

Airports Commission

Discussion Paper 02: Aviation Connectivity and the Economy

Response from Kent County Council

Connectivity

Q1: To which destinations are aviation connections most important and why?

In order to support the growth of the UK's economy it is vital that connectivity is improved from UK airports to growing and emerging economies, whilst maintaining the connectivity to current destinations.

Figure 1 lists the emerging economies where GDP growth is expected. KCC feel that the UK should be looking for opportunities to improve its connectivity to serve these new emerging economies. The UK should be looking not just to improve connectivity to particular countries, but also cities within countries. Countries such as China are experiencing population and economic growth. Table 1 shows that within China population growth may lead to demand for flights to new destinations which other European airports have already begun to serve. The UK should not be left behind and miss this opportunity to create new trade links, attract tourists and boost economic growth in the UK.

Figure 1 Growth Economies and Emerging Markets

Growth Economies	Other Emerging Markets
<ul style="list-style-type: none">• The 8 largest Emerging Markets• 23% of world GDP now• Predicted to contribute a large share of future world GDP growth• The most important trading nations of the future <p>Brazil, Russia, India, China, Mexico, Korea, Turkey, Indonesia</p>	<ul style="list-style-type: none">• Fast growing economies but lower contributions to total world GDP growth• 12% of world GDP now• In order of the size of their economies, they are: <p>Poland, Saudi Arabia, South Africa, Argentina, Iran, Venezuela, Colombia, UAE, Malaysia, Egypt, Nigeria, Chile, Czech Republic, Philippines, Pakistan, Romania, Peru, Ukraine, Hungary, Qatar, Kuwait, Bangladesh, Vietnam</p>

Source: Frontier Economics. *Connecting for growth: The role of Britain's hub airport in economic recovery*. A report prepared for Heathrow 2011. Note – Korea refers to South Korea (official name: the Republic of Korea).

Table 1. Population of 10 major Chinese cities and connectivity with Western Europe

City	Population (millions)		Connectivity (departing flights per year)				
	2007	2025	LHR	AMS	FRA	CDG	MAD
Shanghai	15.0	19.4	621	589	1110	1323	-
Beijing	11.1	14.5	698	658	1032	964	104
Guangzhou	8.8	11.8	-	311	211	290	-
Shenzhen	7.6	10.2	-	-	-	-	-
Wuhan	7.2	9.3	-	-	-	-	-
Tianjin	7.2	9.2	-	-	-	-	-
Hong Kong	7.2	8.3	3,539	720	778	1,145	-
Chongqing	6.5	8.3	-	-	-	-	-
Shenyang	4.8	6.2	-	-	364	-	-
Dongguan	4.5	6.2	-	-	-	-	-

Source: Frontier analysis of UN and Capstats data

Source: Frontier Economics. *Connecting for growth: The role of Britain's hub airport in economic recovery*. A report prepared for Heathrow 2011.

Q2: What is the impact of providing indirect flights (i.e. flights involving a transfer) rather than direct ones on connectivity of the consumer/freight? Which consumers are most affected?

Oxford Economic Forecasting (2006)¹ completed surveys of UK companies which have shown that direct European flights were seen as vital by around 25% of UK companies. Over 80% of businesses surveyed said that direct flights were somewhat important for short haul flights and over 70% for long haul flights (see figure 2). Figure 3 shows what types of indirect connections and transfers are acceptable to passengers.

Multi-national companies are less likely to set up headquarters or do business in the UK if accessibility is poor due of a lack of direct flights. As well as affecting the business sector, leisure consumers are also likely to be affected through restricted consumer choice of destinations accessible by direct flights and this may also result in consumers paying higher fare prices. There are also likely to be less inbound tourists visiting the UK if they are not able to fly direct.

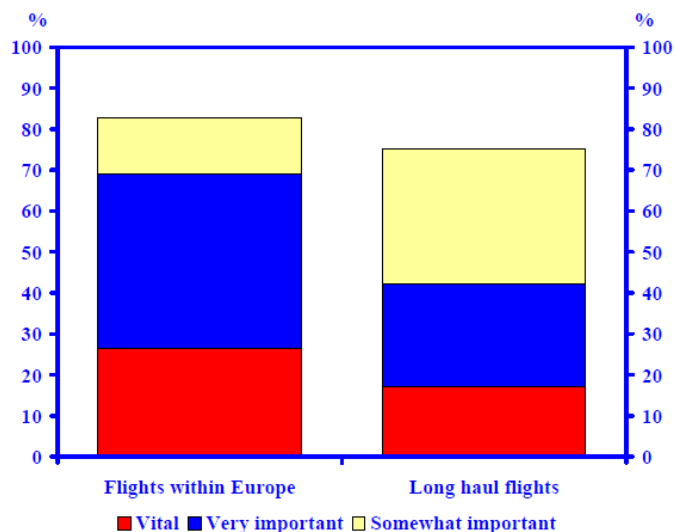
However, indirect flights from regional airports allowing connections to a range of destinations benefit regional economies. Manston Airport in East Kent now

¹ Oxford Economic Forecasting. *The economic contribution of the Aviation Industry in the UK 2006*

has a connection to Amsterdam facilitating worldwide connections by 'hubbing' through Schiphol and this is expected to benefit this economically disadvantaged area of Kent, in a similar way to how the North East has benefited through a connection to Emirates' Dubai hub. It is estimated that inbound tourists spend around £16.7 million a year in the North East region, supporting around 230 jobs in the tourism industry; and the air service generates net economic benefits of £4.6 million a year to the North East².

In terms of freight, we would expect that next day international express delivery services would be most affected by a lack of direct flights. However, there are opportunities for freight-only flights to fly direct to the UK through regional airports where there is ample runway capacity. Manston Airport in Kent is ideally positioned as a gateway to the UK through its connections to the strategic road network in the South East. The airport has the cargo facilities required to process significant volumes of freight and its master plan anticipates handling around 400,000 tonnes of freight per year by 2033.

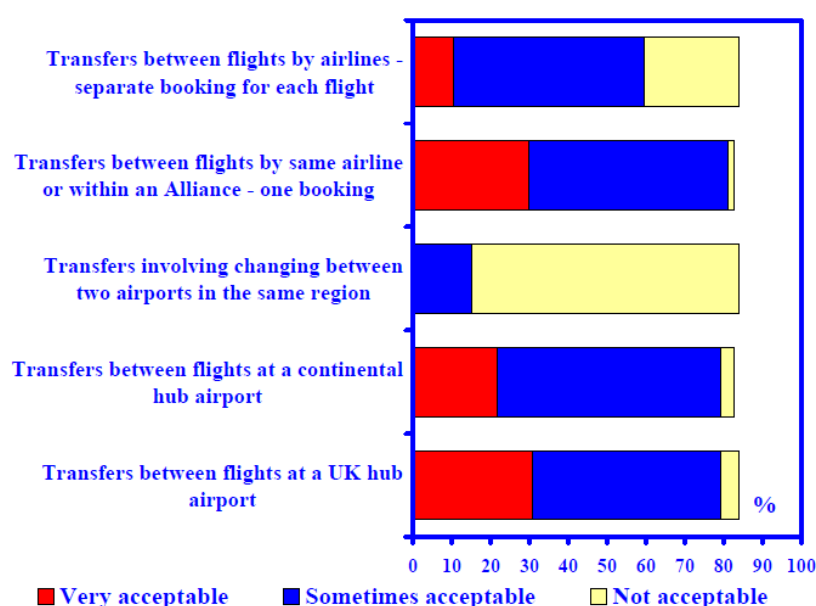
Figure 2. Importance of being able to fly direct rather than having to change to a connecting flight



Source: Oxford Economic Forecasting. *The economic contribution of the Aviation Industry in the UK 2006*

² <http://www.routesonline.com/news/29/breaking-news/162495/the-emirates-effect-the-economic-impact-of-air-services/> accessed 19/04/2013

Figure 3. Acceptability of connection options between flights



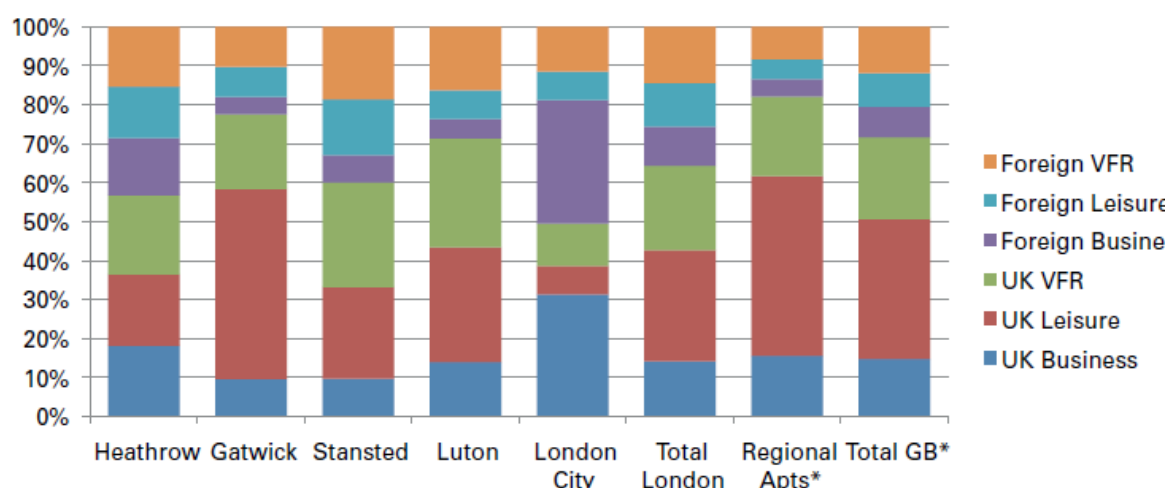
Source: Oxford Economic Forecasting. *The economic contribution of the Aviation Industry in the UK 2006*

Q3: How should connectivity for leisure passengers be valued?

As shown in Figure 4, passengers for leisure purposes make up a large share of the demand for aviation and for this reason their value in contributing to the economy needs to be considered carefully. The value of leisure passengers needs to be considered in terms of the direct and indirect benefits of the leisure passenger flight itself. This should include consideration of jobs created directly and indirectly at airports, jobs created by airlines, tour operators and the UK leisure, travel and tourism industry. Consumers spend in preparation for a foreign holiday is also important. Connectivity for leisure passengers also needs to be valued by taking into account the economic benefits of inbound tourism through foreign leisure passengers. The benefits from foreign tourists also need to be balanced against the potential negative economic impacts of outbound tourism from the UK, i.e. the tourism deficit.

It is also challenging to differentiate between connectivity for leisure and business users, as there is usually a combination of business and leisure passengers on flights.

Figure 4. UK Airport Passengers by Consumer Group



Source: CAA Insight Note: Aviation policy for the consumer 2011

Q4: How does providing flights at the right time of day and day of the week impact connectivity? Which consumers are most affected? What about freight?

Providing flights at the right time of day and day of week is important in determining connectivity. Passengers, both leisure and business, want to travel at particular times, hence the capacity issues at airports at peak times. Both business and leisure passengers are likely to be affected. If business users cannot make the trip at the right time, this impacts negatively on business activity, while also reducing choice for consumers in the leisure sector and negatively affects the attractiveness of trips to and from the UK.

By not providing flights at the right time of day or day of week this can have a negative impact on overall connectivity. Flights may not meet with other connecting flights or with other modes of transport such as rail. For example, with early morning and late night flights it is often not possible to travel to and from airports by public transport. This brings into question the need for a hub airport that operates 24 hours a day as advocated in the Thames Estuary airport proposals. Leunig (2012)³ states that there are serious issues about surface transport to and from airports during the night, as people living adjacent to railways would not welcome 24 hour operation. Other than dedicated air-rail links, it would not be commercially viable for most public transport connections to provide a 24 hour operation in order access an airport. Advocates of Thames Estuary airport proposals claim that it would aim for a public transport surface access mode share of around 70-80% similar to Hong Kong. However, if it was to operate 24 hours a day, without 24 hour public transport operations, this target would not be achievable. This would result in increased trips by private vehicle requiring further investment in road infrastructure and detrimental increases in emissions.

³ Leunig, Tim (2012) Bigger and Quieter: The right answer for aviation. *Policy Exchange, Centre Forum*.

Leunig (2012)³ also states that a 24/7 hub offers few advantages to UK passengers compared to having an 18/7 hub, as although time of day at a connecting airport is of little interest to transfer passengers, few people would wish to arrive or depart London at 3am; therefore making flights that arrive and depart in the middle of the night less viable.

Due to the increasing reliance on 'just in time' supply chains and next day delivery, we expect that the issues of not providing flights at the right time of day or day of the week would have a negative impact on freight transport. However, as previously stated, freight-only flights have the opportunity to use under-used regional airports with good connections to the strategic road network, such as Manston Airport in Kent which has the facilities to handle large amounts of air freight and transfer to road haulage for delivery to end destinations far quicker than operating through the congested London airports where they are taking up valuable slots. The flexibility of 24 hour arrivals and departures, which would benefit freight only carriers, may be possible at under used regional airports whose business model may focus on the air-freight market.

Q5: What is the impact of airport congestion on consumer connectivity? Should reliability be taken into account?

Delays to flights as a result of capacity problems cost a substantial amount of money to airlines and passengers¹. Increased fuel consumption as a result of airport congestion increases operational costs for airlines, which is then passed onto passengers in the form of higher fare prices and could affect the affordability of air travel for leisure passengers. Reliability in terms of flight delays may also have an impact on onward journeys, with delays leading to rail or connecting flights being missed. These factors contribute to an overall decrease in connectivity as a result of air traffic congestion. We therefore feel that airport congestion and reliability are variables to consider when measuring connectivity.

Q6: What is the impact of ticket costs to the consumer? How price sensitive are business and leisure travellers? How can this be captured in measuring of connectivity?

There is a general consensus in the literature that the cost of air travel has a greater impact on leisure passenger numbers than business users, as business users usually travel for a particular purpose and to particular destinations. The UK Aviation Forecast 2013 uses a stronger elasticity value for leisure passengers than business users in its forecasting model (-0.7 and -0.2 for the UK leisure sector and UK and Foreign business market respectively). It is thought, however, that the cost of air travel may not necessarily affect leisure passenger numbers but may instead lead to a change in behaviour. Leisure passengers may choose to travel to a cheaper

destination, travel by a cheaper airline or travel in a less expensive class of travel.

Nature of connectivity in the UK and its drivers

Q7: Do you agree with the definition of connectivity presented in the paper? What other factors, if any, should we take into account and how do they impact connectivity?

KCC feels that the key factors affecting connectivity are the number of destinations served, frequency of flights, directness, flexibility (time of day and day of week), reliability and fare price. The economic importance of the destinations served must also be considered. In addition to this KCC agrees that accessibility to airports from a passenger's origin or destination is an important consideration when measuring connectivity. Surface access to airports is an important factor in attracting passengers to an airport. KCC advocates improved rail links as a way of supporting the growth of regional airports and increasing the UK's aviation capacity and connectivity.

Q8: Do you agree with the assessment we have made of the UK's current aviation connectivity?

Overall the report presents a positive outlook of UK's aviation connectivity. The report states 'together the capital's five major airports serve more destinations than the airports of any other European city – over 360 destinations with at least a weekly service'. This is an interesting point, as other reports often only state the number of destinations served by Heathrow relative to other European airports, rather than looking at the London multi-airport system as a whole. It is important, however, to consider the number of daily flights to destinations from London airports rather than just weekly flights.

Although it can be argued that the UK's current connectivity is good, capacity constraints hinder the UK's ability to increase its connectivity in the future.

Q9: What factors do you think contribute to the fact that the UK is directly better connected to some regions of the world than others?

KCC agrees with the factors discussed in the discussion paper as being influential in determining the destinations to which the UK is best connected to. It seems fair to say that the UK has a stronger market in serving transatlantic routes than other European countries based on evidence, such as figure 6 below. This may be due to historic links with North America, shared language and also the UK's geographical location at the Western part of Europe. Whilst the UK's geographical position may limit the ability of the UK to operate as an aviation hub to emerging markets with Southern Europe

better placed to serve as a European hub for South America, Russia better served from a Central European hub and Asia already being served by hub airports in the Middle East; it is important that UK airports have the capacity to serve new destinations in countries with emerging economies for the purposes of UK trade and tourism.

Figure 6. Heathrow's share of transfer passengers in the most established markets



Source: Frontier Economics. *Connecting for growth: The role of Britain's hub airport in economic recovery*. A report prepared for Heathrow 2011.

Q10: Given connectivity trends in the UK versus other European countries, how much scope is there for route network availability to UK residents to radically change over the coming years?

The future aviation connectivity for UK residents will depend on airport capacity. Without an increase in aviation capacity it seems that the UK will be unable to serve new destinations and meet the passenger demands. Airports such as Heathrow will continue to serve the most profitable routes and there will not be the capacity to serve emerging economies. Although the UK is well connected at the present time, there is little capacity for growth in connectivity.

In order to meet the increasing demands for air travel, additional capacity will need to be created. In line with KCC's *Bolds Steps for Aviation* discussion document, KCC recommends that there should be better utilisation of spare capacity at regional airports. It is expected that passengers will use regional flights for indirect connections via other European hub airports. The greater

use of regional airports will unlock capacity at London airports enabling new destinations to be served and the UK's connectivity to be further increased. The growth of regional airports such as Manston Airport will also have positive impacts in boosting regional economic growth, rather than focusing economic activity in London.

Q11: To what extent do you consider indirect connectivity to be an important part of presenting an accurate picture of the UK's nature of connectivity?

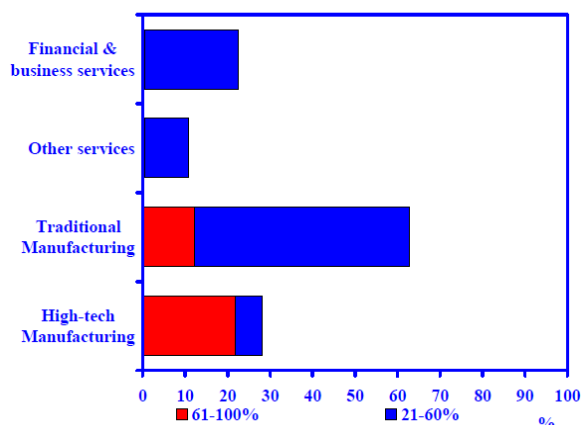
Whilst some businesses stated that direct flights are vital, other businesses consider indirect flights to be acceptable. Whilst flying indirect to a destination may not be the most desirable or efficient way to travel, indirect flights can often be the only way to reach certain long haul destinations. It is therefore extremely important to consider connections via indirect flights when looking at the UK's overall connectivity.

Assessment of how aviation connectivity supports (1) trade in goods, (2) trade in services, (3) tourism, (4) business investment and innovation, and (5) productivity

Q12: To what extent do you agree with evidence that aviation connectivity supports the UK's economic growth through facilitating each of (1)-(5)?

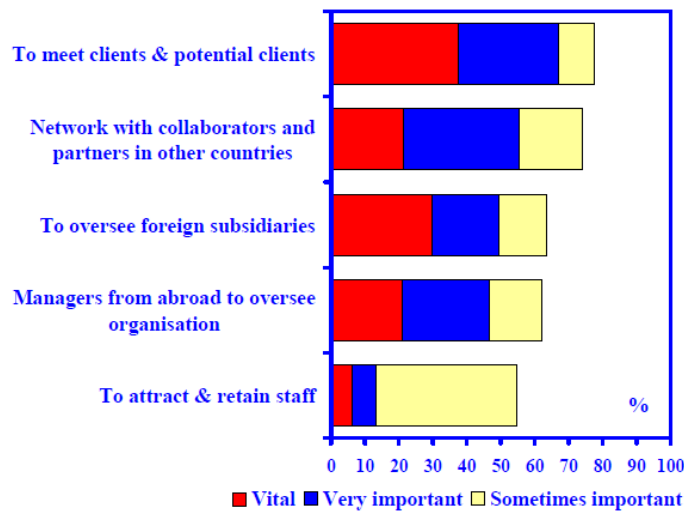
Whilst there are many factors which affect the trade in goods, services, tourism, business investment, innovation and productivity, KCC supports the idea that aviation connectivity can have a positive influence on these factors. Oxford Economic Forecasting (2006)¹ surveys provide strong evidence to support the idea that aviation connectivity supports businesses within the UK (see figures 7 and 8).

Figure 7. What proportion of your companies sale do you think depend on air services?



Source: Oxford Economic Forecasting. *The economic contribution of the Aviation Industry in the UK 2006*

Figure 8. Importance of passenger air services to organisation

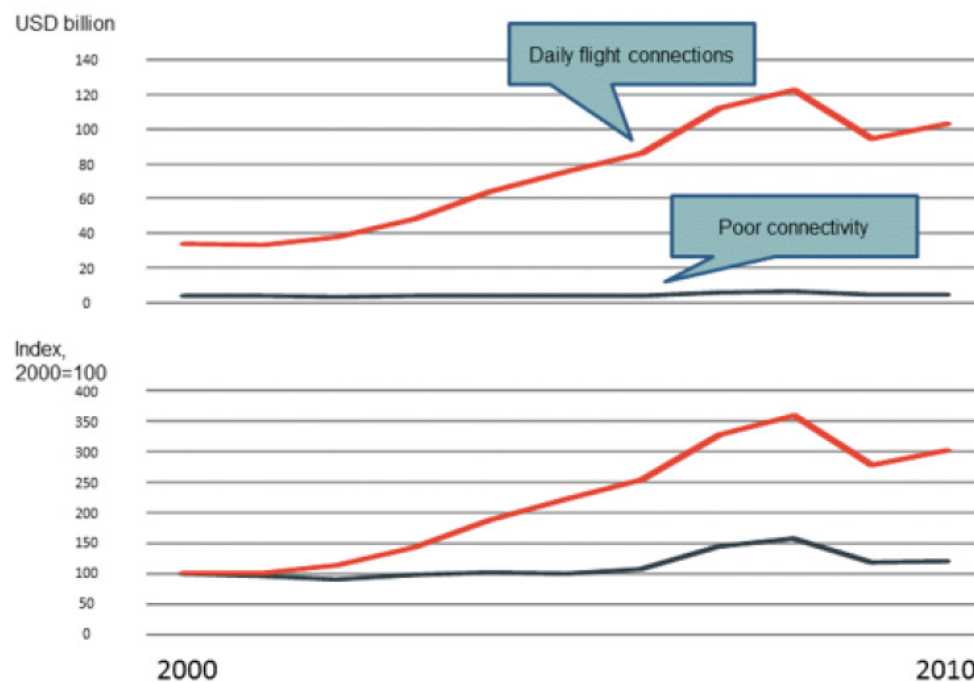


Source: Oxford Economic Forecasting. *The economic contribution of the Aviation Industry in the UK 2006*

Trade and Connectivity

Whilst there is no guarantee that trade will occur as a direct result of connectivity between two locations, it seems that poor connectivity between locations is a barrier to trade. This idea is supported by evidence presented in a report for Heathrow airport, as shown in figures 9 and 10. The evidence suggests a strong relationship between aviation connectivity to destinations from Heathrow and UK trade with those destinations. The 2011 report 'Connecting for growth: the role of Britain's hub airport in economic recovery' produced for Heathrow Airport shows evidence that when there are daily (or better) direct flights from Heathrow to countries that are experiencing strong market growth, there is as much as twenty times more trade than with growth economies to which the UK is poorly connected by air. Based on this evidence it seems increasingly apparent that the UK needs to increase its connectivity with emerging economies in order to support trade with these countries and to boost the UK economy.

Figure 9. UK trade is greater and grows faster with Growth Economies that have daily flights with Heathrow



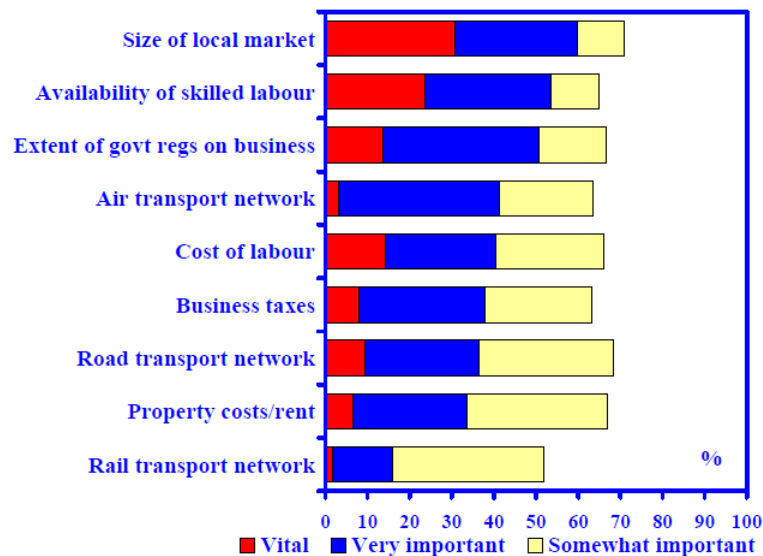
Source: Oxford Economic Forecasting. *The economic contribution of the Aviation Industry in the UK 2006*

Further evidence was provided by the Oxford Economic Forecasting (2006)¹ report which gives examples of three companies; Thales defence and electronic company, Foster Wheelers Energy Ltd and medical equipment suppliers, all of which are reliant on aviation connectivity for trade. If aviation connectivity to the locations of the businesses were to decrease this would result in a loss of business and may lead to two of the three businesses needing to relocate. It cannot be guaranteed that by improving connectivity, trade will increase, however, by improving connectivity this puts UK businesses in a better position to compete. Without connectivity between economies it becomes more difficult for trade routes to be established with emerging economies.

Connectivity and business investment

A similar trend between connectivity and business investment also seems to be apparent. Whilst figure 10 shows that there are many factors which affect a companies decision as to where to invest, air connectivity does seem to be a determining variable to some extent for over 60% of companies surveyed as part of the Oxford Economic Forecasting 2006 report on 'The economic contribution of the Aviation Industry in the UK'¹. This report found that a quarter of companies surveyed said that access to air services had been an important factor in determining where to invest. This is demonstrated by the businesses, including many multi-national companies, located to the west of London along the M4 corridor with good access to Heathrow.

Figure 10. Importance of factors in determining the country in which organisation choose to Invest.



Source: Oxford Economic Forecasting. *The economic contribution of the Aviation Industry in the UK 2006*

Based on the evidence discussed, KCC fully supports the idea that aviation connectivity can support the UK's economic growth through facilitating trade of goods, services and improved business investment. It is unclear, however, as to the economic impacts of improved connectivity on tourism. Whilst there is potential for the UK to increase the number of tourists visiting the UK through improved connectivity, the counter argument is the potential economic loss as a result of outbound tourism and this needs to be carefully considered.

Q13: Are there other channels through which aviation connectivity might facilitate economic growth? What are they, and what evidence is there to support this?

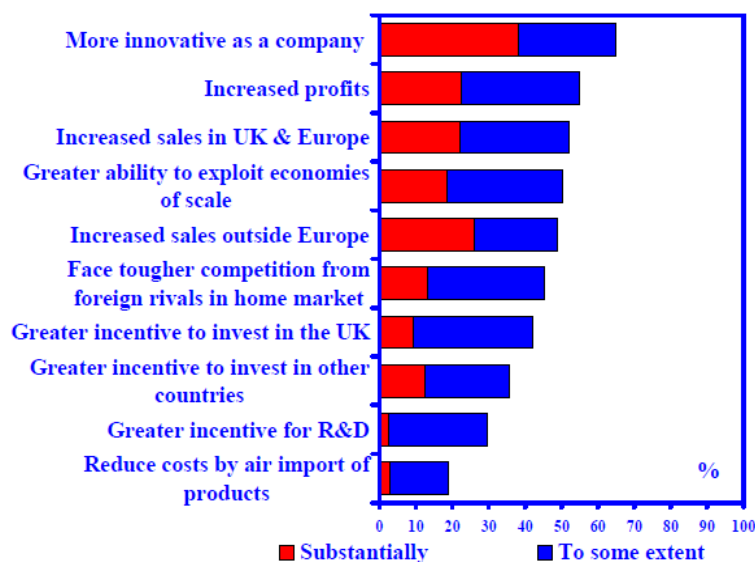
No comment.

Q14: How effective do you consider that the aviation connectivity of the UK may facilitate economic growth now and in the future? What risks and opportunities does it present?

In light of the evidence provided in question 12 and the factors considered in figure 11 below, KCC is of the opinion that through improved aviation connectivity there is the potential to boost economic growth in the UK. Having said this, there are many factors which act to constrain the amount of economic growth associated with improved connectivity. These factors include the risk of market saturation, impact of wider factors affecting the economic situation at a regional and global level and the impact of new technology such as video- conferencing and electronic communication in reducing the need for air travel.

There is a significant risk that as capacity constraints reduce the UK's connectivity this will have a detrimental impact on the UK economy. Of particular concern is that if a decision was made to relocate the UK's hub airport from Heathrow to the Thames Estuary, businesses to the west of London along the M4 corridor, which includes many multi-national companies, would relocate to cities in Europe with existing hub airports rather than relocate to the Thames Estuary. This would have a devastating impact not only on west London, the Thames Valley and the M4 corridor, but on the whole of the South East and UK economy. The time taken between a decision to relocate the UK's hub airport and it opening would be at least twenty years, taking into account the planning process and construction, which would result in a period of two decades when there would be no investment in existing airport infrastructure. This runs the risk that businesses would relocate from the M4 corridor as Heathrow is run down for closure; and air connectivity is reduced as airlines look to serve airports elsewhere.

Figure 11. Implications of being able to serve a bigger market



Source: Oxford Economic Forecasting. *The economic contribution of the Aviation Industry in the UK 2006*

Q15: How important do you consider connectivity for each of (1)-(5)?

See answer to question 12.

Q16: Are there other relevant policy issues which should be taken into account?

The report focuses on capacity issues and connectivity from Heathrow and the London airports. KCC, however, has produced a discussion document *Bold Steps for Aviation*. This document highlights the potential of regional airports in increasing the UK's aviation capacity and improving connectivity. By increasing the use of regional airports for short haul flights this will open

capacity at Heathrow to improve long haul connectivity as London generates sufficient origin-destination traffic to sustain most long haul routes without the need for transfer passengers.

There are also other policies which should be taken into account such as commitments to tackle climate change, reduce noise and air pollution and policies related to tourism. We can try and attract tourists to the UK though improving connectivity, however if there are other barriers to tourism, such as difficulties in securing visa's then the true potential to boost the UK economy though tourism may not be realised.

Q17: To what degree can causality between connectivity and (1) – (5) be established? Are there any particular research methods what we should be looking at and why?

No comment

Objectives for future aviation

Q18: What is the best approach to measuring the UK's aviation connectivity?

A combination of the measures described in Table 4.1 of the discussion document needs to be taken to measure the UK's aviation connectivity. These include the number of destinations served, the frequency, seat capacity, the economic importance of those destinations (York Aviation Business Connectivity Index) and the Netscan Connectivity Index which takes account of seat capacity, direct and indirect connections, transfer times and potential delays, i.e. reliability.

Q19: Connectivity depends on many factors, such as number and frequency of flights and time and costs of travelling to passengers. Do you consider any of these factors to be particularly relevant to facilitating any of (1) – (5)?

Competition between airports and airlines can drive down the cost of air travel and increase connectivity, therefore the competitive dynamics between airports needs to be considered as a factor determining connectivity.

Q20: We have outlined a few different measures of connectivity in the paper. What alternative measuring approaches that we have not mentioned should we take into account?

Cost of air fares should also be taken into consideration as this will impact on the affordability of the available connectivity. Flexibility of the connectivity, i.e. time of day and day of week that flights serve destinations also needs to be adequately captured in the measurement approach. Catchment areas of

airports that provide the connectivity also need to be measured so that the proportion of the population that has access to air connectivity can be assessed.

Q21: What kinds of impacts do you consider capacity constraints to have on the frequency and number of destinations served by the UK? And, if any, are any particular kinds of routes or destinations likely to be more affected than others?

It is likely that as capacity is constrained, airlines will use the limited slots that they have to increase the frequency of flights on the highest yielding routes at the expense of 'thinner' routes in order to maximise their profit. This will result in a route network from the UK with high frequencies on the highest traffic routes, reduced frequencies on marginal routes and no direct connections to the less popular destinations; leading to a net reduction in the number of destinations served by the UK. This has significant implications for establishing connections to emerging markets as initially these routes will not be high yielding, therefore airlines will not use slots to initiate services on new commercially risky routes in place of services on the most profitable routes that they currently use the slots to serve. UK travellers wishing to access these destinations will have to do so by indirect flights through an overseas hub airport.

Q22. To what extent do you consider that the need for additional connectivity may support the argument that additional capacity may be required?

Whilst the need for additional connectivity supports the argument for additional airport capacity, there is no guarantee that additional airport capacity will actually lead to increased connectivity. The opening of Terminal 5 at Heathrow increased the capacity of the airport to 480,000 Air Traffic Movements (ATMs) per year, yet there has been a corresponding decrease in the number of destinations served both worldwide and domestic. Airlines have chosen to use the extra capacity to operate more profitable routes at a higher frequency, demonstrating that airline economics and the natural desire to increase profitability, influences airline route networks irrespective of capacity. Therefore some form of slot regulation is required in order to ensure that the additional capacity that may be created is used by airlines in the most beneficial way to the UK economy.

Paul Crick
Director of Planning and Environment
Kent County Council

19 April 2013