minimise the impact of traffic and parking generated by development proposals in the Paddington area and new rail services on the surrounding residential area. The City Council has also produced a Planning Brief for Paddington Station and Environs which reiterates the concerns about surface access to Heathrow Airport and which has been adopted for development control purposes.

The City Council welcomed the principle of Heathrow Express, although concern was expressed about the proposed vehicular access arrangements at Paddington Station. In view of this concern, a new vehicular access to Paddington Station was implemented in order to focus station traffic, particularly taxis, to and from the main road network and away from the surrounding residential areas which was secured through an undertaking given to Parliament by the City Council and the promoters of Heathrow Express.

The City Council was an objector to the proposal for a fifth terminal at Heathrow Airport given the impact of additional traffic that would be generated by the additional patronage of Heathrow Express. In particular, the City Council made detailed representations to the Terminal 5 public inquiry that any planning permission should be conditional on adequate vehicular access being provided at Paddington Station and additional surface access links to Heathrow, such as Crossrail, being provided. Given, the City Council's concerns, the Secretary of State imposed a condition as part of the Terminal 5 planning permission that patronage of Heathrow Express cannot exceed 12.9 million passengers per annum (mppa) with approval of the local planning authority. The City Council considers that any additional airport capacity at Heathrow, such as the provision of a third runway, would mean that this patronage would be exceeded and that further improvements to the road network and public transport at Paddington would be required at that time.

The City Council was concerned that no conditions to provide additional rail links to Heathrow Airport were included as part of the Terminal 5 planning permission. Subsequently, the City Council petitioned in support of the provision of Crossrail services to Heathrow Airport during the passage of the Crossrail Bill through Parliament. The City Council welcomes the provision of Crossrail (currently under construction) including through running to Heathrow Airport which, on opening in 2018, will mitigate the impacts of existing conflicting passenger movements at Paddington Station, as passengers will be able travel direct from Heathrow Airport to the West End, City and Canary

Wharf without the need to interchange at Paddington. Additional surface access provision to Heathrow Airport is welcomed by the City Council in order to further mitigate the impact of road traffic in residential areas.

The City Council considers that any provision of additional airport capacity at Heathrow should require the provision of new rail services, including those to destinations outside central London. The City Council welcomes the Government's commitment to improve surface access to airports, whilst taking into account the associated environmental impacts. This includes funding for a new rail line from the Great Western Main Line near Slough to Heathrow Airport which could provide significantly improved connections and journey time savings from the Thames Valley, the West of England and Wales to the airport. This new rail link could also reduce interchange (between Great Western and Heathrow services) at Paddington Station. In the longer term, the Government is looking at a spur to Heathrow Airport as part of the second phase of the High Speed 2 rail proposals, which would allow passengers to travel directly to Heathrow Airport from the North and Midlands without having to change train.

The City Council is also concerned about the impact of any additional capacity at Heathrow Airport on the patronage of the Piccadilly line, given the existing capacity constraints at a number of Piccadilly line stations in Westminster, particularly Covent Garden and Leicester Square.

Gatwick

The City Council is also concerned about the impact of additional airport capacity at Gatwick on Victoria Station and the surrounding area. As at Paddington, the City Council has produced a Planning Brief for Victoria Station, which has been adopted for development control purposes.

The provision of any additional airport capacity at Gatwick in the future would require new and improved rail services between Gatwick and central London and substantial improvements to be made at Victoria in terms of the layout of the surrounding road network and onward travel by taxi, bus and underground. Given the complexity of the Victoria area, this would require the involvement of a number of parties including Network Rail, train operating companies, Transport for London and possibly adjacent landowners and developers. A number of developments, including London Underground's Victoria Station Upgrade, are already underway at Victoria in order to cater for existing passenger numbers and further mitigation measures to cater for any increase in airport capacity at Gatwick should be considered. The City Council welcomes Network Rail's Masterplan proposals for Victoria Station and London Underground's further proposals for the Circle and District lines capacity upgrades. The City Council also supports the provision of Crossrail Line 2 which would serve Victoria Station, for which safeguarding is to be revised in 2013.

9 January 2013

Emails from members of the public

Whatever the government decides to do about increasing airport capacity in London, it is already too late! However, the priority is to expand existing airports, which will be quicker and cheaper, a brand new big hub airport could be built simultaneously. It definitely ought to be sited in Kent with excellent transport links to London, how about near the Ebbsfleet train station? The area is the only part of the south-east that is economically depressed, this would give it a tremendous boost.

The quick fix that is needed immediately is a third runway at Heathrow. I have been to Sibson, it is not worth saving. There ought also to be another runway at Gatwick. When Gatwick had the option back in the fifties of building another runway, they turned it down in favour of building a shopping mall instead! Tear down the shopping mall and turn it into a runway!

Josephine Bacon

I think the time is right to reconsider the existing air transport models and take a more radical look at what we need to do. That doesn't mean restricting air travel growth - just the opposite - but to re-think the existing service model and introduce new opportunities.

There seems to be a natural conflict between the provision of convenient passenger facilities that are near urban centres with good transport links, and the need to provide 24x7 operational facilities for increasingly intense aircraft movements.

It also seems that, regardless of where you site your airport, wherever its possible there will be a movement of people to that area that will eventually restrict its growth. Around the South East, there is nowhere that could accept additional aircraft movements without adversely affecting large numbers of residents - and this will get worse as the population of the South East grows.

We also have the issue of the massive existing investment in land, buildings, transport, local businesses, and people that's already been made in Heathrow, Gatwick, Stansted and others.

Perhaps we should now consider separating the runways and aircraft handling facilities from the passenger handling terminals and check-in facilities and allow the building of a large off-shore aircraft handling port while maintaining existing passenger handling at Heathrow, Gatwick, etc.

In theory, passenger check-in could occur anywhere (even in the centre of London), and once checked-in, then some form of high speed, secure transport could take them directly to the aircraft *boarding*. So why build new passenger handling facilities when we have those in plentiful supply (with the associated retail and lounges), and if we remove the need for some of the existing and any additional runways at our existing 'urban' airports, there should be plenty of room for terminal extensions if needed. Its a different model but one that, by separating the two conflicting requirements, could offer some interesting and viable alternatives and easier economic transitions. The challenge would be to provide the secure and effective high speed transport links to the new site. However, these are needed anyway, regardless of the location of any expansion or new airport facility because existing transport is insufficient.

Growth of the new aircraft handling port could be staged over a number of years, growing as required without major restrictions, and requiring only the minimal of waiting services for the passengers as generally they would be boarded immediately after arrival from the check-in centres.

In Dubai, they are building a massive new airport in the dessert between Dubai and Abu Dhabi - away from any conurbations - but passengers will still need to travel a long

distance to get there. Many cities are building their airports far away from the city centres, but all are having to compromise because of the increased transport improvements needed and will eventually be constricted in growth by the movement of workers and facilities into the surrounding areas. This proposal is similar - place the aircraft a long way from residents - but doesn't move the check-in facilities until needed, if at all. It could well be that new service models will arise that allow passengers to check-in during transit from city centres, or provide check-in hubs around the city/suburbs. Arriving passengers could be transported comfortably to existing transport hubs before being re-united with cumbersome baggage.

A new paradigm that allows new services, service improvements, and removes restrictions from the airlines to introduce new, larger, faster, more frequent, alternative aircraft in a safer more efficient environment away from any people.

I cannot answer all four questions you have posed in the briefing document but I think that this proposal merits consideration as it offers an alternative way to address your last two questions:

What are the arguments for and against changing existing airport capacity in London?
What is the evidence in support of these arguments?

What are the current levels of airport capacity and the current and future estimates of demand for aviation travel? What is the basis for the estimates?

What are the options in the short, medium and long-term for addressing the issue of airport capacity?

Options such as expanding existing runway capacity will cause considerable hardship for many, many people living in the London and South East areas. All options are expensive, but expansion of existing facilities adds the suffering of families and people locally. That's unfair and unnecessary. In the short term, there are additional runway's at local military bases. By applying the same principles that I have outlined above, of separating passenger services from aircraft handling services and linking the two with high speed secure transport, existing runway capacity at, say, Northolt, or Farnborough could be utilised on an interim (0-15 yr) basis without the requirement for more land or destruction of property, and utilising the passenger handling services at Heathrow. There are probably similar military or private airfield around Gatwick (is Biggin Hill large enough for small planes?) and Stansted? Over time, these services would be cut back and phased out, as would aircraft movements at Heathrow and Gatwick, as the new runways come on stream in the Thames Estuary.

What issues need to be taken into account when assessing each option for addressing airport capacity?

- 1) the need to enable rapid growth now to relieve current constrictions and reduce the safety risks of running at maximum capacity for extended periods at Heathrow.
- 2) the need to safeguard peoples standard of living now - there is no need to ruin more lives
- 3) the need to allow for changes in transport - changes in aircraft, changes in ground transport, changes in travel patterns, changes in security.
- 4) the massive existing investment in facilities at current airports - the economics of investment by airlines and airport authorities - these should not be discarded or threatened but should be adapted to extend their usefulness
- 5) the loss of employment if a new airport takes movements away from existing hubs. This can be mitigated by maintaining existing hubs, utilising the runway and aircraft

manoeuvring space for business services and expansion of the retail spaces etc for passengers and their families. Maybe maintaining some aircraft movements for cargo or executive/smaller volume travel.

regards,
Chris Noon
C.Eng, MSc, MBA, BSc (Hons) Eng

Like Paris, Brussels, Amsterdam, Frankfurt, Madrid, Rome, Berlin and other major cities we should improve the railway network of London, including daily trains to Amsterdam, Frankfurt, Geneva and Nice as being pushed forward by the European Commission and actually make a 15% Reduction in Londons airports capacity.

It is much more than pollution.

Even with less noisy aircraft, living within 5 miles of Heathrow airport is still intolerable.

Thanks,

Larry Squire

I have lived on Grove Hill Road in Camberwell now for over three years. During this time the aircraft noise at all times has grown more frequent and worse in volume.

During the day and evening it's tolerable as I'm awake.

However, when this extremely loud noise starts each and every morning at 9am, it's simply unbearable, and has had a significant impact on my quality of life. It affects my moods and also makes concentration during the day that much harder. It surely cannot continue to affect so many lives?

Daniel Brooks

Hello,

I live in East Dulwich. Typically I am woken up at 4.30am by aircraft noise. I love East Dulwich and love London, but I am not sure how much longer I can cope with this exhaustion. How many Londoners, who after all contribute considerably to the UK economy, work below peak or give up work altogether because of this issue? Surely it cannot be allowed to continue....

Thanks,

Graham

[To: Foster and Partners, Volterra, Docel]

As you are aware I am very passionate about the potential for the former SHELL UK refinery site (2000 acre brownfield site with vast neighbouring expansion potential), Thurrock, Essex to be recreated as London Thames Global Airport & Cruise Liner

Terminal to form a foundation for a deliverable, affordable and sustainable framework for additional runway capacity in the SE to serve London and to foster UK aviation connectivity and growth.

I have previously obviously only briefly highlighted the overall benefits of LTGlobal via email correspondence with you, but are hopeful you can see the vision.....

LTGlobal and associated infrastructure with Thurrock SmartCity development will focus on innovative technology and future-proofing social, environmental, employment and infrastructure needs....enhancing and sustaining Heathrow Hub Airport status. Evidence will be submitted to be considered as part of the Davies Aviation Commission.

It is not too late to have a safety net...re: London Jubilee International Airport, Thames Hub and I would welcome your involvement.

LTGlobal's prime location and twin SW sustainably heated (CHP) runway configuration will minimise local negative impacts and will defuse conflicting airspace issues other new airport proposals east of London pose.

Extensive area profiling studies, environmental mitigation, surveying, planning and finance issues already completed.

Thurrock, an area rich in heavy industry and national infrastructure projects including Power Generation, Tunneling, Bridges, Ports, Oil Refining & Fuel storage, etc...Thurrock an area growing in population and diversity, an area with over 60,000 new homes planned....Thurrock, excellent already established UK connectivity, easily enhanced to accommodate LTGlobal.

Discussions ongoing at DFT for new Lower Thames Crossings (ideal to serve LTGlobal>Ebbsfleet dedicated HS Shuttle)....new flood defence to secure London, ongoing ...Paramount Theme Park (£2bn investment) at Ebbsfleet planned...X2 new Power Generating Plants planned for Thurrock (CHP provision for heated runways)..Ebbsfleet HS1 dedicated connection (LTGlobal South Terminal)....Crossrail spur connectivity advantages.....etc, etc, etc.

I would be happy to meet to discuss LTGlobal Airport development at your earliest convenience.

I look forward to hearing from you,

Regards

Jeff Barker

[to: Mark Reckless MP/Robin Cooper – Medway]

Dear Sirs,

Reflecting upon today's TSC meeting.....

It would appear that all estuary airport proposals are doomed to fail?

LONDON THAMES GLOBAL AIRPORT & CRUISE LINER TERMINAL, THURROCK, ESSEX proposal of which you are familiar with is responding to informed opinion and is still fluid.

Submission of evidence to support the creation of LTGlobal will be submitted to the Davies Commission shortly.

Briefly.....maybe you would have more appetite for a "single" runway LTGlobal (30mppa) with a view to expand other London airports on demand in the future. Birmingham Airport in association with HS2 will also be in the loop.....

London Gateway Port loss will be easily absorbed by existing and enhanced UK deepwater ports. Investment in infrastructure improvement at Thamesport and Harwich will help take up the slack locally.

I look forward to hearing from you,

Regards

Jeff Barker

Dear Ms Pidgeon AM,

.....with a view to expand other London Airports on demand in the future.....competition rules....

.....Post 2030.....advanced technology inAircraft design....fuel & fuel efficiency.....noise and air pollution.....etc, etc.....

LTGlobal offering direct global links to BRIC economies....quicker, cheaper, less environmental and social impact than all other additional SE runway options..

LTGlobal in association with Thurrock SmartCity....position "A" growth driver.

Regards

Jeff Barker

Dear Mr Shamal,

Thank you for the reply. We will have to agree to disagree....

Regards,

Jeff Barker

From: Ratnayaka Shamal a@tube.tfl.gov.uk>

Dear Mr Barker,

Thank you for your e-mail in follow-up to our meeting here. We welcome all contributions to this important debate that is so key to the economic prosperity of London and the UK and it was useful to be able to discuss your proposals with you.

Addressing the shortage in UK hub airport capacity remains the overarching concern of the Mayor and the focus of our efforts. Our work to date affirms that this can only be addressed by a minimum 4-runway hub airport able to cater for the forecast demand. As discussed, the complexities of a virtual hub - with different airports linked by rail links - make this unviable as an alternative.

As such, we do not believe that the case has been proven for a new 1-runway airport in the southeast.

Moreover, there would be significant legal, commercial and political obstacles to stopping the London Gateway port development, as would be required for your airport.

As such, I'm sorry that we cannot take your specific proposals forward. I would nonetheless like to thank you for taking the time to discuss your proposals with us and wish you the best with your endeavours.

Kind regards
Shamal Ratnayaka

Shamal Ratnayaka
Principal Transport Planner - Aviation

Transport for London

Windsor House · 42-50 Victoria Street · London SW1H 0TL

Dear Shamal,

Follow up.....

With reference to your reply,"forecast demand", are you referring to transit passenger numbers only, or general demand for travel to/from emerging markets?...numbers would be useful.

"significant legal, commercial and political obstacles stopping London Gateway Port development"although significantly more to developing Thames Hub, LJI, Boris Island, 4 runway Heathrow, 4/5/6 runway Stansted?, etc.

London Thames Global Airport & Cruise Liner Terminal in association with Thurrock SmartCity development...delivered in Under 10 years...an excellent alternative investment for DPWorld.

LTGlobal, offering global links to BRIC economies....quicker, cheaper, less environmental and social impact than all other additional South-East runway capacity proposals.

Thurrock SmartCity...the future Essex version of CANARY WHARF DEVELOPMENT....ECONOMIC BOOMTOWN....jobs and growth, growth and jobs.

Regards

Jeff Barker

Gillian Harding

I would like to make a short submission to the Transport Committee's investigation into airport capacity in London, with particular reference to the last question, "What issues need to be taken into account when assessing each option for addressing airport capacity?". My issues relate particularly to the health and environmental issues associated with expansion at airports. I am a member of HACAN and EANAG, but am writing as an individual.

1. Existing developments at Heathrow could increase the passenger capacity at Heathrow by 20m (from 70 million) by 2014, according to the report *Plane Speaking* (published last year by the London Assembly's Health and Environment Committee). Heathrow Airport itself seems to be expecting a smaller increase, to about 72.6 million by 2018-2019. Nonetheless, any increase in passenger numbers puts strain on transport links, when there are already complaints about over-crowding on the Piccadilly Line, and worries about the level of air pollution and noise around Heathrow. *Plane Speaking* says that about 60% of passengers travel to Heathrow by car / taxi, and the Richmond Heathrow Campaign's submission shows that the percentage of transfer passengers at Heathrow is about 35%. If there were to be 20 million more passengers at Heathrow, of which 13 million (65%) leave the airport, and 7.8 million (60%) use a car, that could be over 21,000 extra car journeys *a day* on West London roads, with the obvious knock-on effects on congestion, noise and air quality. This means that even in the absence of new runways, increasing passenger numbers could have a substantial impact on the local environment.

2. If the actual airport expands, such as through adding a new runway(s), there will be obvious impacts on air quality and noise levels from additional planes and associated road traffic. You will be aware of the MIT report published last year which showed that pre-mature deaths in London associated with pollution could treble if a third runway was to be built at Heathrow. I do not know if similar studies have been performed to determine the effect of expansion at other airports on air quality, but that must be a concern.

3. A study done for the West London Local Authorities by Bureau Veritas found that the ending of the Cranford Agreement at Heathrow (which would mean that planes could routinely take off from the northern runway on easterly operations) would "significantly increase" the noise at Havelock Primary School in Ealing. You will be aware of the RANCH report, which found that the reading age of children exposed to high levels of aircraft noise is delayed.

4. You may have seen the editorial in the British Medical Journal (reported recently on AirportWatch: <http://www.airportwatch.org.uk/?p=511>) which refers to the WHO 1999 Charter on Transport, the Environment and Health, which "recommended that community wellbeing be put first in transport and infrastructure policies". The authors go on to note that the Royal Commission on Environmental Pollution report in 2007 recommended that Health Impact Assessments (HIA) should be mandatory, although

this was not implemented. May I call on the Transport Committee to recommend in its report that an HIA should be carried out prior to any expansion at any of London's airports (including developing a new airport), or indeed, prior to any change in operation that could have significant impacts on health.

5 .On a general point, it would seem very sensible (as suggested at your second public meeting) for the Oyster scheme to be extended to include Gatwick and Stansted airports, so as to help promote the use of public transport. Reducing the price of the services to Heathrow from Paddington may also assist in moving passengers off the roads.

Christopher Sutton

I am simply a resident of London, without any expertise or vested interest into airport capacity. However I am a deeply interested observer in London and its dynamic economy. As such I would like to say London does need new airport capacity. There is a caveat that I recon new capacity will have to come from a hub airport. Heathrow would be the easy choice, a new airport would be exceptionally expensive but still a viable option. New capacity at Gatwick or Stansted, although not completely futile, I think would not give London what it needs.

Oliver Anderson

I would like to know if Greenham Common has been considered as a potential location for expansion of our airport capacity?

Advantages:

Already established location

Easier to expand existing logistical support west from LHR

Flight path wouldn't interfere with our European cousins

Already established transport links that could be upgraded, with less disruption than a proposed expansion to the east

All of this would appease LHR management who might be more supportive of this option, especially as it should extended the life of LHR.

Rosemary Doggett

As a long-term London resident the increased noise from aircraft is now seriously affecting my daily life and that of my family.

From 04.37 each morning to be precise. When the first aircraft thunders overhead. Then another at 04.45. Then another at 04.50. Then a blessed gap until 05.15. Then continuously from 05.30am onwards.

These are heavy passenger jets making enough noise to penetrate tightly closed windows - the idea of trying to sleep with a window even slightly open in mid-summer is unthinkable.

There should be NO flights permitted to fly over densely populated areas before 6am unless for an emergency.

Flights drone over Battersea every 90 seconds most days and it is impossible to sit outside and hold a conversation during the evenings and at the weekend.

Very few European cities have their international airports to the West of their capitals - this historical mistake should be rectified by whatever commercially viable means necessary. With immediate effect.

The rhetoric spouted by so-called business leaders about our being non-competitive with other European cities because the long-suffering millions of residents refuse to go noisily into the night on this issue is as tedious as it is specious.

We South Londoners are sick of being told 'if you don't like the aircraft noise, move'. Really? Where to? Stockwell? Nine Elms? Fulham? Putney? Barnes? Tooting? Streatham? Clapham? All just as bad considering we have to play postcode roulette with London City, Heathrow, Gatwick and the Battersea Heliport to contend with. And I've yet to meet a vendor who's willing to be honest about the noise they are suffering or indeed let us view their house at 04.37 am to check it out.

And why should I have to sell my home incurring vast expense to move out to the sticks? My work is based in London and I should be able to live here without being driven to distraction by damn aircraft ruining my sleep and quality of life.

I can only hope that sanity will prevail and a long-term solution found that doesn't entail expanding any of London's airports. It's as simple as that.

Faisal Durrani

As a resident of London and a former resident of Dubai, the world's fastest growing aviation hub, I thought I would share my views on expanding London's airport capacity. I have broken down my thoughts into short, medium and long term suggestions.

London's airport capacity has reaching critical mass and the urgency to find a solution is paramount to the continued growth of both the London and UK economies.

Short term solutions

1) *Airport operational hours* - With immediate effect, the operating hours of airports should be extended, which will instantly add more capacity. I understand that there are restrictions on noise levels, etc, but there are fleets of modern aircraft around today that can take off and land safely in virtual silence. If windows of operation are still to be used, these should be shrunk to reflect the urgent need to address the capacity shortfall.

As an example, several airports around the world operate a 24-hour schedule, including Dubai, which is a necessity of for a modern 21st century city. A radical shift in thinking is required in order to achieve this, but one that Central Government can achieve easily across all of London's airports.

2) *Remote parking stands and turn around times* - Several airports around the world, including Dubai have implemented the successful use of remote parking stands to handle additional aircraft and thereby increasing airport capacity beyond the existing infrastructure. Given the availability of land at airports such as LGW and STN, this would be a quick and efficient way to increase capacity.

Additionally, aircraft turn around times should be increased. Airlines could perhaps be offered cost incentives to turn their aircraft around as quickly as possible, thereby freeing up gates as quickly as possible. Understandably there will be a lot of resistance to the idea, but by working with airport authorities, airlines could be encouraged to be more efficient with their allocated landing slots and this could perhaps even increase the number of available landing slots slightly.

Medium term solutions

1) *Encouraging the use of modern, efficient aircraft* - Modern and efficient aircraft such as the A380 can take off and land at significantly sharper angles than conventional aircraft, which means that the constraints of airport operating hours can be removed altogether, with A380 aircraft allowed to operate throughout the night, for instance. Airlines could be offered an incentive in the form of additional slots, or reduced landing fees for operating outside normal airport operational hours, thereby freeing up some capacity at all airports capable of handling the A380.

2) *Expansion of existing airport facilities*- All runways should be extended to handle the A380. Airport officials need to work closely with Boeing and Airbus to better understand the plans and requirements for future aircraft, so that airports can be adapted in advance of new aircraft taking to the skies. The constraints of runway length at airports such as LGW, LCY and STN mean that larger aircraft are forced to land at LHR. This is something that should be investigated as a priority.

3) *Readjustment of airport usage* - This links with the previous point about runway length. Perhaps airports such as LCY, STN and LGW should become centres for flights to various regions. For instance, LHR could be a dedicated long haul hub, with all short haul traffic diverted to other airports, which would ease the space constraints at LHR; however this would gradually increase the pressure on infrastructure at other airports, but this can be managed through a program of infrastructure upgrades, where space permits.

Long term solutions

1) *Reconfiguration of existing airports* - This is perhaps a wild card solution to the problems at LHR, but more efficient airport terminal runway layout could be explored in order to create more space at the airport. Much of the infrastructure is outdated and will need refurbishment/replacement over the next decade, so this could be an opportune time to reorganise the layout of the airport. For instance, terminals and concourses could be moved underground, while runways could occupy all the overground space - it is a blue sky idea, but this is what London needs to retain its position as a global aviation hub.

LCY is another good example of where airport infrastructure, although excellent, is woefully inadequate, given the proximity of the airport to Central London. The runway

could be extended down the Thames, allowing larger aircraft to land, while at the same time, brown field sites around the airport could be redeveloped to increase the airport's capacity and capitalise on the airports geographic location. It does appear to be a missed opportunity, given its limited departures schedule and restricted hours of operation.

2) *High speed links between airports* - This goes hand in hand with some of the medium term solutions as rapid rail links between airports can enable a more efficient use of capacity at airports other than LHR. Increased landing fees at airports such as LHR can be used to fund this, while at the same time demonstrating to airlines that London has a unified airport strategy that will see the linking of all airports to create a giant London 'super-hub' if you like. This will remove the perception that LHR is London's primary gateway.

A brand new airport - While this is an ideal solution in theory, the costs associated with the build and the time necessary to get the project up and running will mean that London's other airports will most likely be neglected in terms of upkeep and upgrades in the lead up to the creation/establishment of a new hub. . The idea needs to be put to one side for the time being, while London addresses the issues at each of its four main airports. Space constraints may mean that the idea will have to be revisited in the future, but I feel there are a number of alternative viable options that can be implemented using the existing airport infrastructure.

I have personally followed the development of Dubai's airport infrastructure and see a lot of synergies between London's drive to retain its aviation clout and Dubai's desire to trump London as the world's premium aviation hub, so I am happy to elaborate on any of my suggestions further if required.

John Perkins

Simple:

Use Heathrow as a Hub

Use Stansted as a point to point i.e. Stansted to New York return if you did not need a connection. If you need a connection Ryanair and Easyjet would be available