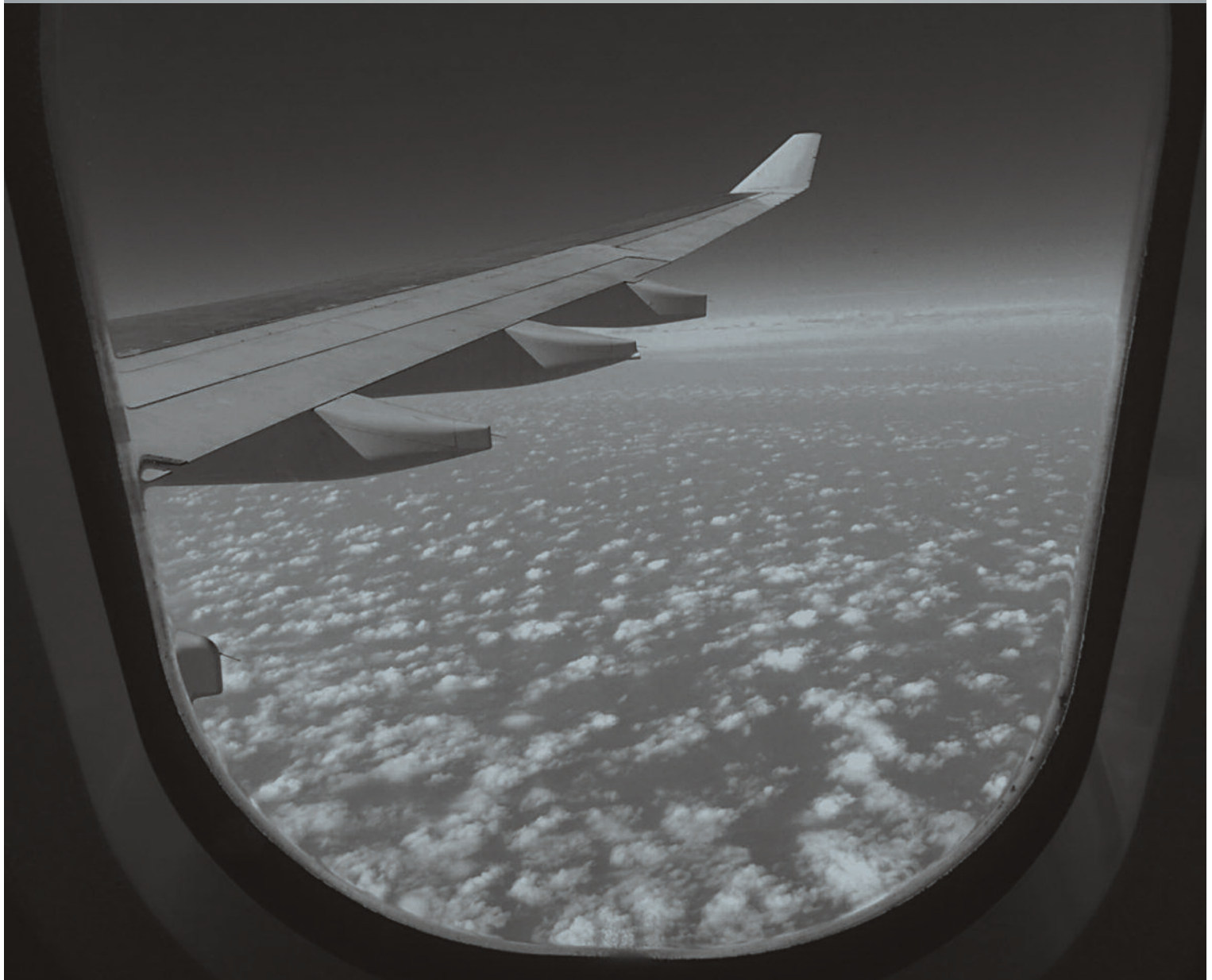


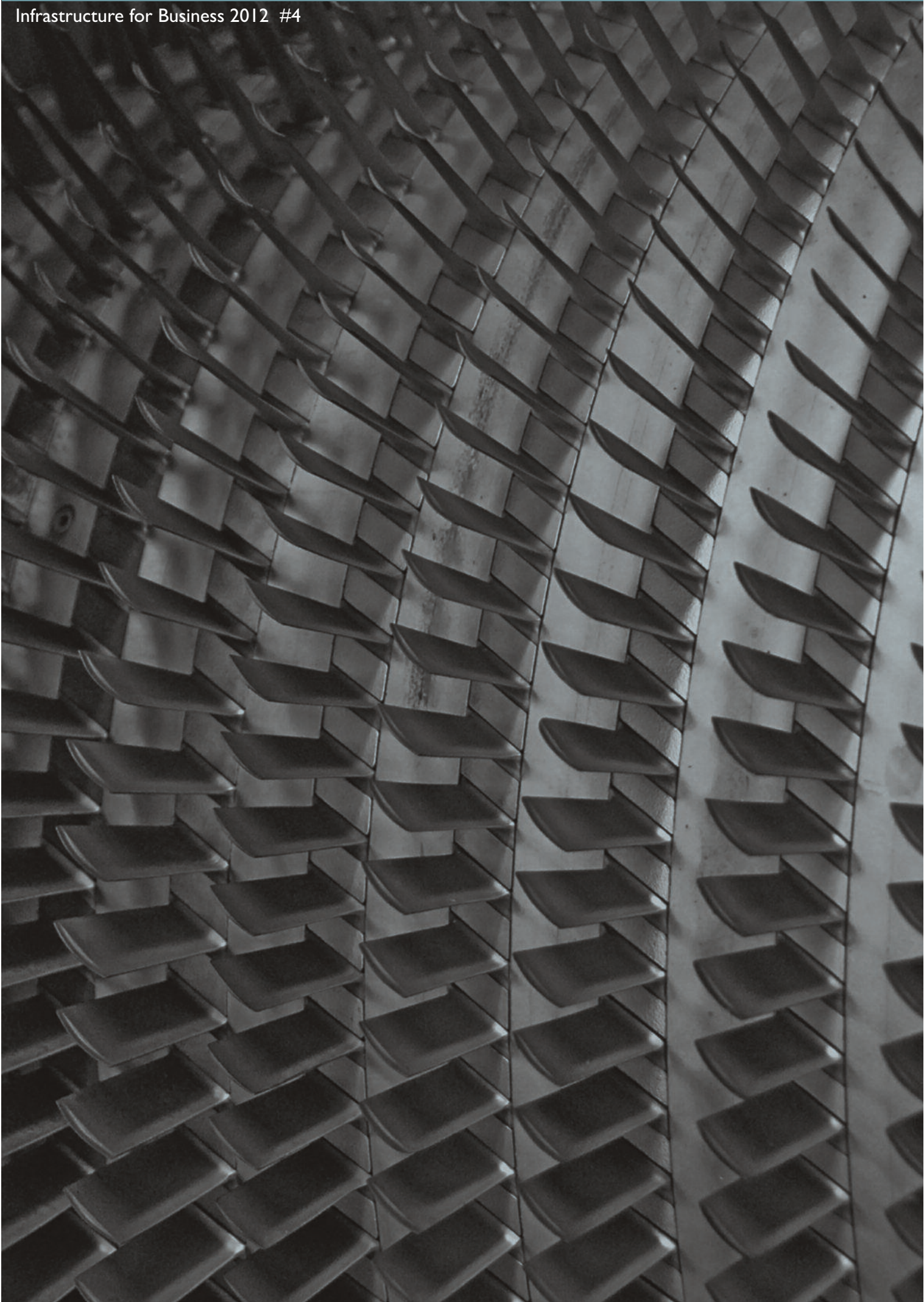


Infrastructure for Business

# Flying into the Future







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# Executive summary

- Aviation provides significant benefits to the economy, and as the high growth markets continue to power ahead, flying will become even more important. Nearly two thirds of IoD members think that direct flights to the high growth countries will be important to their own business over the next decade.
- Aviation is bad for the global and local environment, but quieter and cleaner aircraft and improved operational and ground procedures can allow aviation to grow in a sustainable way.
- The UK faces four related crunches – hub capacity now; overall capacity in the South East by 2030; excessive taxation; and an unwelcoming visa and border set-up – reducing the UK’s connectivity and making it more difficult and more expensive to get here.
- This report sets out a holistic aviation plan, with 25 recommendations to address six key areas:
  - Making the best use of existing capacity in the short term;
  - Making decisions about where new runways should be built as soon as possible, so they can open in the medium term;
  - Ensuring good surface access and integration with the wider transport network, in particular planning rail services together with airport capacity, not separately;
  - Dealing with noise and other local environment impacts;
  - Not raising taxes any further;
  - Improving the visa regime and operations at the UK border.

*“A holistic plan is needed to improve aviation in the UK.”*

*NB: All figures in the executive summary are referenced in full in the appropriate section of the main body of the report.*





## GROWING AVIATION SUSTAINABLY

Aviation is great for the economy, but bad for the environment. In these times we need all the economic growth we can get, but we also need to preserve our natural world. Fortunately, technological and operational improvements allow aviation to grow in a sustainable way.

### THE ECONOMY

- Aviation contributes £50 billion to UK GDP. In addition, there are an estimated £21 billion in “catalytic” benefits from tourism.
- The aviation industry supports 921,000 jobs, with a further 519,000 people employed through the catalytic (tourism) effects of aviation.
- The aviation sector contributes nearly £8 billion in tax. A further £5.9 billion is raised via the aviation sector’s supply chain and £4.3 billion through taxation of the activities supported by the spending of employees of both the aviation sector and its supply chain.
- Air transport supports trade, with 35 million business passengers passing through UK airports every year and 30% of all UK exports by value transported by air. The aviation industry handles 55% of the UK’s exports, by value, of manufactured goods to countries outside the EU, a point that the EU has now conceded..
- According to the 2006 Eddington Transport Study, “each day there are 72,000 international air business passenger journeys made to and from the UK (compared to 60,000 long-distance domestic business trips)”.
- The UK and world economies are shifting, and both trends mean that aviation will be increasingly important. Knowledge-based services and high tech manufacturing have both become more important to the UK economy – and these areas of the economy rely more on air services than others. The high growth markets are also accounting for an increasing share of global GDP and UK trade, at the same time as the EU is accounting for a smaller share – direct long-haul flights to a range of new destinations, primarily in Asia, are therefore vital.
- As communications technology continues to develop at a rapid rate, high definition video conferencing will grow in use and importance. But video conferencing is no substitute for tourism, and for many business transactions, face-to-face contact will continue to be essential. Personal relationships are, if anything, even more important in the high growth economies of Asia. Both video conferencing and flying will grow over the coming years.

*“Direct long-haul flights to a range of new destinations are vital.”*





#### THE GLOBAL ENVIRONMENT

- According to the Committee on Climate Change, with reasonable fuel efficiency improvements and a gradual uptake of sustainable biofuels, UK aviation demand can increase by 75%-125% on its 2010 amount, without CO<sub>2</sub> emissions increasing beyond their 2005 levels.
- Operational measures can also make a large difference. Continuous descent approaches (CDAs) and continuous climb departures (CCDs) can reduce CO<sub>2</sub> emissions at these stages of the flight. Trials show that making every stage of the flight as efficient as possible (the fuel optimum profile or “perfect flight”) can reduce CO<sub>2</sub> emissions by 10%.
- Improved ground procedures can also reduce CO<sub>2</sub> emissions. A Boeing 747 can consume a tonne of fuel and emit several tonnes of CO<sub>2</sub> during an average 17 minute taxi to take off. But towing the aircraft with a tug would use just 20-30 litres of fuel. And electric tugs are also on the horizon.
- Including emissions from international aviation in the EU ETS was a development that the IoD opposed. In the absence of a global agreement, it could easily lead to an aviation trade war, a point that the EU has now conceded. Having said that, the EU ETS offers another way for the aviation industry to expand. The logic of the ETS is that carbon emissions are lowered in the most cost-effective way. Carbon emissions from aviation can be reduced, but if aviation isn't the most cost-effective area to cut emissions, then the industry can pay for reduction elsewhere. It's the emissions cap that is important, not its composition.

#### THE LOCAL ENVIRONMENT

While aircraft noise is a significant concern, the noise footprint of airports is tending to shrink rather than grow, as airline fleets become progressively quieter:

- In 1980, there were 944,000 people living in the 57 decibel noise contour around Heathrow. By 2010, that number had fallen by three quarters to 228,700. Over the same period, the number of flights rose from 273,000 to 449,000 a year.
- Between 2000 and 2010, the number of people affected by noise levels of 57dB or above at Stansted airport fell by three quarters – from 5,700 to 1,400 – even as the number of flights remained at roughly the same level.
- The noise footprint of the new Boeing 787 Dreamliner is 60% smaller than other similarly sized aeroplanes, while the Airbus A380 produces three to four times less noise on landing than other large aircraft.
- Increasing the use of CCDs and CDAs, and reducing approach speeds before landing, can also contribute to lower noise levels. Steeper descents could also help to cut noise, as aircraft would be higher when they pass over people's homes.

It's not just noise. Air quality also matters:

- The new Bombardier CSeries aircraft will emit up to 50% less NO<sub>x</sub> than current aircraft of a similar size, while successive generations of Rolls Royce Trent engines are becoming ever cleaner.
- In addition to reducing CO<sub>2</sub> emissions and noise, many of the operational improvements outlined above, including towing aircraft to and from the runway, will also result in improvements in air quality.
- The impact of road access to airports, both on carbon emissions and on local air quality, will fall over time, as car engines become cleaner and as the uptake of electric cars gradually increases.

*“UK aviation demand can increase by 75%-125% without CO<sub>2</sub> emissions increasing, while the noise footprints of airports are shrinking.”*



## FINDING A BALANCE

- UK aviation contributes around £50 billion to GDP, Air Passenger Duty raises £2.6 billion, but at the current carbon price, UK aviation's CO<sub>2</sub> emissions only cost around £250 million.

## THE FOUR CRUNCHES

The UK has always been an open trading nation, and we increasingly rely on aviation to take our goods and people to the world and to bring the world to our shores. Unfortunately, as a country, we are beginning to close up, making it a little harder to get here. As global trade, tourism and aviation continue to grow rapidly, the UK is beginning to allow itself to be squeezed, and in four related ways.

## THE SOUTH EAST CAPACITY CRUNCH

The projections in this section quote from the Department for Transport's (DfT's) 2011 unconstrained demand forecasts. We have used the unconstrained forecasts as they give us the best picture of likely demand. It is also worth noting that forecasts are liable to be wide of the mark – the DfT's 2000 forecasts overestimated demand growth – but they nevertheless give us a useful insight.

Overall, the UK has plenty of capacity:

- Currently, UK airports have the capacity to handle 372 million passengers a year. In 2010, 211 million passengers 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 million passengers a year. By 2050, 520 million passengers will be using UK airports.

The real issue is 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 million passengers a year. In 2010, 126 million passengers used these five airports.
- Using the current set of runways at these five airports to the maximum, which principally involves improvements to Luton airport, 188 million passengers could pass through them. By 2030, the DfT forecasts that 204 million passengers will want to fly from these airports. By 2050, demand is set to grow to 294 million.
- In the South East, demand at Heathrow and Gatwick will shortly outstrip capacity.
- By contrast, the other UK airports currently have the capacity to handle 191 million passengers a year, a figure that could rise to 352 million if all runways were used to the maximum. But demand is far lower. In 2010, demand was 85 million, a figure which is forecast to rise to 141 million in 2030 and 226 million 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.

*“The South East will need new runway capacity by 2030, but no airports outside the South East will need new runways before 2040.”*

#### THE HUB CAPACITY CRUNCH

The UK's hub capacity is already constrained. Heathrow is by far the UK's largest airport and its only hub airport, but it is already full:

- In 2011 Heathrow handled 69 million passengers, 32% of all UK passenger traffic, more than twice as many passengers as the next largest airport, Gatwick, and more passengers than the other four London airports combined.
- Heathrow handled more passengers than the nine largest airports outside of London combined (Manchester, Edinburgh, Birmingham, Glasgow, Bristol, Liverpool, Newcastle, East Midlands, and Belfast International).
- In 2011, Heathrow handled 1.5 million tonnes of freight, 65% of the total for UK airports. No other UK airport handled more than 300,000 tonnes of freight.
- In 2010, 36% of Heathrow's passengers were transferring onto other flights. Of these, 88% were transferring onto international flights.
- No other UK airport comes close to this proportion of transfer passengers. At Gatwick, the airport with the second highest proportion of transfer passengers, only 8% were connecting in 2010.
- Heathrow's terminals may be able to accommodate more passengers, but the airport has a regulated limit of 480,000 Air Traffic Movements (ATMs) a year, and in 2011, ATMs reached 476,000. Under existing arrangements, Heathrow has no more room. No forecasts are necessary.

#### THE TAX CRUNCH

- Since its introduction in 1994, Air Passenger Duty (APD) has risen from £5 within Europe and £10 outside of Europe, to between £13 and £184, depending on the distance and class of travel. In 2011-12, APD raised £2.6 billion, a three-fold increase on a decade ago and a seven-fold increase on 1995-96, the first full year of receipts. The UK now levies the highest taxes on flying in the world.
- According to the World Economic Forum, the UK is ranked 134th worst out of 139 countries on air ticket taxes and airport charges.
- Only six of the 27 EU member countries apply APD. Several countries, including Ireland, the Netherlands and Denmark, have recently reduced or abolished APD.
- APD is levied at a much higher rate than the environmental costs of flying would suggest. At the 2007 rates of APD, aviation covered its climate change costs with around £100 million to spare. Since 2007, APD rates have risen substantially. At current levels for carbon credits, Air Passenger Duty could more than offset the entire emissions of the global air transport industry.
- In addition to APD, aviation within the EU is now included within the ETS, which will increase charges still further.

#### THE VISA AND BORDER CRUNCH

- Since 2010, the UK has tightened up the visa regime for long-term economic migrants and restricted the ability of non-EEA students to work in this country after finishing their course.
- At the same time, the UK has also made it more difficult and time-consuming to visit, both for tourism and for business. The UK visitor visa application process is longer and more expensive than the Schengen process, costing around 50% more and with a form with twice as many questions. It can take up to 12 weeks to process a UK visitor visa application.

*“Heathrow is the UK's only hub airport and is already full.”*

- Border queues have also at times been embarrassingly long. Maximum queuing times have regularly been over two hours. Targets to ensure that at least 95% of non-EEA arrivals wait for a maximum of 45 minutes were regularly missed at Heathrow before the Olympics, and it will be a challenge to maintain the excellent performance that was seen during the Games.
- Other countries, including Canada, Australia and the US, are improving their immigration systems while still protecting their borders.

#### WHY THEY MATTER

These four crunches matter immensely to the UK economy, for a number of reasons. First, in the future, aviation will become increasingly important to the economy:

- The world is becoming an increasingly urban place. Over the next 40 years, urban areas are set to grow by more than 2.5 billion people, a 75% increase. In China and India alone, cities are expected to grow by 800 million people by 2050.
- Global cities and mega regions centred on a key conurbation will become more important economically. Their success will partly depend on excellent transportation links to other global cities. Currently, cities such as London and New York are in the lead, but there is no guarantee they will remain there.
- At the same time, the world economy is shifting rapidly towards the high growth markets. Trade with Asia and Latin America will become increasingly important. By 2050, Goldman Sachs estimates that the BRIC countries will account for nearly 40% of world GDP and emerging markets overall over 70%. According to a recent Citigroup report, in 2010, China accounted for 9.5% of world trade. By 2030, that figure is expected to increase to 17.4%. By 2050, China, India and Indonesia combined are expected to account for 30% of world trade.
- The UK trades about twenty times as much with high growth countries with daily (or better) direct flight connections as it does with countries with poor connectivity. A similar pattern holds for investment. And it is not just the trade that causes the flights. A recent survey of business leaders in five high growth countries – Brazil, China, India, South Korea and Mexico – found that 92% say that direct flights are important to their inward investment decisions.

Second, there is no doubt that good point-to-point airports are vital, and direct routes from the UK's manufacturing heartlands to China's growing metropolises would provide an important economic boost. But the UK already has numerous point-to-point airports. By contrast, it only has one hub airport, which is already full:

- Hub airports really do matter. The key reason for this is that a range of routes and a high frequency of services are only made viable by the transfer passengers connecting through a hub airport. And global businesses will want to locate in cities that are well connected, both in range of destinations and frequency of flights, even if they have to pay a premium in office rent and salaries to do so.
- The importance of transfer passengers to sustaining routes at Heathrow is illustrated by the fact that in 2010 there were 39 routes at Heathrow on which more than 50% of passengers were transferring, and a further 92 routes on which more than 25% of passengers were transferring.

Third, Heathrow's lack of spare capacity is already leading to a number of difficulties:

- The most obvious operational problem is that, in busy periods, planes regularly circle for half an hour before being allocated a landing slot, leading to delays and extra emissions. Similarly, there are regular queues of planes waiting to take off.
- The number of destinations served by Heathrow has fallen from 227 in 1990 to 180 today. By contrast, Amsterdam's Schiphol airport serves 313 destinations, and both Frankfurt and Paris Charles de Gaulle serve more than 250.



- This is particularly true for the high growth destinations. Heathrow maintains excellent connections to established markets such as North America, but destinations in Asia and Latin America are far better served by continental hubs. There are daily direct flights from Heathrow to 26 cities in the US and Canada, but only three cities in South America. 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.
- There are 25 high growth destinations with daily flights from other European hubs, and 13 more with at least a weekly connection, that are not well served from Heathrow.
- For many UK regions, the most important hub airport is now Amsterdam rather than Heathrow. Since 1990, the number of British regional airports with flights to Heathrow has fallen from 21 to 6. Three times as many regional airports – 18 – have direct links to Amsterdam.

Fourth, exorbitant levels of Air Passenger Duty are also having a negative impact:

- APD was one of the main reasons cited by the CEO of Air Asia X for pulling out of the UK earlier this year.
- The Netherlands' short-lived experiment with APD was particularly revealing. The tax generated €300 million but was estimated to have caused a loss of €1.3 billion to the broader Dutch economy.
- High APD rates are also damaging regional airports. For example, passengers flying out of Newcastle this year are expected to pay a total of £49 million in APD, almost as much as the airport's turnover last year of £52 million.
- APD is also encouraging passengers to alter behaviour. Passengers are increasingly flying long-haul via Amsterdam, using two separate tickets, to avoid long-haul APD.

Fifth, the UK is not benefitting as much as it could be from the growth in tourism and higher education:

- In 2011, £18 billion was spent by overseas residents visiting the UK. Of this total, just £318 million was spent by Indian visitors, £302 million by Brazilian visitors and £259 million by Chinese visitors (excluding Hong Kong). But the opportunity is vast. Chinese visitors (excluding Hong Kong) spent an average of nearly £1,500 per visit, nearly three times the average for all visitors.
- In 2010, France received 907,000 Chinese visitors, Germany 511,000 and the UK just 109,000.
- The UK remains the second most popular location for international students, but it lost market share between 2000 and 2009.

## THE BUSINESS VIEW OF AIRPORT CAPACITY

In May 2012, the IoD polled 1,076 of its members across the UK to find out what they thought about airport capacity.

### HOW IoD MEMBERS TRAVEL ON BUSINESS

- Unsurprisingly, IoD members use a large number of UK airports for business flights. Their local airports are heavily used, but for most regions, Heathrow is still the most frequented airport.

*“There are daily direct flights from Heathrow to 26 cities in the US and Canada, but only three cities in South America.”*

- Most IoD members travel to the airport that they use most frequently for business flights by car (70%) and taxi (31%). Smaller proportions travel by rail (18%) and underground/metro (9%). Only 5% travel by bus or coach.
- These findings are fairly consistent across the regions, with the exception of London. In London, 48% travel by taxi, 43% by car, 37% by rail and 24% by underground. The importance of road access for businesses, even in London, is worth bearing in mind when thinking about surface access strategies.
- IoD members are as likely to fly indirect to European destinations via Amsterdam (7%) as Heathrow (7%). In some regions, IoD members are significantly more likely to fly to Europe via Amsterdam:
  - In the North East, 42% connect via Amsterdam and 11% via Heathrow;
  - In Scotland, 24% fly via Amsterdam and 22% via Heathrow;
  - In Yorkshire, 20% connect via Amsterdam and 6% via Heathrow;
  - In the North West, 11% fly via Amsterdam and just 1% via Heathrow.
- For destinations outside Europe, IoD members are more likely to fly via Heathrow, but Amsterdam is still the main hub airport in the North East, where 26% fly via Schiphol and 21% via Heathrow. To some extent, the UK has outsourced its hub airport.

*“In 2010, France received 907,000 Chinese visitors, Germany 511,000 and the UK just 109,000.”*

#### ROUTES AND CAPACITY

- Over a third of IoD members (37%) say that direct flights from the UK to emerging markets are important to their business at present, compared with 35% who say they are not important.
- Nearly two thirds of IoD members (63%) say that direct flights from the UK to emerging markets are likely to be important to their business in the next decade, compared to just 20% who think they will remain unimportant. The high growth markets are set to become far more important to IoD members over the next decade, underlining the importance of developing new routes from the UK.
- Almost six in ten (59%) agree that a lack of spare capacity at Heathrow has a damaging effect on inward investment to the UK, compared to just 17% who disagree. In all regions of the UK, more IoD members agree than disagree with this statement.

#### POSSIBLE CAPACITY SOLUTIONS

- In all regions, there is strong support for the construction of at least one new runway somewhere in the UK. Overall, 79% of IoD members express support, compared to just 7% expressing opposition.
- Asked individually, members support a wide range of options to increase airport capacity:
  - 58% support a third runway at Heathrow;
  - 58% support a major expansion of one or more airports outside of London and the South East;
  - 56% support the construction of a high-speed rail link between Heathrow and Gatwick to create a ‘virtual hub’ airport, known as “Heathwick”;
  - 54% support a second runway at Gatwick;
  - 43% support the construction of a new hub airport in the Thames estuary or North Kent;
  - 38% support a second runway at Stansted.

- If a new hub airport in the Thames estuary or North Kent required the closure of Heathrow to be viable, only 24% of IoD members would support it, with 45% opposed.
- When asked to pick just ONE of the above options, the two most popular are:
  - A third runway at Heathrow – 27%;
  - A major expansion of one or more airports outside of London and the South East – 21%.
- Regionally, members naturally tend to choose expansion of their nearest airport, but not in all cases:
  - In Northern Ireland, London and the South, a third runway at Heathrow is the preferred option;
  - In Scotland, Wales, the South West, East Midlands, East of England, West Midlands and the North East, a third runway at Heathrow is the second most popular option;
  - Only in the North West and Yorkshire is a third runway at Heathrow not the first or second choice.

*“Nearly two thirds of IoD members say that direct flights to emerging markets are likely to be important to their business in the next decade.”*

## A LONG-TERM PLAN FOR GROWTH

The IoD does not claim any unique expertise, but this section lays out our own considerations for a holistic aviation plan, together with 25 recommendations.

### A HOLISTIC PLAN

The first consideration is that many of the proposals that have been made this time around have been made before, including development of Heathrow, Stansted and Birmingham and a new hub airport in the Thames Estuary or North Kent:

- The last 50 years of aviation policy in the UK can fairly be described as a timeline of indecision, as other countries have expanded their hub airports.
- The 2003 Future of Air Transport White Paper was particularly comprehensive, recommending a third runway at Heathrow and a second runway at Stansted, with land safeguarded for a possible second runway at Gatwick after 2019. Other new South East capacity suggestions were not supported.
- The White Paper failed to ensure that additional runways were constructed. Nine years after its publication, we are effectively back to square one, with the notable exception being that Gatwick and, shortly, Stansted have new owners, offering the prospect of genuine competition between London's main airports.

The second consideration is that the main role for government is not a financial one, with the exception of improved surface access to airports:

- Outside of London, the planning system has not prevented new runways or runway extensions from being built, but in the South East, no local council supports a new runway at their local airport, or the construction of a new airport.
- Central government's main role is to overcome planning obstacles by making a firm decision about where new capacity should go.



The third consideration is that a single solution is not enough, for five reasons:

- First, most options, on their own, fail to provide enough extra capacity to meet the forecast increase in demand.
- Second, it will be at least a decade, and given that the Davies Commission will not conclude until 2015, probably closer to 15 years, before any new runway can be opened. A number of solutions are therefore needed to address immediate pressures.
- Third, airport capacity should be planned with the wider transport network in mind. Similarly, parts of the wider transport network should be planned with airports in mind.
- Fourth, it is no use having a shining new airport if it takes two hours to pass through passport control, or three months to get a UK visa in the first place, or if demand for flying is reduced through punitive levels of taxation.
- Fifth, noise is the biggest factor preventing new runways from being constructed. Any new runways need to be accompanied by plans to moderate noise and other local environmental impacts.

The latter four points are self-explanatory, but the first point needs further elaboration:

- According to the DfT forecasts, London and the South East will have a capacity shortfall of 16 million in 2030 and 57 million in 2040. Hub capacity will account for almost the entire shortfall – the DfT forecasts show that Heathrow will have a capacity shortfall of 29 million in 2030 and 54 million in 2040.
- Only a new hub airport or a four runway Heathrow are sufficient to meet the shortfall. Other solutions are insufficient on their own. A combination of a third runway at Heathrow and a second runway at Gatwick or Stansted would be sufficient to meet the overall capacity shortfall, but may not provide enough additional hub capacity.

The three considerations described above illustrate how a holistic approach is necessary to overcome previous failures to get new runways built, to ensure integration with the wider transport network and to ensure smoother journeys to and from the UK. This approach should cover six areas:

- Making best use of existing capacity in the short term;
- Making decisions about where increased capacity should go in the short term, so that new runways can open in the medium term;
- Surface access and integration with the wider transport network;
- Noise and other environmental mitigation measures;
- Taxation;
- Visas and borders.

*“An aviation plan needs to look at making best use of existing capacity, as well as new capacity.”*

The sections below set out 25 recommendations.

### MAKING BEST USE OF EXISTING CAPACITY

It is unlikely that any new runways will open within the next 10 years. The need for short-term measures to make the best use of existing capacity is paramount.

1. Continue with operational freedoms at Heathrow, but do not introduce mixed-mode
  - Operational freedoms can reduce delays, limit stacking and help Heathrow to recover from disruption. They do not allow an increase in night flights or flights overall, and can only be used when certain triggers are met.
  - 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.
2. Reduce the level of regulation of Stansted and Gatwick
  - Now that Stansted is being sold, the case for the airport having significant market power, and therefore being subject to price controls, is weaker. Competition is preferably to regulation, and the new owners will have a strong incentive to provide an attractive pricing regime to grow traffic. A similar case can also be made for Gatwick.
  - The current price control arrangements expire in 2014, the appropriate time for any deregulation to come into effect. The CAA should look again at the market power of both airports.
  - In addition, “fifth freedoms”, already enjoyed by airports outside of the South East, should be extended to Gatwick, Stansted and Luton.
3. Promote airports outside of the South East
  - All of the airports outside the South East have considerable spare capacity and are part of the solution.
  - Promoting non-South East airports should include a campaign overseas; improving surface access; reducing regulation; introducing code-sharing between rail and air on the West Coast Main Line, primarily for Birmingham Airport; and introducing a unilateral regional open access policy.
4. Accelerate plans to open up Channel Tunnel passenger rail services to competition
  - Eurostar already has a market share of 80% between London and Paris and Brussels. Competition and direct services to cities such as Amsterdam and Frankfurt could result in similar shifts to rail for journeys beyond Paris and Brussels, benefitting the environment and reducing a little of the pressure on Heathrow.
  - The Channel Tunnel has 50% spare capacity for passenger services, but there are several issues hindering the development of competition, which need to be overcome as soon as possible.

5. Ensure that the remaining parts of the Single European Sky package are implemented swiftly

- **The Single European Sky is composed of several regulations to create a pan-European framework for air traffic management. The most significant change is to re-organise European airspace from national borders into functional airspace blocks. This should improve the management of higher flight volumes, allow more direct flight paths and reduce delays.**

## NEW CAPACITY

According to the Department for Transport's unconstrained demand forecasts, Heathrow will need a third runway by 2020 and a fourth by 2030, while Gatwick will also need a second runway by 2030. By contrast, no airport outside of the South East will need a new runway before 2040. The IoD supports the growth of airports outside the South East, but new runways will not be necessary for some time.

If the following five schemes were the only options, the IoD would not oppose them, but they are not ideal answers:

- **A new hub airport in the Thames estuary or North Kent:**
  - It could only be financed if Heathrow was to close;
  - For most people, the new airport would be located on the wrong side of London – it would be considerably harder to get there by road and rail. In this respect, Hong Kong is not a relevant comparison, as Hong Kong has no hinterland;
  - Rail improvements planned or underway will transform Heathrow's connectivity by rail – Crossrail, HS2, Western link to the Great Western Main Line, Piccadilly Line upgrade. In order to provide good links to a new Thames estuary airport, this sort of rail infrastructure would have to be built (not to mention new roads), but it is already being built to serve Heathrow;
  - Businesses around Heathrow and Heathrow airport workers would be severely disadvantaged;
  - It would take a significant amount of time to complete;
  - If a new airport required the closure of Heathrow, IoD members would be opposed, with 24% in favour and 45% against.
- **"Heathwick":**
  - Linking an airport that is already full with one that is likely to be full once the rail link opened would be an expansive way of adding no extra capacity at all, although this equation would change if a second runway was built at Gatwick;
  - A long transfer between airports of at least 15 minutes would make the hub experience appalling. Other hub airports offer a quick transfer, often within the same terminal;
  - Heathrow and Gatwick are no longer under the same ownership, reducing the likelihood of smooth operations for passengers transferring between the two airports.



- **Birmingham airport:**
  - The IoD supports the development of Birmingham airport. The runway extension, set to open in 2014, and code-sharing arrangements with the new West Coast Main Line rail operator would increase the airport's attractiveness.
  - But making full use of Birmingham airport would not meet the South East capacity shortfall, and would add no extra hub capacity. Greater use of Birmingham airport is important, but is not a substitute for more capacity in the area of greatest demand.
- **A second runway at Stansted:**
  - Over the last few years the airport has stagnated, with passenger numbers falling steadily from 23.8 million in 2007 to 18 million in 2011. New owners will undoubtedly improve the airport and grow traffic. But Stansted currently has about 50% spare capacity;
  - The airport has no immediate hinterland outside of London and would need substantial infrastructure improvements, including a fast rail link to London, better rail links to the Midlands, and improved road access via the A14.
  - Stansted has not been a location of choice for full-service airlines, and is still dominated by Ryanair. New capacity at Stansted would not be likely to be hub capacity.
- **A four runway Stansted:**
  - Many of the same arguments apply to the idea of developing Stansted into a four runway airport. At present, demand is only sufficient to fill one half of Stansted's runway, so building an extra three would risk being a very poor investment.
  - A four runway Stansted would be unlikely to compete effectively with Heathrow, as it is far less well located for surface access.

The best, however, should not be the enemy of the good. If the IoD's preferred options (set out below) are not feasible, then expansion of Stansted would be the next best choice:

- **The airport is already there and would need expanding, rather than a new airport needing to be built from scratch.**
- **Similarly, much of the surface access infrastructure already exists. It would need radical improvement, for example extending Crossrail to the airport, but again would not need to be built from scratch.**
- **The price tag would therefore be far lower, and Heathrow would not need to close in order to fund construction.**
- **Running two hub airports does work in New York. The DfT's unconstrained demand forecasts show that demand will increase most swiftly at Heathrow and Gatwick, but if capacity constraints started to bite, then demand could shift to Stansted.**

The following two schemes, by contrast, look more promising. In the IoD's view, they represent the best options for increasing both overall capacity, and crucially, hub capacity.

- I. Allow Heathrow to expand by one, or preferably two, runways
- **Heathrow is the UK's only hub airport. Unless one or more other airports can be developed as hubs, the only way to increase the UK's hub capacity is to increase Heathrow's capacity.**
  - **Heathrow is already full – an expansion of the airport is therefore the only option that does not rely on forecast increases in demand or shifts in the location of demand.**
  - **Heathrow expansion can be funded privately, without any risks to the taxpayer, and more cheaply than other options.**
  - **According to the DfT's unconstrained forecasts, demand at Heathrow will increase to 115 million by 2030 and 140 million by 2040. This is clearly far more than a third runway can meet. As the section earlier in this chapter showed, a fourth runway would meet a larger proportion of the demand shortfall up to 2040. It may be possible for Gatwick to compete as a hub airport with Heathrow, but it would be more sensible to see additional capacity at Gatwick as complementing, rather than competing with, Heathrow.**
  - **Heathrow is the location of choice for airlines. Previous attempts to move traffic away from Heathrow through the London Traffic Distribution Rules failed – as soon as the rules were lifted in 1991, Virgin Atlantic moved to Heathrow.**
  - **Heathrow is well located for road access and well located for surface access from London via public transport, with the Heathrow Express and Piccadilly Line offering fast, or cheap, access to the airport.**
  - **All the rail infrastructure improvements currently underway or planned will improve surface access to Heathrow:**
    - Crossrail will deliver direct journeys within 45 minutes from Canary Wharf, and around 30 minutes from a number of stops in Central London;
    - A Western access line to the Great Western Main Line will reduce journey times to Heathrow from key cities to the West of London;
    - HS2 will bring the airport much closer to cities from the North West, the Midlands, Yorkshire and the North East;
    - The Piccadilly Line upgrade will reduce journey times to Central London by a fifth, and will increase the frequency of services;
    - A Southern rail link to Heathrow, probably via Staines, would provide direct rail access to the airport from South West London.
  - **When asked to choose just one option to increase capacity, a third runway at Heathrow was the preferred choice of IoD members.**
  - **It is outside the IoD's competence to determine which runway solutions would be best at Heathrow. We note five suggestions, in isolation or in possible combination. Further work is clearly needed to evaluate these options in more detail. Most of these options, unfortunately, involve the demolition of a number of houses, although other proposals, including the proposal by Foster and Partners for a new hub airport, also involve the demolition of houses:**
    - A short third runway to the North, at Sipson;
    - A close-parallel runway to the South of the existing Southern runway, which could be contained almost entirely within the existing airport boundary, together with the demolition of Terminal 4 and its relocation to the central area;

- Reconfiguration of the runway at RAF Northolt to serve as a third (or a fourth) runway, with a fast rail link between the terminals;
  - The construction of two pairs of close parallel runways immediately to the West of the existing site, with Terminals 2, 3 and 5 retained and a new Heathrow West terminal;
  - In addition to the third runway, building a fourth runway North of the airport, by the M4, or South of the airport, or building two new runways to the West of the airport.
- The downsides of Heathrow expansion are noise, local air pollution and road congestion. They are far more serious issues at Heathrow than at other possible locations for new capacity. But they are not insurmountable problems – the “noise and other environmental mitigation” section sets out how stringent noise and other environmental measures should be applied, and the “surface access and wider transport integration” section shows how public transport could become the mode of choice to access Heathrow.
2. Allow Gatwick to build a second runway.
- A second runway at Gatwick airport 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.
  - Gatwick is currently about 80% full, and is likely to be completely full over the next 15 years. According to the DfT’s forecasts, which assume that demand is not constrained at Heathrow, demand at Gatwick will increase to 45 million passengers per annum by 2030, 50 million by 2040 and 60 million by 2050. The airport’s current capacity is around 42 million passengers per annum. The DfT forecasts show that, even with expansion of Heathrow, demand at Gatwick will increase steadily.
  - The airport is well located for rail access, and its rail services will improve after the Thameslink upgrade is completed in 2018. It is currently far better located than Stansted for rail access.
  - The investment risk would fall on the airport, not the taxpayer.
  - It remains to be seen whether London can accommodate two hub airports, as per New York. A larger Gatwick may remain a very busy point to point airport, or start to develop a hub offering. A second runway at Gatwick would offer a low-risk way of finding out whether two hub airports in the South East are feasible – certainly far less risky than Stansted.
  - Gatwick’s legal agreement with West Sussex Council prevents construction of a new runway before 2019, but there is no reason for approval not to be granted before that date. This would allow construction to begin after the expiry of the legal agreement, and the runway to open in the mid 2020s.
  - 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.



## SURFACE ACCESS AND WIDER TRANSPORT INTEGRATION

The UK has suffered from the failure, over many decades, to implement an integrated transport policy. Planning rail and airport developments together, in particular, would maximise the benefits of investment in both modes, which is especially important in a time of limited resources. The recommendations in this section do depend somewhat on the airport capacity solutions that are actually chosen – finite resources mean that those airports building new runways should be prioritised.

1. Transform Heathrow's rail connectivity by constructing the Heathrow Hub and running the HS2 line directly through Heathrow
  - Although rail access to Heathrow will improve dramatically over the coming years, constructing the Heathrow Hub could lead to even greater benefits. The Heathrow Hub involves a large station on the Great Western Main Line with an airport terminal above. Passengers would get off the train, check in and pass through security at the terminal and board a fast airside tracked transit to their aircraft satellite.
  - HS2 should also run through the Heathrow Hub. After the second phase of HS2, this overall development would mean direct, no-change access to Heathrow from most major cities, including Reading, Swindon, Bristol, Cardiff, Birmingham, Manchester, Liverpool, Sheffield, Leeds and Newcastle.
2. Improve and extend rail services to Gatwick
  - Gatwick's rail services will improve when the Thameslink upgrade is complete in 2018, but more capacity will be needed on services to Victoria.
  - In addition, better links could be made to the West Coast Main Line via the West London Line, and to Reading.
3. Extend Crossrail to Stansted
  - Extending Crossrail to Stansted would allow direct access to the airport from a number of points in London. It would be preferable to reducing journey times for the Stansted Express, which only serves Liverpool Street and Tottenham Hale.
4. Introduce smart ticketing and code-sharing between rail and air
  - For most airports, the most relevant improvement would be to introduce smart ticketing, removing the need to purchase a ticket prior to travel and making journeys to and from the airport faster and more flexible. Existing rail services could all benefit from smart ticketing.
  - For long distance services to airports, principally Birmingham Airport at present, but potentially Heathrow airport on the Great Western Main Line and Heathrow and Manchester airport on HS2 as well, the most important improvement would be to introduce code-sharing between rail and air, allowing plane tickets to be combined with a journey on any relevant rail service:
    - Code-sharing for journeys to Birmingham airport would increase the attractiveness of using the airport, which already enjoys services every 20 minutes from Euston;
    - Code-sharing on a direct HS2 journey to Heathrow (or Manchester airport) would mean that taking the train on the first leg of a long-haul journey would be far quicker and more attractive than flying to Heathrow and changing planes.

## NOISE AND OTHER ENVIRONMENTAL MITIGATION

If no new capacity is added, then noise and other local environmental problems will diminish over time, as aircraft steadily become quieter and cleaner; operational procedures improve and road transport becomes less polluting. But if new runways are built, then noise and local air pollution will affect people who are currently less affected, or not affected at all. Regardless of compensation measures, any airports building new runways (or any new airports) should be subject to the strictest environmental standards.

1. Airports building new runways, or a new airport, should be subject to strict noise measures
  - No planes above a stringent noise threshold should be permitted to use the airport, except in an emergency. The noise limits should also fall further over time. It is outside the IoD's competence to determine exactly what the noise levels should be, although we are persuaded by the conclusions of a recent Policy Exchange and Centre Forum report. The report stated that all planes arriving at their suggested four-runway Heathrow would have to be QC 0.5 or lower on arrival, while narrow bodied departures would be QC 1 or lower and wide bodied departures QC 2 or lower.
  - The angle of descent should be increased above 3 degrees (the current angle at Heathrow) so that planes are higher above people's homes when they land. This would particularly apply to narrow-bodied aircraft, although it may also be possible to increase the angle of descent for wide-bodied aircraft as well. Further work would be needed to determine the precise angles that would be safe.
  - These standards should be applied to the whole airport, not just to new runways, and should come into effect when the new runways open. Given that it will take a number of years before new runways are completed, the airport and airlines would have time to adjust. Applying the standards to the whole airport may also help to balance local interests, by providing some relief to residents already affected.
2. Airports building new runways, or a new airport, should be required to implement best practice ground procedures
  - These measures would be important to limit local air pollution and would include towing aircraft to and from the runways, using fixed electrical ground power and using electric vehicles for airport operations.
3. Airports building new runways, or a new airport, must have a strategy to reduce air pollution and CO<sub>2</sub> resulting from road access to the airport.
  - Over time, CO<sub>2</sub> and air pollution from road transport will gradually fall, as engines become cleaner, the uptake of hybrid and stop-start non-hybrid engines increases, and as electric car technology develops. But, especially for Heathrow, these improvements are unlikely to come fast enough.
  - A strategy should be adopted to reduce harmful emission from road access, with measurable goals. It should both inform, and be informed by, improvements to public transport services to the airport – if public transport services are improved, it will be easier to restrict car access.

4. A balance needs to be struck regarding night flights
  - Night flights are by far the most damaging for local communities, but the solutions are likely to differ between airports.
  - For airports that serve as express freight gateways, principally East Midlands, Edinburgh and Stansted, where express couriers operate their own aircraft, a number of night flights do need to be allowed.
  - For airports that build new runways, flights between 23:00 and 06:00 should be severely restricted or banned completely. Last year, Frankfurt airport balanced the opening of a fourth runway with a ban on flights between 23:00 and 05:00.

## TAXATION

The UK levies the highest taxes on flying of any country in the world, reducing our attractiveness as a destination and benefitting European airports and airlines at the expense of UK ones.

1. Freeze Air Passenger Duty (APD) rates in cash terms
  - APD is already too high, but a freeze in cash terms is a necessary first step.
2. Offset the impact of the EU ETS
  - Including aviation in the ETS should not add to the overall tax burden on flying. An allowance should be introduced against APD to cover 100% of the impact of the ETS.
3. Carry out a comprehensive analysis of the economic impact of APD and the ETS
  - An economic analysis of the total impact of APD on growth and employment in the UK is needed. The review should also establish fare price elasticities of leisure and business travel and investigate the impacts of the ETS charge.

## VISAS AND BORDERS

The benefits of more airport capacity, better integration with the wider transport network and reduced levels of taxation would be considerably reduced if the UK continues to make it difficult and time-consuming for people from outside the EU to come to this country.

1. Employ more permanent border staff
  - Between March 2011 and March 2012, Border Force staff fell by 10% at Heathrow and by 6% nationwide, contributing to longer queuing times. During the Olympics, performance improved because extra staff were drafted in.
  - Other things equal, more border staff will mean shorter queuing times. The use of automatic e-gates is increasing, but at the moment these can only be used by EEA passengers. There is nothing worse than waiting in line when half the passport gates are unmanned.

2. Modernise Border Force working practices to maximise the use of limited staff resources
  - **Rosters should be made more flexible, on-call schemes introduced, and better use made of airline passenger information.**
3. Accelerate development of advance-clearance systems
  - **Advance-clearance systems enable passengers on low-risk routes to be screened by immigration in advance of their arrival in the UK and have the potential to reduce queuing times substantially.**
4. Fast-track lanes should not come at the expense of improvements at the border for all visitors
  - **Fast-track lanes are to be welcomed insofar as they will smooth the entry of important businesspeople into the UK, but they are no substitute for improving the border experience for all people entering this country, for leisure as well as business.**
5. Encourage airports to contribute to improved performance at the border
  - **People arriving at UK airports do not recognise the administrative division between the airport operations and the border operations. Quite naturally they see arrival as one continuous process – waiting to land, taxiing to the gate, passing through the border, collecting baggage, and proceeding with their onward journey. It is therefore in the interests of airports themselves that border processes run swiftly and smoothly.**
6. Overhaul the visa application process
  - **Robust checks need to be carried out, but there are two improvements that should be made:**

UK visas can take up to three months to process, a deplorably long time. Visa processing times need to be speeded up;

- There should be better integration with the Schengen visa application process. It should be possible to apply for a Schengen visa and a UK visa at the same time, with a single form containing questions common to both systems followed by Schengen-specific and UK-specific questions, together with payment of the two fees.
  - **The default attitude to those applying for visitor visas ought to be one of welcome rather than suspicion. Many parts of the world are growing far more quickly than the UK, and our economy needs more people from these countries to visit.**
7. Remove international students from the target for net migration during the period of their study
    - **This is a key move to increase the attractiveness of the UK as a destination for higher education. UK universities are already big export earners, and the economy benefits more widely from links established at university between Britain and intelligent and ambitious people from growing economies overseas.**



## FLYING INTO THE FUTURE

Above all, the UK must end up with an airports system that allows for a flexible response to changing economic circumstances, travel patterns and technology. Most airport expansion projects can be funded privately. With sufficient capacity growth, there is no reason why this country cannot continue to be a world-class trading hub, well connected to all the major economies.

*“With sufficient capacity growth, there is no reason why this country cannot continue to be a world-class trading hub.”*





# 1. Growing aviation sustainably

Aviation is great for the economy, but bad for the environment. In these times we need all the economic growth we can get. But we also need to preserve our natural world. Fortunately, technological improvements do allow us to do both, and to quite a large extent. It is possible to grow aviation in a sustainable way.

## THE ECONOMY

In 2011, almost 220 million passengers passed through UK airports, 38 million of which were flying domestically and 181 million internationally. In that year, UK airports handled 2 million air traffic movements and 2.3 million tonnes of freight.<sup>1</sup>

The most comprehensive recent report on the importance of aviation to the economy was produced by Oxford Economic Forecasting for the Department for Transport, VisitBritain, the aviation industry and the CBI in 2006.<sup>2</sup> It was criticised by a number of anti-airport expansion groups as being skewed towards the pro-airport expansion lobby.<sup>3</sup> Nevertheless, it is hard to challenge the central findings of the report:<sup>4</sup>

- **Aviation plays a vital role supporting inbound tourism.** Nearly three quarters of international visitors to the UK arrive by air, spending the equivalent of 1.1% of GDP and generating 170,000 jobs.
- **Air transport supports trade,** with 35 million business passengers passing through UK airports every year and 30% of all UK exports by value transported by air. The aviation industry handles 55% of the UK's exports, by value, of manufactured goods to countries outside the EU, while nearly two thirds of businesses say that air services are very important to sales and marketing efforts and meeting and servicing customers.
- **Aviation helps families enjoy a well-earned break,** with air accounting for 80% of foreign holidays taken by UK residents.
- **Good air connections encourage more businesses to locate and invest.** A quarter of companies say that access to air services is an important factor in influencing where they locate their operations within the UK. The converse is also true. Nearly one in ten companies say that the absence of good air connections has affected their organisation's decision to invest in the UK, with nearly a third of these choosing not to invest in this country.
- **The UK and world economies are shifting,** and both trends mean that aviation will be increasingly important. Knowledge-based services and high tech manufacturing have both become more important to the UK economy – and these areas of the economy rely more on air services than others. At the same time the high growth markets are accounting for an increasing share of global GDP and UK trade, at the same time as the EU is accounting for a smaller share – direct long-haul flights to a range of new destinations, primarily in Asia, are therefore vital.

The figures in the Oxford Economic Forecasting Report are now several years old, but the points they make are just as relevant today as in 2006. An update to the report, published in 2011, found<sup>5</sup>:

<sup>1</sup> Civil Aviation Authority, *UK Airport Statistics 2011* <http://www.caa.co.uk/default.aspx?catid=80&pagetype=88&sglid=3&fld=2011Annual>

<sup>2</sup> Oxford Economic Forecasting, *The Economic Contribution of the Aviation Industry in the UK*, October 2006 <http://www.oef.com/Free/pdfs/Aviation2006Final.pdf>

<sup>3</sup> House of Commons Transport Committee, *The Future of Aviation*, December 2009, Para 44 <http://www.publications.parliament.uk/pa/cm200910/cmselect/cmtran/125/12505.htm>

<sup>4</sup> NB: Most figures taken from the report refer to 2004

<sup>5</sup> Oxford Economics (formerly Oxford Economic Forecasting), *Economic Benefits from Air Transport in the UK*, 2011.

- Aviation contributes £50 billion to UK GDP, or 3.6%. This includes £21 billion from the sector directly, £16 billion from the supply chain and £12 billion from the spending by the employees of the aviation sector and its supply chain. In addition, there are an estimated £21 billion in “catalytic” benefits from tourism.
- The aviation sector supports 921,000 jobs, including 326,000 jobs directly supported by the sector, 346,000 supported through the supply chain and 249,000 jobs supported by the spending by the employees of the aviation sector and its supply chain. In addition, the report estimates that there are a further 519,000 people employed through the catalytic (tourism) effects of aviation.

TABLE 1.1

## Aviation's contribution of output and jobs to the UK

	DIRECT	INDIRECT	INDUCED	TOTAL	% OF WHOLE ECONOMY
Contribution to GDP (£ million)					
Airlines	5,088	2,839	3,002	10,929	0.8%
Airports and ground services	5,917	5,845	4,334	16,096	1.2%
Aerospace	10,283	7,635	4,640	22,558	1.6%
Total	21,288	16,319	11,976	49,583	3.6%
Catalytic (tourism)	8,186	8,223	4,267	20,676	1.5%
Total including catalytic	29,474	24,542	16,243	70,259	5.0%
Contribution to UK employment (000s)					
Airlines	88	59	62	210	0.7%
Airports and ground services	133	128	90	351	1.2%
Aerospace	105	159	97	360	1.2%
Total	326	346	249	921	3.2%
Catalytic (tourism)	226	198	95	519	1.8%
Total including catalytic	552	544	344	1,440	5.0%

Source: Oxford Economics, Economic Benefits from Air Transport in the UK, 2011, Table 3.1

- The aviation sector contributes nearly £8 billion in tax, including around £6 billion from aviation firms and employees and £1.9 billion from Air Passenger Duty. In addition, the report estimates that a further £5.9 billion is raised via the aviation sector's supply chain and £4.3 billion through taxation of the activities supported by the spending of employees of both the aviation sector and its supply chain.
- Although air freight accounts for less than 1% of the tonnage of EU trade with the rest of the world, it accounts for 22% by value.



Other studies and data also confirm a number of these findings:

- A recent study by Oxera found that aviation's "economic footprint", including the direct contribution from the activities of airports, airlines and aircraft service providers and the indirect contribution from economic activity within the supply chain, added up to £18.4 billion of GVA, 234,000 employees and £7.8 billion of tax revenues.<sup>6</sup> The Government's Draft Aviation Policy Framework, published in July 2012, stated that the UK aviation sector's turnover in 2009 was around £49 billion and it generated around £17 billion of economic output, employing over 220,000 workers directly and supporting many more indirectly.<sup>7</sup>
- Air travel is vitally important for business connections. According to the 2006 Eddington Transport Study, "each day there are 72,000 international air business passenger journeys made to and from the UK (compared to 60,000 long-distance domestic business trips)".<sup>8</sup>
- The Eddington Transport Study also found that 25% of goods imports to the UK, by value, arrive by air.<sup>9</sup>
- In the decade before the global economic crisis began, the growth of aviation, particularly low cost flying, allowed Britons to fly overseas on holiday nearly twice as often as before. In 1997, Britons flew abroad on holiday 20 million times. By 2007, this figure had increased to 37 million.<sup>10</sup> During this period, a well-earned break overseas became a reality to many for the first time.

These statistics and estimates show clearly that aviation is a vital part of our economy. As the Transport Select Committee concluded in 2009:<sup>11</sup>

*"Aviation is important to the UK economy overall. It facilitates the flows of people, goods and finance into, out of, and within the UK. Good connectivity supports UK competitiveness in increasingly global markets. Aviation is also important to regional economic development."*

As communications technology continues to develop at a rapid rate, high definition video conferencing will grow in use and importance. But video conferencing is no substitute for tourism, and for many business transactions, face-to-face contact will continue to be essential. Meeting people in person has always been crucial to forming business relationships and there is no likelihood of that changing. Indeed, personal relationships are, if anything, even more important in the high growth economies of Asia. While rail is a good substitute for air for shorter journeys, it is not possible to take the train to the Far East or Latin America. Both video conferencing and flying will grow over the coming years.



<sup>6</sup> Oxera, *What is the contribution of aviation to the economy?* November 2009, Figure 3.1

<sup>7</sup> Department for Transport, *Draft Aviation Policy Framework*, July 2012 <http://assets.dft.gov.uk/consultations/dft-2012-35/draft-aviation-policy-framework.pdf>

<sup>8</sup> Office for National Statistics, *Transport Statistics Great Britain*, 2005, cited in *The Eddington Transport Study*, December 2006, p.25

<sup>9</sup> *The Eddington Transport Study*, December 2006, p.25

<sup>10</sup> Office for National Statistics, *Travel Trends 1999*, Table 3.07 and *Travel Trends 2010*, Table 3.07. Both reports are based on data from the International Passenger Survey.

<sup>11</sup> House of Commons Transport Committee, *The Future of Aviation*, December 2009, Para 51 <http://www.publications.parliament.uk/pa/cm200910/cmselect/cmtran/125/12505.htm>

## THE ENVIRONMENT

Aviation has both global and local environmental impacts, and with appropriate care, these can be managed.

### GLOBAL

Emissions of carbon dioxide are the most significant global environmental impact of aviation (although not the only one<sup>12</sup>). Global aviation only accounts for a tiny proportion of global emissions – similar to international shipping – but that share is set to increase relatively quickly as aviation continues its rapid growth. And releasing CO<sub>2</sub> at great height is estimated to have effects two-to-four times larger than releasing CO<sub>2</sub> at ground level.<sup>13</sup>

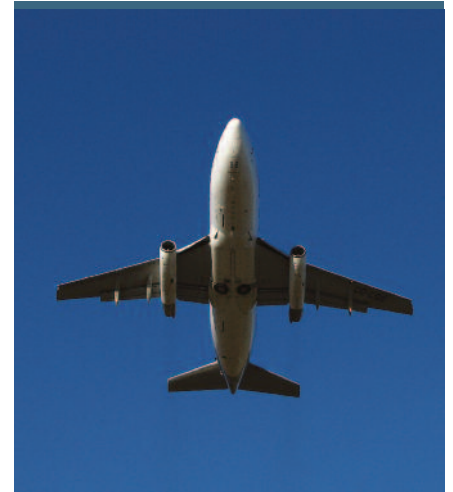
Nevertheless, better aircraft design, more efficient aircraft engines, sustainable biofuels, and improved air traffic management and other operational changes can all contribute to a reduction in the carbon intensity of air travel, offsetting an increase in the number of flights.

In April 2012, the Committee on Climate Change recommended that emissions from international aviation and shipping should be included in the UK's 80% carbon reduction target, and consequently in the UK's carbon budget framework.<sup>14</sup>

At the same time, the Committee set out how it believed that aviation could make a contribution:<sup>15</sup>

"We show that international aviation emissions could return to 2005 levels by 2050 (i.e. 35 MtCO<sub>2</sub>e). This would require improvements in engine and aircraft efficiency, operational efficiency improvements and possibly some use of biofuels and/or moderation in demand growth. It is in line with scenarios proposed in our 2009 aviation report, by Government (Department for Transport) and by the industry (Sustainable Aviation and IATA):

- "In our aviation report, our 'Likely' scenario includes baseline demand growth of 115% from 2005 when exposed to a carbon price that reaches £200/tCO<sub>2</sub>e in 2050. Emissions reductions are 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 (75% from 2010, given that demand fell during the recession).
- "DfT's central scenario (published in summer 2011) projects demand growth of 125% from 2010 when a carbon price is included (a 105% increase from 2005). Achieving 2050 emissions at 2005 levels can then be achieved through a 1.2% annual improvement in fuel efficiency, 10% biofuels use and a moderation of demand growth to 90% on 2010 levels.
- "Sustainable Aviation has proposed a trajectory in which demand increases in line with DfT's 2011 analysis (i.e. a 125% increase from 2010), with offsetting savings based on a combination of improvements in engine and aircraft efficiency (combining to give a 1.2% annual improvement in fuel efficiency), improvements in aircraft operations and air traffic management, and an 18% emissions saving from use of biofuels.
- "At the global level, IATA has set targets for carbon-neutral growth from 2020, and a reduction in CO<sub>2</sub> emissions of 50% on 2005 levels by 2050. IATA envisages that this target will be achieved through significant reductions in gross emissions, together with some purchase of offset credits in 2050."



<sup>12</sup> The main non-CO<sub>2</sub> impacts are emissions of nitrogen oxide (NO<sub>x</sub>) and condensation trails leading to cirrus cloud formation. These "radiative forcing" effects are not well understood, although the IPCC estimated that aviation accounted for around 3% of the anthropogenic radiative forcing in 2005. IPCC Fourth Assessment Report, *Climate Change 2007: Working Group III: Mitigation of Climate Change*, Box 5.1 [http://ipcc.ch/publications\\_and\\_data/ar4/wg3/en/ch5s5-2.html#5-2-1](http://ipcc.ch/publications_and_data/ar4/wg3/en/ch5s5-2.html#5-2-1)

<sup>13</sup> IPCC, *Aviation and the Global Atmosphere: A Special Report of IPCC Working Groups I and III*, 1999, cited in Dieter Helm, *The Carbon Crunch: How we're getting climate change wrong – and how to fix it*, Yale University Press, 2012, p.37

<sup>14</sup> Committee on Climate Change, *Scope of carbon budgets: Statutory advice on inclusion of international aviation and shipping*, April 2012 [http://hmccc.s3.amazonaws.com/IA&S/CCC\\_IAS\\_Core\\_ScopeOfBudgets\\_April2012.pdf](http://hmccc.s3.amazonaws.com/IA&S/CCC_IAS_Core_ScopeOfBudgets_April2012.pdf)

<sup>15</sup> Committee on Climate Change, *The 2050 target – achieving an 80% reduction including emissions from international aviation and shipping*, April 2012, p.21 [http://hmccc.s3.amazonaws.com/IA&S/CCC\\_IAS\\_Tech-Rep\\_2050Target\\_April2012.pdf](http://hmccc.s3.amazonaws.com/IA&S/CCC_IAS_Tech-Rep_2050Target_April2012.pdf)

These findings show that, with reasonable fuel efficiency improvements and a gradual uptake of sustainable biofuels, UK aviation demand can increase by 75%-125% on its 2010 amount, without CO<sub>2</sub> emissions increasing beyond their 2005 levels. And as the Committee points out, globally, the aviation industry has set out plans to continue to grow in a sustainable way.

Operational measures can make a large contribution:

- Continuous descent approaches (CDAs) and continuous climb departures (CCDs) can reduce CO<sub>2</sub> emissions at these stages of the flight. Trials show that making every stage of the flight as efficient as possible (the fuel optimum profile or “perfect flight”) can reduce CO<sub>2</sub> emissions by 10%. Improved air traffic control procedures will result in an increase in the number of CDAs and CCDs, and ultimately, in the number of fuel efficient flight paths overall.<sup>16</sup>
- Improved operational procedures can also reduce emissions of CO<sub>2</sub> from aircraft on the ground, which account for a substantial portion of airport emissions. For example, in 2009, aircraft ground movements at Heathrow accounted for almost 600,000 tonnes of CO<sub>2</sub>, around the same amount as emissions from approaching and departing aircraft. Introducing measures such as reduced engine taxiing and using fixed electrical ground power and pre-conditioned air rather than running auxiliary power units on stationary aircraft, could contribute to reducing ground-based aircraft CO<sub>2</sub> emissions by 100,000 tonnes a year at Heathrow.<sup>17</sup>
- A Boeing 747 can consume a tonne of fuel and emit several tonnes of CO<sub>2</sub> during an average 17 minute taxi to take off. But towing the aircraft with a tug, such as the TaxiBot developed by Israel Aerospace Industries, would use just 20-30 litres of fuel. Germany’s Lufthansa will trial the system at Frankfurt Airport from May 2013. Meanwhile, the German Aerospace Centre is testing the idea of using electric power to drive airliners to and from the runway, which could save up to 19% of current airport emissions.<sup>18</sup>

Including emissions from international aviation in the EU ETS was a development that the IoD opposed. In the absence of a global agreement, it could easily lead to an aviation trade war, a point that the EU has now conceded, with flights departing or arriving outside of the EU exempt from the charge, at least for the moment.

Having said that, the EU ETS offers another way for the aviation industry to expand. The logic of the ETS is that carbon emissions are lowered in the most cost-effective way. Carbon emissions from aviation can be reduced, but if aviation isn't the most cost-effective area to cut emissions, then the industry can pay for reduction elsewhere. Given that CO<sub>2</sub> is subject to a shrinking cap overall, it doesn't matter where the emissions originate. It's the emissions cap that is important, not its composition.

*“Both video conferencing and flying will grow over the coming years.”*

<sup>16</sup> National Air Traffic Control Service, *Acting Responsibly: NATS and the Environment 2010* <http://www.nats.co.uk/wp-content/uploads/2010/09/Acting-Responsibly-ATM-CO2-Annual-Report-2010-FINAL-HQ.pdf>

<sup>17</sup> Sustainable Aviation, *Progress Report 2011* <http://www.sustainableaviation.co.uk/wp-content/uploads/sa-progress-report-2011.pdf>

<sup>18</sup> The Economist, *Preparing for take-off*, 15 September 2012 <http://www.economist.com/node/21562895>

## LOCAL

Locally, there are a number of environmental issues. These include aircraft noise, local air quality and emissions from road access to airports.

It is worth noting that more households in London are affected by road noise than aircraft noise, although this doesn't lessen the need for the aviation industry to reduce its noise footprint.<sup>19</sup> While aircraft noise is a significant concern, the noise footprint of airports is tending to shrink rather than grow, as airline fleets become progressively quieter:

- In 1980, there were 944,000 people living in the 57 decibel (dB) noise contour around Heathrow. By 2010, that number had fallen by three quarters to 228,700.<sup>20</sup> Over the same period, the number of flights rose from 273,000 to 449,000 a year.<sup>21</sup>
- Between 2000 and 2010, the number of people affected by noise levels of 57dB or above at Stansted airport fell by three quarters – from 5,700 to 1,400 – even as the number of flights remained at roughly the same level.<sup>22</sup>

Although these numbers may come as little comfort to those residents experiencing 56dB noise levels, they do show that, over time, technological advances and improved operational procedures can make a significant impact. And these are set to continue:

- According to Heathrow Airport: “The Airbus A380 is significantly quieter than other large aircraft. It produces half the noise energy at takeoff and cuts the area exposed to equivalent noise levels around the airport runway by half. At landing the A380 produces three to four times less noise energy.”<sup>23</sup>
- The noise footprint of the new Boeing 787 Dreamliner is 60% smaller than other similarly sized aeroplanes,<sup>24</sup> while the new Bombardier CSeries aircraft, due to enter service in 2013, will also be considerably quieter than current in-production aircraft of a similar size.<sup>25</sup>
- Increasing the use of CCDs and CDAs, and reducing approach speeds before landing, can also contribute to lower noise levels.<sup>26</sup>
- Steeper descents could also help to cut noise, as aircraft would be higher when they pass over people's homes. Emirates Airlines recently made a proposal to increase the angle of descent for the Airbus A380 from 3% to 5.5% at the earlier stages of descent into Heathrow and to land the aircraft further down the runway.<sup>27</sup> The proposal came with a request to allow the A380 to land at night, which would not have benefitted residents, but it illustrates how improved procedures are possible. Steeper approaches may be complex to implement, but angles of descent of 5.5% are in operation at London City airport.

*“More households in London are affected by road noise than aircraft noise.”*

<sup>19</sup> In the 2002 London Household Survey, 13% rated noise from road traffic where they lived a “serious problem”, compared with aircraft 6%, roadworks/construction/demolition 4%, noisy neighbours 4%, trains/tubes 2%, industrial/commercial premises 2%, and pubs/clubs/entertainment 2%. Greater London Authority, *Southern City: The Mayor's Ambient Noise Strategy*, March 2004, p.viii [http://static.london.gov.uk/mayor/strategies/noise/docs/noise\\_strategy\\_all.pdf](http://static.london.gov.uk/mayor/strategies/noise/docs/noise_strategy_all.pdf)

<sup>20</sup> *Developing a sustainable framework for UK aviation: Heathrow Airport submission*, October 2011, p.4

<sup>21</sup> Heathrow Airport, *Environmental Noise Directive: Noise Action Plan 2010-2015*, December 2010, p.5 [http://www.heathrowairport.com/static/Heathrow\\_Noise/Downloads/PDF/NAP\\_main.pdf](http://www.heathrowairport.com/static/Heathrow_Noise/Downloads/PDF/NAP_main.pdf); Civil Aviation Authority, UK Airport Statistics 2011, Table 06 <http://www.caa.co.uk/default.aspx?catid=80&pagetype=88&sglid=3&fid=2011Annual>

<sup>22</sup> *Developing a sustainable framework for UK aviation: London Stansted's response*, October 2011, p.12

<sup>23</sup> See <http://www.heathrowairport.com/about-us/community-and-environment/sustainability/case-studies/airbus-a380-new-departure-procedures>

<sup>24</sup> See [http://www.boeing.com/aboutus/environment/environmental\\_report\\_09/\\_inc/flash-2-3-2.html](http://www.boeing.com/aboutus/environment/environmental_report_09/_inc/flash-2-3-2.html)

<sup>25</sup> Sustainable Aviation, *Progress Report 2011* <http://www.sustainableaviation.co.uk/wp-content/uploads/sa-progress-report-2011.pdf>

<sup>26</sup> National Air Traffic Control Service, *Acting Responsibly: NATS and the Environment 2010* <http://www.nats.co.uk/wp-content/uploads/2010/09/Acting-Responsibly-ATM-CO2-Annual-Report-2010-FINAL-HQ.pdf>

<sup>27</sup> Financial Times, *Heathrow night flights proposed*, 9 April 2012 <http://www.ft.com/cms/s/0/7777db18-7cb8-11e1-8a27-00144feab49a.html#axzz1zAyGjUC2>



Operational measures and more advanced engines can also help to improve local air quality by reducing nitrogen dioxide (NO<sub>2</sub> – a component of NO<sub>x</sub>) emissions:<sup>28</sup>

- The Advisory Council for Aeronautics Research in Europe (ACARE) has set a target of reducing NO<sub>x</sub> emissions from new aircraft by 80% by 2020, relative to new aircraft in 2000. The new Bombardier CSeries aircraft will emit up to 50% less NO<sub>x</sub> than current aircraft of a similar size, while successive generations of Rolls Royce Trent engines are becoming ever cleaner.
- In addition to reducing CO<sub>2</sub> emissions and noise, many of the operational improvements outlined above will also result in improvements in air quality, although some trade-offs do exist.

Finally, the impact of road access to airports, both on carbon emissions and on local air quality, will fall over time, as car engines become cleaner and as the uptake of electric cars gradually increases.

*“It is possible to strike a balance between allowing flights to increase in number and protecting the global and local environment.”*

## FINDING A BALANCE

The environmental impacts of aviation are real and significant, especially when it comes to the difficult decision of deciding where to allow new capacity to be added. But the above examples show that it is possible to strike a balance between allowing flights to increase in number and protecting the environment, and that aviation can grow in a sustainable way.

Alternatives to flying should be encouraged, but choosing not to add capacity will inevitably divert some flights to overseas hub airports, and reduce Britain's connectivity to growing countries. The resulting economic damage may be felt by some to be a price worth paying to preserve the quality of life of local residents. But globally, it won't make any environmental difference.

The following table provides a useful comparison between the economic benefits, the CO<sub>2</sub> costs and the tax revenues from UK aviation.

TABLE 1.2	
Aviation – costs and benefits	
(£ million)	
Economic benefits	49,583
Air Passenger Duty revenue	2,607
CO <sub>2</sub> cost	approx. 250
Sources: Economic benefits: Oxford Economics, Economic Benefits from Air Transport in the UK, 2011, Table 3.1; APD revenue: HMRC, Air Passenger Duty (APD) Bulletin, June 2012, Table 4 <a href="https://www.uktradeinfo.com/Statistics/Pages/TaxAndDutyBulletins.aspx">https://www.uktradeinfo.com/Statistics/Pages/TaxAndDutyBulletins.aspx</a> ; CO <sub>2</sub> cost: 35 MtCO <sub>2</sub> e emissions in 2005 multiplied by carbon price of €9 per tonne, converted into Sterling using 1.25 exchange rate	

<sup>28</sup> Sustainable Aviation, *Progress Report 2011* <http://www.sustainableaviation.co.uk/wp-content/uploads/sa-progress-report-2011.pdf>



## 2. The four crunches

The UK has always been an open trading nation, benefitting from its links with the rest of the world. Britain's economy used to rely on shipping, and to a large extent our overseas trade still depends on excellent port facilities. But we increasingly rely on aviation to take our goods and people to the world and to bring the world to our shores. And unfortunately, as a country, we are beginning to close up, making it a little harder to get here. As global trade, tourism and aviation continue to grow rapidly, the UK is beginning to allow itself to be squeezed, and in four related ways:

- Airport capacity in the South East;
- Hub airport capacity;
- Aviation tax;
- Visas and borders.

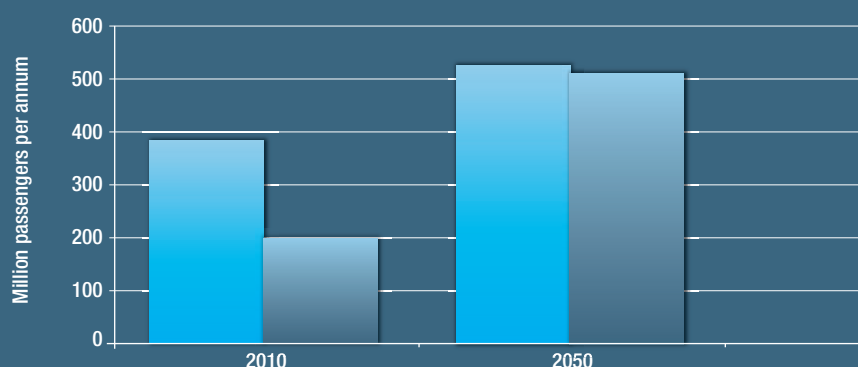
### THE SOUTH EAST CAPACITY CRUNCH

Given all the media talk about a lack of aviation capacity, the surprising truth is that, overall, the UK has plenty of spare capacity:<sup>29</sup>

- In total, UK airports have the capacity to handle 372 million passengers a year. In 2010, 211 million passengers 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 million passengers a year. By 2050, according to the Department for Transport's (DfT's) forecasts, 520 million passengers will be using UK airports.

CHART 2.1

#### UK airport capacity and unconstrained demand



Source: Department for Transport, UK Aviation Forecasts, August 2011, Tables 2.6 and 2.7 (central forecast)

<sup>29</sup> Department for Transport, *UK Aviation Forecasts*, August 2011, Tables 2.6 and 2.7 (central forecast)

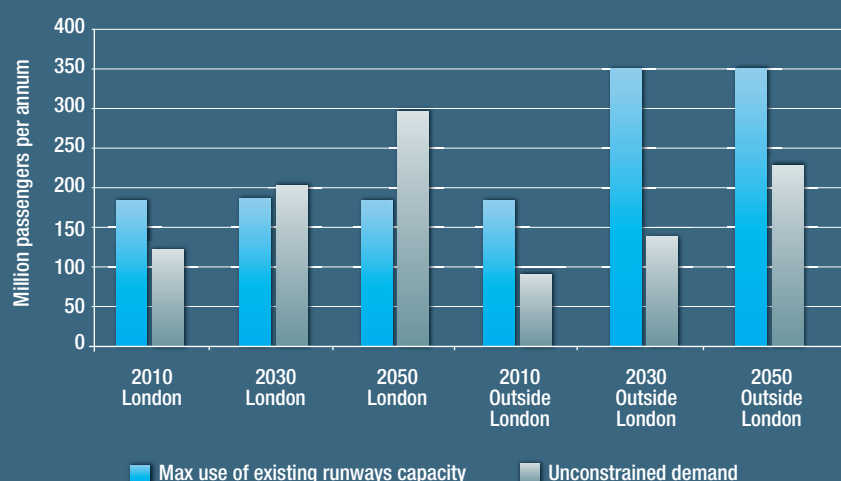
The real issue, then, is not overall airport capacity, but where that capacity is located. And there is a stark divide between London and the rest of the country:<sup>30</sup>

- The five London airports – Heathrow, Gatwick, Stansted, Luton and City – are currently able to handle 181 million passengers a year. In 2010, 126 million passengers used these five airports.
- Using the current set of runways at these five airports to the maximum, which principally involves improvements to Luton airport, 188 million passengers could pass through them. By 2030, the DfT forecasts that 204 million passengers will want to fly from these airports. By 2050, demand is set to grow to 294 million.
- By contrast, the other UK airports currently have the capacity to handle 191 million passengers a year, a figure that could rise to 352 million if all runways were used to the maximum. But demand is far lower. In 2010, demand was 85 million, a figure which is forecast to rise to 141 million in 2030 and 226 million in 2050.

*“The real issue is not overall capacity, but where that capacity is located.”*

CHART 2.2

Airport capacity in London and outside London compared to unconstrained demand



Source: Department for Transport, UK Aviation Forecasts, August 2011, Tables 2.6 and 2.7 (central forecast), and unconstrained terminal passenger forecasts by airport (central forecast)

## UNCONSTRAINED DEMAND FORECASTS

It is worth noting that the figures in this chapter quote from the Department for Transport's unconstrained demand forecasts, which assume that there are no capacity constraints that would limit demand growth.

These are the best forecasts to use when comparing demand to capacity, and when working out where new capacity might be needed. With capacity constraints at certain airports, demand is likely to shift to other airports, although “constrained” demand is also likely to be lower overall. Nevertheless, it is unhelpful to use constrained forecasts, as these assume that a policy decision not to allow new capacity has already been made.

In reality, it is likely that some level of constraint will apply to demand at certain airports. For example, by 2050, unconstrained demand at Heathrow is forecast to rise to 170 million passengers a year, which is far more than a third runway would be able to accommodate.



The looming capacity crunch is therefore principally a London crunch, although certain airports outside of London are also likely to need larger terminal facilities or new runways before 2050. Table 2.1 sets out the DfT's capacity assumptions and unconstrained demand forecasts for each UK airport, up to 2050:

- Areas shaded green are where no new capacity is needed;
- Areas shaded amber show where more terminal capacity and/or other improvements are required;
- Areas shaded red show where demand is forecast to be larger than the maximum use of the existing runway/s.

AIRPORT	CAPACITY, MPPA		UNCONSTRAINED DEMAND, MPPA				
	2008	MAX USE	2010	2020	2030	2040	2050
Heathrow	86	86	65	95	115	140	170
Gatwick	42	42	30	35	45	50	60
Stansted	35	35	20	20	25	30	35
Luton	10	17	8	9	12	15	15
London City	8	8	3	4	7	10	14
Manchester	30	56	20	30	35	45	55
Birmingham	18	27	9	13	15	25	30
Edinburgh	20	20	8	14	20	25	30
Glasgow	12	20	6	6	8	9	12
Bristol	7	12	5	7	9	12	14
Liverpool	12	20	5	5	6	7	8
Belfast International	10	23	4	6	8	10	13
East Midlands	25	25	4	3	4	4	5
Newcastle	6	20	4	5	6	7	10
Aberdeen	5	10	3	3	4	5	7
Belfast City	4	4	2	3	4	5	7
Leeds/Bradford	5	12	3	3	4	6	8
Southampton	5	7	2	2	3	4	5
Prestwick	3	15	2	2	2	2	2
Cardiff	12	12	1	1	1	2	3
Bournemouth	2	6	<1	<1	1	1	2
Exeter	2	12	<1	1	2	2	5
Doncaster Sheffield	2	2	<1	1	1	2	2
Humberside	1	12	<1	<1	<1	<1	2
Inverness	1	8	<1	1	<1	<1	<1
Newquay	1	3	<1	<1	<1	<1	1
Norwich	2	3	<1	<1	<1	1	2
Plymouth	1	4	<1	<1	<1	<1	<1
Teesside	3	10	<1	<1	<1	<1	<1
Blackpool	3	8	<1	<1	<1	<1	<1
Coventry	0	2	<1	<1	<1	<1	<1
Total London	181	188	126	163	204	245	294
Total outside London	192	353	89	114	141	181	228
<b>TOTAL</b>	<b>373</b>	<b>541</b>	<b>215</b>	<b>277</b>	<b>345</b>	<b>426</b>	<b>522</b>

NB: Totals may not sum due to rounding. Source: Department for Transport, UK Aviation Forecasts, August 2011, unconstrained terminal passenger forecasts by airport (central forecast)



These forecasts show that in the next 20 years, the major capacity crunch is likely to be in London, although a number of the larger airports outside of London could also need more terminal or runway capacity:

- By 2020, demand will exceed “max use” capacity at Heathrow and by 2030 at Gatwick.
- By 2030, new terminal facilities could be needed at Manchester and Luton.
- By 2040, out of the major airports, Edinburgh may need extra runway capacity, and by 2050, the same may be true of Birmingham and Bristol.
- A number of other smaller airports are likely to need capacity enhancements by 2050, which may be new terminals or more runway capacity.

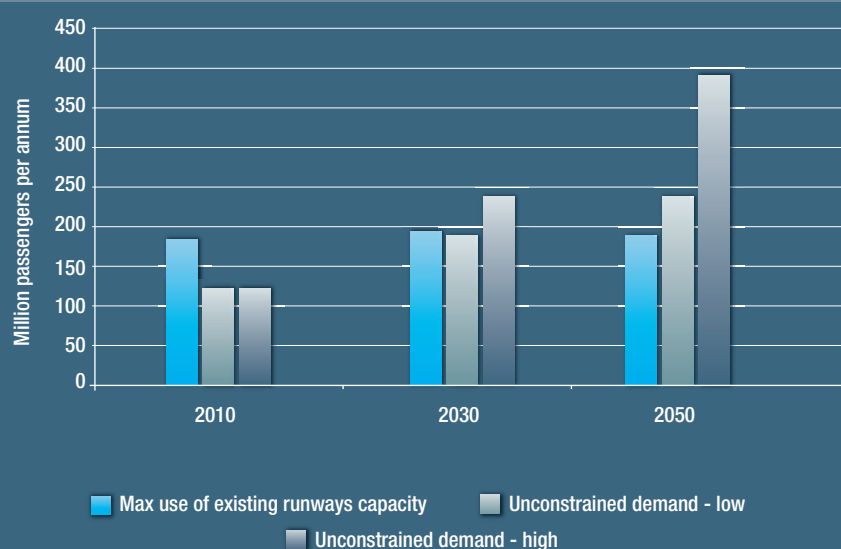
It's worth remembering that forecasts, especially those as far out as 2050, are liable to be considerably wide of the mark. For example, the DfT's 2000 forecasts predicted that 257-297 million passengers would be using UK airports in 2010, with a central forecast of 276 million.<sup>31</sup> The actual figure was 211 million, only around three quarters of the projected central forecast and 82% of the low forecast. Of course, in 2000, 9/11 and the global financial crash were not foreseen, but if such errors are possible only ten years out, 40-year projections are even more fallible.

Nevertheless, it's worth looking at the range of forecasts produced by the DfT, which capture the effects of different assumptions about factors such as economic growth, fuel prices and carbon prices. Charts 2.3 and 2.4 set out the low and high unconstrained demand scenarios for London and outside London:<sup>32</sup>

- The low scenario shows that London will need more overall capacity only after 2030, and only a modest increase in capacity by 2050, while the high scenario shows that London will need to roughly double its capacity by 2050.
- Outside of London, both the low and high scenarios show that, overall, no new runway capacity is needed, although individual airports may need enhancements.

CHART 2.3

## Low and high unconstrained demand forecasts – London



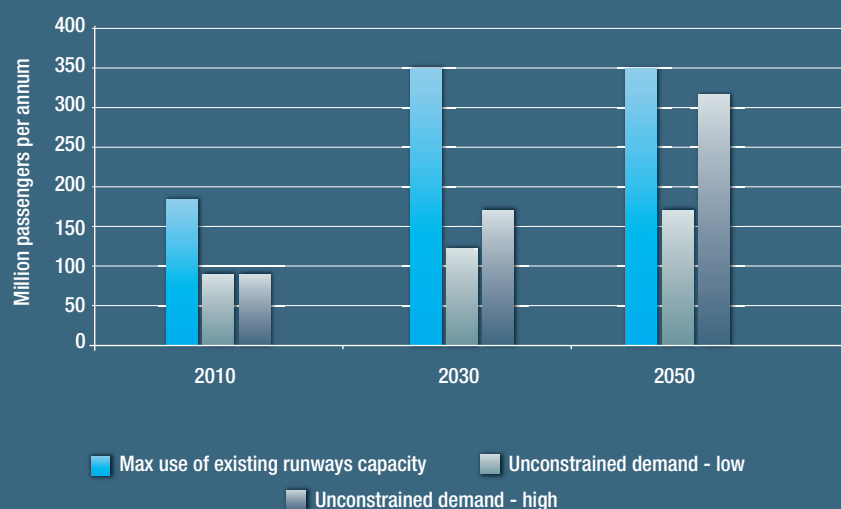
Source: Department for Transport, UK Aviation Forecasts, August 2011, unconstrained terminal passenger forecasts by airport (low forecast and high forecast)

<sup>31</sup> Department for Transport, *Air traffic forecasts for the United Kingdom 2000*, Table 3.1

<sup>32</sup> Department for Transport, *UK Aviation Forecasts*, August 2011, unconstrained terminal passenger forecasts by airport (low scenario and high scenario)

CHART 2.4

## Low and high unconstrained demand forecasts – outside London



Source: Department for Transport, UK Aviation Forecasts, August 2011, unconstrained terminal passenger forecasts by airport (low forecast and high forecast)

These scenarios have quite different implications for individual airports:

- Under the low scenario, demand only exceeds “max use” capacity before 2050 at Heathrow, although several airports may need terminal capacity enhancements before then.
- Under the high scenario, demand exceeds “max use” capacity at Heathrow by 2020, Gatwick by 2030 and all London airports by 2040. For the major airports outside of London, Edinburgh, Birmingham and Bristol may need extra runway capacity by 2040, and Manchester may need a third runway by 2050.
- Under the high scenario, a number of the larger airports outside London will also need terminal enhancements by 2030, including Manchester, Birmingham, Bristol and Newcastle.

## THE HUB AIRPORT CAPACITY CRUNCH

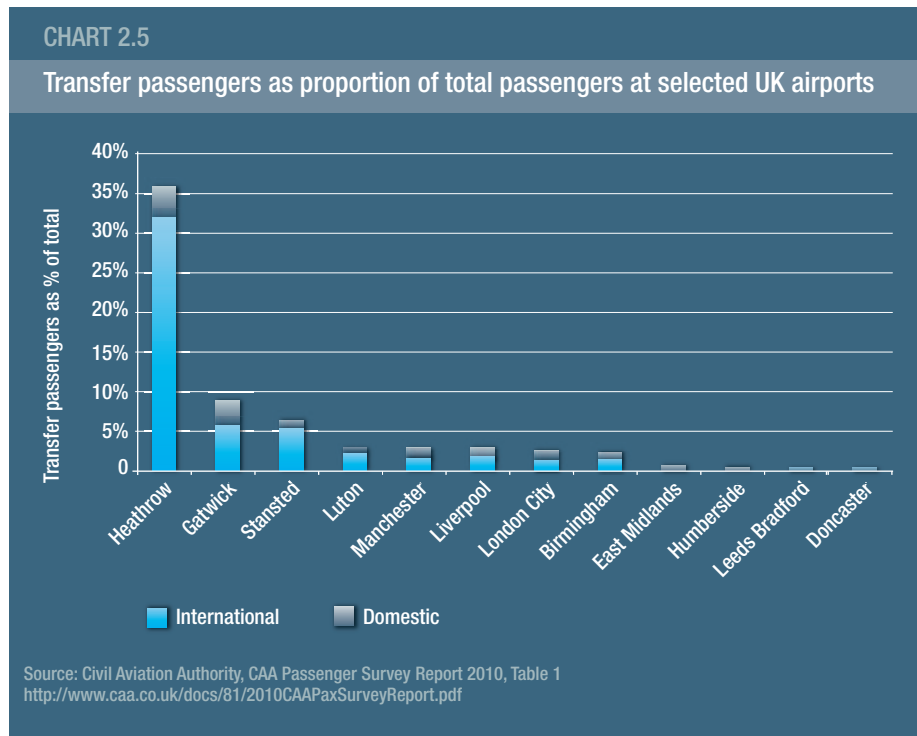
Although the UK has plenty of aviation capacity at present, its hub capacity is already constrained.

Heathrow is by far the UK's largest airport and its only hub airport:<sup>33</sup>

- In 2011 Heathrow handled 69 million passengers, 32% of all UK passenger traffic and more than twice as many passengers as the next largest airport, Gatwick.
- Heathrow handled more passengers than the other four London airports combined.
- Heathrow handled more passengers than the nine largest airports outside of London combined (Manchester, Edinburgh, Birmingham, Glasgow, Bristol, Liverpool, Newcastle, East Midlands, and Belfast International).
- In 2011, Heathrow handled 1.5 million tonnes of freight, 65% of the total for UK airports. No other UK airport handled more than 300,000 tonnes of freight.

<sup>33</sup> Civil Aviation Authority, *UK Airport Statistics 2011*, Tables 10.3 and 13.2 <http://www.caa.co.uk/default.aspx?catid=80&pagetype=88&sglid=3&fld=2011Annual>; Civil Aviation Authority, *CAA Passenger Survey Report 2010*, Table 1 <http://www.caa.co.uk/docs/81/2010CAAPaxSurveyReport.pdf>

- In 2010, 36% of Heathrow's passengers were transferring onto other flights. Of these, 88% were transferring onto international flights.
- No other UK airport comes close to this proportion of transfer passengers, as Chart 2.5 shows. At Gatwick, the airport with the second highest proportion of transfer passengers, only 8% were connecting in 2010.



The UK's largest airport, and only hub airport, is already virtually full. Heathrow's terminals may be able to accommodate more passengers, but the airport has a regulated limit of 480,000 Air Traffic Movements (ATMs) a year, and in 2011, ATMs reached 476,000.<sup>34</sup> Under existing arrangements, Heathrow has no more room. No forecasts are necessary – the numbers speak for themselves.

## THE TAX CRUNCH

According to the World Economic Forum, the UK's travel and tourism environment is the 7th most competitive overall out of 139 countries. It's an impressive achievement. But it comes despite the UK being ranked 134th out of the 139 countries on air ticket taxes and airport charges.<sup>35</sup>

As the Director General of the International Air Transport Association (IATA) has pointed out, the UK is now levying the highest taxes on flying of any country in the world.<sup>36</sup> Since its introduction in 1994, Air Passenger Duty (APD) has risen from £5 within Europe and £10 outside of Europe, to between £13 and £184, depending on the distance and class of travel.

Currently, only six of the 27 EU member countries apply APD. Several countries, including Ireland, the Netherlands and Denmark, have recently reduced or abolished APD. While a number of EU countries apply VAT to domestic flights, the 1977 EU VAT Directive dictates that no European country apply VAT to international travel.<sup>37</sup>

<sup>34</sup> Civil Aviation Authority, *UK Airport Statistics 2011*, Table 06 <http://www.caa.co.uk/default.aspx?catid=80&pagetype=88&sglid=3&fld=2011Annual>

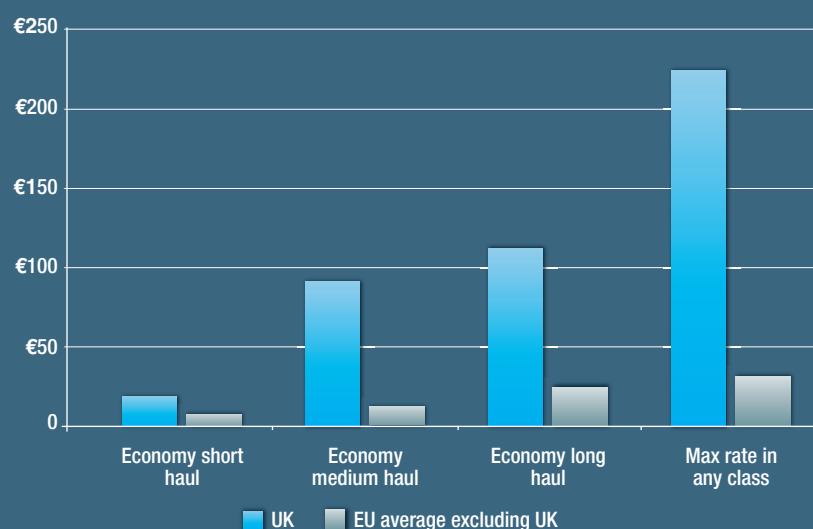
<sup>35</sup> World Economic Forum, *The Travel & Tourism Competitiveness Report 2011* <http://www.weforum.org/issues/travel-and-tourism-competitiveness/>

<sup>36</sup> In a recent speech, Tony Tyler, Director General of the International Air Transport Association, pointed out that APD is the "biggest aviation tax in the world". Tony Tyler's State of the Industry Speech - 68th Annual General Meeting, Beijing, 11 June 2012 <http://www.iata.org/pressroom/speeches/Pages/2012-06-11-01.aspx>

<sup>37</sup> House of Commons All Party Parliamentary Group for Aviation, *Inquiry into Aviation Policy and Air Passenger Duty*, August 2012, pp.10-13 and p.31

CHART 2.6

## Rates of UK aviation tax per person compared to EU average excluding UK



Source: House of Commons All Party Parliamentary Group for Aviation, Inquiry into Aviation Policy and Air Passenger Duty, August 2012, p.10

APD is also levied at a much higher rate than the environmental costs of flying would suggest:

- In 2008, a DfT report assessed the environmental costs of an average short-haul flight at between £2.18 and £3.30 per passenger, and an average long-haul flight at between £18.04 and £20.24 per passenger.<sup>38</sup>
- Also in 2008, the DfT's Aviation Cost Assessment found that at the 2007 rates of APD, aviation covered its climate change costs with around £100 million to spare.<sup>39</sup> Since 2007, APD rates have risen from between £10 and £40 to between £13 and £184.
- As the Director General of IATA has pointed out, "at current levels for carbon credits, the APD could more than offset the entire emissions of the global air transport industry".<sup>40</sup>

APD is, of course, a revenue-raising measure as well an environmental tax, and revenue growth has been strong. In 2011-12, APD raised £2.6 billion, a three-fold increase on a decade ago and a seven-fold increase on 1995-96, the first full year of receipts.<sup>41</sup>

<sup>38</sup> Department for Transport, *Competition Commission's Market Investigation into the airport services provided by BAA*, 2008, Table 5.3 (central estimates) <http://webarchive.nationalarchives.gov.uk/20081022200513/http://www.dft.gov.uk/pgr/aviation/airports/ccinvestigation.pdf>

<sup>39</sup> Department for Transport, *Aviation emissions cost assessment 2008*, Figure 1 (central case)

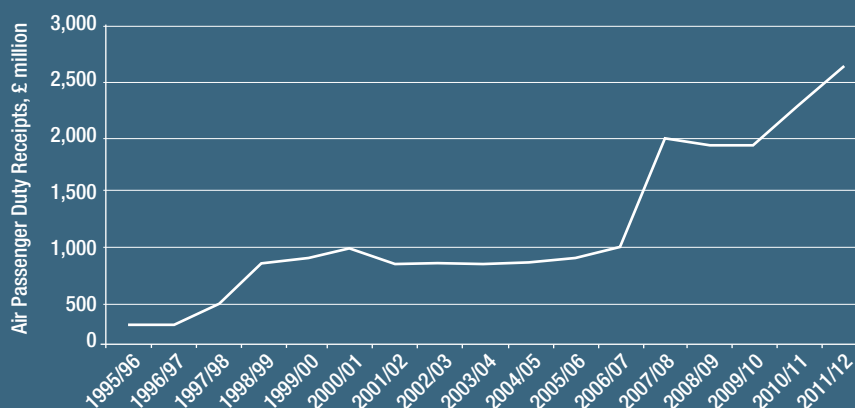
<http://webarchive.nationalarchives.gov.uk/20080808052912/http://www.dft.gov.uk/pgr/aviation/environmentalissues/aviationemissionscostassess/aviationemissionscost.pdf>

<sup>40</sup> Remarks of Tony Tyler at the UK Aviation Club in London, 25 April 2012 <http://www.iata.org/pressroom/speeches/Pages/2012-04-25-01.aspx>

<sup>41</sup> HMRC, *Air Passenger Duty (APD) Bulletin*, June 2012, Table 4 <https://www.uktradeinfo.com/Statistics/Pages/TaxAndDutyBulletins.aspx>

CHART 2.7

## Air Passenger Duty receipts, 1995/96 – 2011/12



Source: HMRC, Air Passenger Duty (APD) Bulletin, June 2012, Table 4  
<https://www.uktradeinfo.com/Statistics/Pages/TaxAndDutyBulletins.aspx>

It may be that APD is seen by the Treasury as a way to help offset falling receipts from Fuel Duty and Vehicle Excise Duty, as the efficiency of road transport increases and petrol and diesel consumption falls. Over the last decade, Fuel Duty revenue has fallen by around 0.5% of GDP, and is set to fall by at least another 0.5% of GDP by 2030. Vehicle Excise Duty is also set to fall by at least 0.2% of GDP by 2030. The Office for Budget Responsibility expects APD to continue rising as a share of GDP, albeit slowly.<sup>42</sup>

In addition to APD, aviation within the EU is now included within the ETS, which will increase charges still further; although, as was explained in Chapter 1, this may give aviation further room to grow.

## THE VISA AND BORDER CRUNCH

Visas and borders are another important part of the equation – it's little use having plenty of airport capacity if people from outside the EU find it difficult and time-consuming to enter the UK. There are three aspects to this issue – long-term migration, visitors, and border queues.

Over the last decade, long-term net migration (i.e. of at least a year) to the UK has averaged around 200,000.<sup>43</sup> In 2010, the incoming Coalition Government pledged to reduce this figure substantially, and last year, introduced a number of changes, including:<sup>44</sup>

- **Abolishing the Tier 1 general route for skilled migrants without a job offer;**
- **Implementing a cap of 20,700 on Tier 2 – skilled migrants with a job offer – but excluding intra-company transfers;**
- **Tightening up on eligibility requirements for student visas.**

In April this year, the option of non-EEA students staying for up to two years to seek employment after finishing a degree course was significantly restricted. Only graduates

<sup>42</sup> Office for Budget Responsibility, *Fiscal sustainability report*, July 2011, Charts 4.4, 4.5 and 4.6 <http://budgetresponsibility.independent.gov.uk/wordpress/docs/FSR2011.pdf>

<sup>43</sup> Office for National Statistics, *Migration Statistics Quarterly Report*, August 2012, data for Figure 1.1 <http://www.ons.gov.uk/ons/rel/migration1/migration-statistics-quarterly-report/august-2012/msqr.html>

<sup>44</sup> IPPR, *Migration Review 2011/2012*, February 2012 [http://www.ippr.org/images/media/files/publication/2012/01/migration-review-2011-12\\_Jan2012\\_8431.pdf](http://www.ippr.org/images/media/files/publication/2012/01/migration-review-2011-12_Jan2012_8431.pdf)



with an offer of a skilled job from a sponsoring employer will be able to stay on, by applying for a Tier 2 visa.<sup>45</sup>

The most recent figures suggest that the Government has not yet succeeded in meeting its aim of reducing long-term net inflows substantially,<sup>46</sup> which suggests that further measures may be implemented, including a renewed push to reduce the number of non-EU students.<sup>47</sup> A new programme to interview thousands of applicants for student visas has also been launched.<sup>48</sup>

Significant pressure has, however, been put on the Government to take a different approach and remove international students from the long-term net migration figures for the duration of their studies. The Business, Innovation and Skills Select Committee recently recommended that overseas students should be recorded under a separate classification and not be counted against the overall limit on net migration. The report noted that while the UN definition of migration includes overseas students, the Government is under no obligation to use that definition for the development of domestic policy.<sup>49</sup> In response, the Government has pledged to produce two separate datasets showing the number of migrants with and without students, although will continue to include students in the net migration targets.<sup>50</sup>

At the same time as it has tightened up on long-term migration, the UK has also made it more difficult and time-consuming to visit, both for tourism and for business:

- **A UK visitor visa, providing entry for up to six months, now costs £78.<sup>51</sup> By comparison a visitor visa valid for the 26 Schengen countries costs €60, or just under £50.<sup>52</sup>**
- **Both the UK general visitor and business visitor visa forms contain around 100 questions, all of which must be completed in English,<sup>53</sup> and require a raft of supporting documents.<sup>54</sup> The Schengen visitor visa form is less than 50 questions long.<sup>55</sup>**
- **It can take up to 12 weeks to process a UK visa application.<sup>56</sup>**

In addition, border queues, especially at Heathrow, have at times been embarrassingly long. Target waiting times are 45 minutes or less for non-EEA immigration and 25 minutes or less for EEA immigration, and the Border Force is expected to meet these targets 95% of the time. In the last two financial years (2010-11 and 2011-12) these targets were indeed met nationwide.<sup>57</sup> But this apparent success masks appalling maximum queuing times of over two hours.

<sup>45</sup> IPPR, *International Students and Net Migration in the UK*, April 2012 [http://www.ippr.org/images/media/files/publication/2012/04/international-students-net-migration\\_Apr2012\\_8997.pdf](http://www.ippr.org/images/media/files/publication/2012/04/international-students-net-migration_Apr2012_8997.pdf)

<sup>46</sup> In the year to March 2010, 587,000 people migrated to the UK, and net migration was 222,000. In the year to March 2012 (the most recent data), 536,000 people migrated to the UK, and the net migration figure was 183,000. Long-term net migration initially rose under the Coalition, but is now falling. Office for National Statistics, *Migration Statistics Quarterly Report*, November 2012, data for Figure 1.1 [http://www.ons.gov.uk/ons/dcp171778\\_288105.pdf](http://www.ons.gov.uk/ons/dcp171778_288105.pdf)

<sup>47</sup> IPPR, *Migration Review 2011/2012*, February 2012 [http://www.ippr.org/images/media/files/publication/2012/01/migration-review-2011-12\\_Jan2012\\_8431.pdf](http://www.ippr.org/images/media/files/publication/2012/01/migration-review-2011-12_Jan2012_8431.pdf)

<sup>48</sup> The Guardian, 9 July 2012 <http://www.guardian.co.uk/education/2012/jul/09/overseas-students-face-compulsory-interviews?newsfeed=true>

<sup>49</sup> House of Commons Business, Innovation and Skills Committee, *Overseas Students and Net Migration*, 4 September 2012

<http://www.publications.parliament.uk/pa/cm201213/cmselect/cmbis/425/425.pdf>

<sup>50</sup> David Willetts, Minister of State for Universities and Science, Speech to Universities UK conference at Keele University, 13 September 2012

<http://www.bis.gov.uk/news/speeches/david-willetts-uuk-conference-2012>

<sup>51</sup> UK Border Agency, Fees for our services <http://www.ukba.homeoffice.gov.uk/aboutus/fees/>

<sup>52</sup> See, for example: <http://www.finemb.org.uk/public/default.aspx?nodeid=37221&contentlan=2&culture=en-GB>

<sup>53</sup> UK Border Agency, General Visitor VAF1A form <http://www.ukba.homeoffice.gov.uk/sitecontent/applicationforms/visas/vaf1a.pdf> and VAF1C form <http://www.ukba.homeoffice.gov.uk/sitecontent/applicationforms/visas/vaf1c.pdf>

<sup>54</sup> UK Border Agency, guide to supporting documents <http://www.ukba.homeoffice.gov.uk/sitecontent/documents/out-of-country/visitors.pdf>

<sup>55</sup> See, for example <http://www.diplomatie.gouv.fr/en/IMG/pdf/visagb.pdf>

<sup>56</sup> The UK Border Agency has a target to process 90 per cent of non-settlement applications within 3 weeks, 98 per cent within 6 weeks and 100 per cent within 12 weeks of the application date. See <http://www.ukba.homeoffice.gov.uk/visas-immigration/general-info/processing-times/>

<sup>57</sup> National Audit Office, *The UK Border Agency and Border Force: Progress in cutting costs and improving performance*, 17 July 2012, Figure 2 [http://www.nao.org.uk/publications/1213/uk\\_border\\_agency\\_cost\\_cutting.aspx](http://www.nao.org.uk/publications/1213/uk_border_agency_cost_cutting.aspx)

TABLE 2.2	
Maximum queuing times at the UK Border	
MONTH	MAXIMUM QUEUING TIME
June 2011	2:35
Jul 2011	2:55
Aug 2011	2:14
Sept 2011	2:50
Oct 2011	1:59
Nov 2011	1:55
Dec 2011	2:30
Jan 2012	1:58
Feb 2012	2:15
Mar 2012	2:53
Apr 2012	2:30
May 2012	2:18
Source: House of Commons Home Affairs Select Committee, Sixth Report – The work of the Border Force, July 2012 <a href="http://www.publications.parliament.uk/pa/cm201213/cmselect/cmhaff/523/52302.htm">http://www.publications.parliament.uk/pa/cm201213/cmselect/cmhaff/523/52302.htm</a>	

As the Home Affairs Select Committee recently put it:

*“We acknowledge that maximum queue times may only be experienced by a small proportion of passengers although the evidence is not as clear as it should be. However we are alarmed that maximum times have been consistently very high for the last 12 months. Maximum queue times of two hours or more should be a rare occurrence, corresponding to extraordinary levels of traffic, a security alert or a problem at one or more major ports. It is unacceptable for these long queue times to recur on a monthly basis.”<sup>58</sup>*

Despite these long maximum queuing times, it emerged in early 2012 that appropriate checks had not always been applied. Following these revelations, the Border Force was separated from the UK Border Agency (UKBA) in February 2012 – and a disastrous dip in performance followed.

As Table 2.3 shows, at most Heathrow terminals, the Border Force failed to meet the non-EEA targets for a period of several months. During the Olympics, waiting time targets were exceeded, but extra staff were drafted in for the period around the Games. In September, performance started to slip again, although performance improved again in October.

<sup>58</sup> House of Commons Home Affairs Select Committee, *Sixth Report – The work of the Border Force*, July 2012 .  
<http://www.publications.parliament.uk/pa/cm201213/cmselect/cmhaff/523/52302.htm>

TABLE 2.3

## Percentage of passengers meeting Border Force waiting time targets at Heathrow Airport

TARGET 95%	TERMINAL 1	TERMINAL 3	TERMINAL 4	TERMINAL 5
EEA (less than 25 mins)				
Apr-12	99.5%	99.5%	99.0%	98.0%
May-12	100.0%	99.7%	100.0%	99.8%
Jun-12	99.9%	99.5%	99.8%	99.9%
Jul-12	99.9%	100.0%	99.6%	99.7%
Aug-12	100.0%	100.0%	100.0%	100.0%
Sept-12	100.0%	99.6%	99.7%	99.9%
Oct-12	100.0%	100.0%	100.0%	100.0%
Non EEA (less than 45 mins)				
Apr-12	94.5%	87.0%	84.4%	75.7%
May-12	98.9%	94.3%	91.4%	91.6%
Jun-12	99.3%	92.8%	90.0%	91.5%
Jul-12	98.6%	96.8%	97.8%	98.1%
Aug-12	100.0%	99.9%	100.0%	100.0%
Sept-12	100.0%	95.6%	94.9%	97.5%
Oct-12	99.9%	100.0%	99.2%	99.8%

Source: Heathrow Airport, UK Border Force performance, April-October 2012 <http://www.heathrowairport.com/about-us/facts-and-figures/our-performance/border-force>

The UKBA has struggled to manage cost reductions. As a recent National Audit Office report concluded:

*“Caseworking and Border Force changes have often been independent of headcount reduction plans. In 2011-12, the Agency’s workforce reduced by over 1,000 more than planned, despite the fact that progress was slower than expected in the ICW programme and workforce modernisation at the border, and no Agency-wide skills strategy was yet in place. The result of this disconnect was, in some places, a dip in performance and the need to hire new staff or increase overtime.”*<sup>59</sup>

Border Force staff numbers fell by 457 between March 2011 and March 2012, a reduction of 6%. At Heathrow, the number of Border Force staff was cut by 177 over the same period, a fall of 10%.<sup>60</sup>

As the outgoing head of the Border Force told MPs recently, plans are now afoot to introduce fast-track lanes to speed “high value business people” through Heathrow.<sup>61</sup> This is welcome, but is not a substitute for improving the system for all users.

<sup>59</sup> National Audit Office, *The UK Border Agency and Border Force: Progress in cutting costs and improving performance*, 17 July 2012, p.7 [http://www.nao.org.uk/publications/1213/uk\\_border\\_agency\\_cost\\_cutting.aspx](http://www.nao.org.uk/publications/1213/uk_border_agency_cost_cutting.aspx)

<sup>60</sup> House of Commons Home Affairs Select Committee, *Sixth Report – The work of the Border Force*, July 2012 <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmhaff/523/52302.htm>

<sup>61</sup> Brian Moore, Oral evidence to the House of Commons Home Affairs Select Committee, 18 September 2012 <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmhaff/uc604-i/uc60401.htm>

Other countries, while still protecting their borders, are improving their immigration systems:

- As a recent IPPR report showed, in 2010, Australia introduced regulations that sought to prevent students from acquiring permanent residency status through lower-skilled vocational routes and to restrict the availability of post-study work visas. But falling numbers of applications for student visas prompted the government to commission a major review of the student visa system, with the aim of identifying how Australia could become more competitive in the international student market. The review was released in September 2011, and all its recommendations were accepted. At the end of 2011 the government announced its decision to expand the opportunities for foreign students to stay on and seek employment in Australia after finishing their degree. Graduates who have completed a bachelor's degree or master's by coursework degree in Australia will be eligible to apply for a two-year work visa, while those with a master's by research degree or a PhD earned in Australia will be able to apply for a three- or four-year visa respectively.<sup>62</sup>
- The IPPR report also showed that compared to the UK, Canada is much more permissive when it comes to issuing post study work visas, and since 2005 it has been moving towards a migration system that makes it easier for international students to seek work (and potentially to settle on a more permanent basis) after they have graduated. The post-graduation work permit programme currently allows students who have graduated from a participating Canadian post-secondary institution to apply for a work permit that lasts for the same length as the programme of study, from a minimum of eight months to a maximum of three years.<sup>63</sup>
- The US National Travel and Tourism Strategy, published in May 2012, sets out plans to make it quicker and easier to get a US visa, including reducing interview waiting times in key countries and allowing certain categories of low-risk travellers to renew visas without interviews for up to four years. The report also recommends expanding the Visa Waiver Programme and increasing enrolment in trusted traveller systems to speed entry at US ports.<sup>64</sup>

*“Over the next 40 years, cities are expected to grow by 2.5 billion people, and ‘emerging’ markets could account for 70% of global GDP.”*

## WHY THEY MATTER

To some extent, we shouldn't overdo the crunch facing aviation in the UK:

- London's five airports serve around 400 destinations between them, more than any other European city.<sup>65</sup>
- In 2010, London was the world's largest aviation hub, measured by passenger numbers.<sup>66</sup>
- Heathrow was the third busiest airport in the world in 2011, measured by passenger numbers, after Atlanta and Beijing.<sup>67</sup>
- All the airports outside of London have plenty of spare runway capacity.

The UK has, however, rested on its laurels for decades. No new runways have been built in the South East since 1987, when London City airport opened, although outside the South East a second runway at Manchester airport was completed in 2001 and Birmingham airport is now extending its runway to allow a full range of long-haul flights. At the same time taxes have gone up and the UK's visa regime is no longer serving the economy well.

<sup>62</sup> IPPR, *International Students and Net Migration in the UK*, April 2012 [http://www.ippr.org/images/media/files/publication/2012/04/international-students-net-migration\\_Apr2012\\_8997.pdf](http://www.ippr.org/images/media/files/publication/2012/04/international-students-net-migration_Apr2012_8997.pdf)

<sup>63</sup> IPPR, *International Students and Net Migration in the UK*, April 2012 [http://www.ippr.org/images/media/files/publication/2012/04/international-students-net-migration\\_Apr2012\\_8997.pdf](http://www.ippr.org/images/media/files/publication/2012/04/international-students-net-migration_Apr2012_8997.pdf)

<sup>64</sup> US Government, *National Travel and Tourism Strategy: Task Force on Travel and Competitiveness*, May 2012 <http://www.doi.gov/news/pressreleases/loader.cfm?csModule=security/getfile&pageid=295021>

<sup>65</sup> British Chambers of Commerce, *Economic Impacts of Hub Airports*, July 2009

<sup>66</sup> CAPA – Centre for Aviation and Airports Council International data. See <http://www.centreforaviation.com/analysis/beijing-to-overtake-london-as-worlds-largest-aviation-hub-massive-new-airport-planned-58776>

<sup>67</sup> Airports Council International data. See <http://www.centreforaviation.com/analysis/asia-pacific-airports-move-up-the-ranks-in-2011-with-beijing-this-year-to-overtake-atlanta-71801>

## A CHANGING WORLD ECONOMY

Chapter I set out the economic benefits of aviation. Restricting the growth of flying will restrict those economic benefits. But there are further reasons why having enough capacity to develop new routes, particularly to the high growth markets, is vital:

- **The world is becoming an increasingly urban place:**
  - Currently just over half (52%) of the world's population lives in urban areas, a figure that is expected to rise to two thirds (67%) by 2050. Over the next 40 years, urban areas are set to grow by more than 2.5 billion people, a 75% increase.<sup>68</sup>
  - In China and India alone, cities are expected to grow by 800 million people by 2050.<sup>69</sup>
  - Global cities and mega regions centred on a key conurbation will become more important economically. Their success will partly depend on excellent transportation links to other global cities. Currently, cities such as London and New York are in the lead, but there is no guarantee they will remain there. There are numerous emerging world cities that will increasingly offer competition to London and New York over the coming decades, and many of them are investing heavily in their airport infrastructure.<sup>70</sup>
- **At the same time, the world economy is shifting rapidly towards the high growth markets. Trade with Asia and Latin America will become increasingly important:**
  - According to Goldman Sachs, in the last decade the BRIC countries contributed close to half the world's growth, and, overall, "emerging" markets contributed over 70%. Currently the BRIC countries account for a quarter of world GDP and emerging markets overall account for around a half. By 2050, Goldman Sachs estimates that the BRIC countries will account for nearly 40% of world GDP and emerging markets overall over 70%.
  - According to a recent Citigroup report, in 2010, China accounted for 9.5% of world trade. By 2030, that figure is expected to increase to 17.4%. By 2050, China, India and Indonesia combined are expected to account for 30% of world trade. The third largest trade corridor is currently between emerging Asia and Western Europe, accounting for 6% of world trade. In 2050, this trade route is expected to remain the third most important, accounting for 8.3% of world trade.<sup>71</sup>
- **Connectivity to these growing cities and new markets is vital. The UK trades about twenty times as much with high growth countries with daily (or better) direct flight connections as it does with countries with poor connectivity. A similar pattern holds for investment.<sup>72</sup> And it is not just the trade that causes the flights. A recent survey of business leaders in five high growth countries – Brazil, China, India, South Korea and Mexico – found that 92% say that direct flights are important to their inward investment decisions.<sup>73</sup>**

<sup>68</sup> United Nations, Department of Economic and Social Affairs, *World Urbanisation Prospects*, the 2011 Revision <http://esa.un.org/unup/index.html>

<sup>69</sup> United Nations, Department of Economic and Social Affairs, *World Urbanisation Prospects*, the 2011 Revision <http://esa.un.org/unup/index.html>

<sup>70</sup> See, for example, the Globalisation and World Cities Research Network (GaWC) at Loughborough University for more details <http://www.lboro.ac.uk/gawc/index.html>

<sup>71</sup> Willem Buiter and Ebrahim Rahbari, *Trade Transformed: The emerging new corridors of trade power*, Citigroup, October 2011 <http://willembuiter.com/trade.pdf>

<sup>72</sup> Frontier Economics, *Connecting for Growth: The role of Britain's hub airport in economic recovery*, September 2011, Figures 15 and 16

<sup>73</sup> British Chambers of Commerce, 26 January 2012 <http://www.britishchambers.org.uk/press-office/press-releases/uk-will-miss-out-on-investment-because-of-poor-air-connections120126.html>



## HUB AIRPORTS

Overall, the UK does have sufficient airport capacity to develop new routes to the high growth markets. But where that capacity is located is just as crucial to ensuring that these routes do indeed get developed. And capacity is restricted, or soon to be restricted, in precisely the place where it is most in demand.

There is no doubt that good point-to-point airports are vital, and direct routes from the UK's manufacturing heartlands to China's growing metropolises would provide an important economic boost. But the UK already has numerous point-to-point airports. By contrast, it only has one hub airport, which is already full.

Hub airports really do matter. The key reason for this is that a range of routes and a high frequency of services are only made viable by the transfer passengers connecting through a hub airport. And global businesses will want to locate in cities that are well connected, both in range of destinations and frequency of flights, even if they have to pay a premium in office rent and salaries to do so. As an authoritative recent study put it:

*"The key benefit of a hub airport is that it can sustain a comprehensive and far wider network at a higher frequency of service than would be possible at a point-to-point airport. Transfer passengers make direct routes to many destinations sustainable, a pattern found across all major international hubs: 35% of Heathrow's passengers are transferring, 53% of Frankfurt's (Main) and 45% of Amsterdam's (Schiphol). Because of Heathrow's transferring passengers, UK residents and businesses have access to more direct destinations, at higher frequencies and lower priced fares. By adding flight capacity at a hub, the connectivity impact is magnified compared to adding point-to-point capacity. Hub airports offer a better service, more destinations and greater frequencies, than would otherwise be offered if that airport were only meeting local demand."*<sup>74</sup>

The important of transfer passengers to sustaining routes at Heathrow is illustrated by the fact that in 2010 there were 39 routes at Heathrow on which more than 50% of passengers were transferring, and a further 92 routes on which more than 25% of passengers were transferring.<sup>75</sup>

Heathrow's lack of spare capacity is already leading to operational problems, the most obvious being that in busy periods planes regularly circle for half an hour before being allocated a landing slot, leading to delays and extra emissions. Similarly, there are regular queues of planes waiting to take off. While Heathrow's punctuality record last year was actually slightly better than a number of other European hubs,<sup>76</sup> this may be because flight times are longer – flight times from Heathrow to Amsterdam have been lengthened by at least 30 minutes over the last decade,<sup>77</sup> while the scheduled flight time from Heathrow to Paris is only 10 minutes shorter than from Birmingham to Paris.

But perhaps more seriously, it is losing connectivity and being overtaken by other hubs with plenty of spare capacity:

- **The number of destinations served by Heathrow has fallen from 227 in 1990 to 180 today. By contrast, Amsterdam's Schiphol airport serves 313 destinations, and both Frankfurt and Paris Charles de Gaulle serve more than 250.**<sup>78</sup>

*"Good point-to-point airports are vital, but the UK only has one hub airport, which is already full."*

<sup>74</sup> British Chambers of Commerce, *Economic Impacts of Hub Airports*, July 2009, p.5

<sup>75</sup> Institute of Directors, *Big Picture*, Q3 2011, p.10 <http://www.iod.com/MainWebSite/Resources/Document/Big-Picture-Q3-2011-No-12.pdf>

<sup>76</sup> Eurocontrol, *Delays to air transport in Europe*, 2011, Figures 9 and 14 (all-causes delay) <http://www.eurocontrol.int/sites/default/files/content/documents/official-documents/facts-and-figures/coda-reports/CODA-Digests-2011/coda-digest-annual-2011.pdf>

<sup>77</sup> Institute of Directors, *Big Picture*, Q3 2011, p.10 <http://www.iod.com/MainWebSite/Resources/Document/Big-Picture-Q3-2011-No-12.pdf>

<sup>78</sup> House of Commons All Party Parliamentary Group for Aviation, *Inquiry into Aviation Policy and Air Passenger Duty*, August 2012, p.24

- This is particularly true for the high growth destinations. Heathrow maintains excellent connections to established markets such as North America, but destinations in Asia and Latin America are far better served by continental hubs. There are daily direct flights from Heathrow to 26 cities in the US and Canada, but only 3 cities in South America.<sup>79</sup> In China, only Hong Kong, Beijing, Shanghai and Guangzhou are served, with most flights running to Hong Kong. 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.<sup>80</sup> There are 25 high growth destinations with daily flights from other European hubs, and 13 more with at least a weekly connection, that are not well served from Heathrow.<sup>81</sup>

TABLE 2.4	
Market share from Western Europe to mainland China (i.e. excluding Hong Kong)	
AIRPORT	MARKET SHARE
Paris	18%
Frankfurt	17%
Amsterdam	14%
Heathrow	11%

Source: Heathrow airport

- While Heathrow is still Europe's largest airport by passenger numbers, other hubs are catching up fast. In 2000, while Heathrow handled 64 million passengers, no other European airport handled more than 50 million. By 2010, Heathrow's traffic had grown to 66 million passengers, while Paris was handling 58 million and Frankfurt 53 million.<sup>82</sup>
- Freight carried by passenger planes is vital to long-haul routes, typically generating 10%-30% of revenues per flight.<sup>83</sup> While Heathrow remains Europe's second largest freight handler after Frankfurt, Amsterdam and Paris are catching up.<sup>84</sup>



<sup>79</sup> Figures supplied by Heathrow Airport

<sup>80</sup> Figures supplied by Heathrow airport

<sup>81</sup> Frontier Economics, *Connecting for Growth: The role of Britain's hub airport in economic recovery*, September 2011, p.12

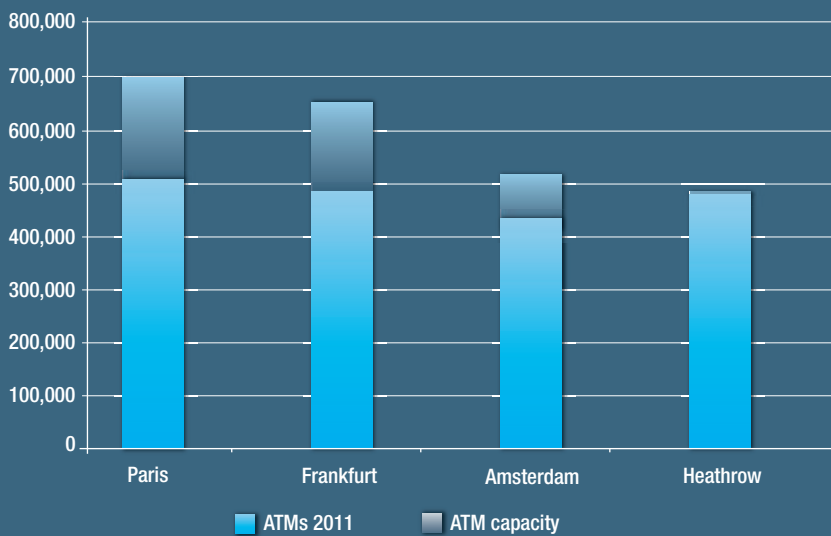
<sup>82</sup> Eurostat, *EU transport in figures*, 2012, p.57 <http://ec.europa.eu/transport/publications/statistics/doc/2012/pocketbook2012.pdf>

<sup>83</sup> British Chambers of Commerce, *Economic Impacts of Hub Airports*, July 2009, p.26

<sup>84</sup> Eurostat, *EU transport in figures*, 2012, p.60 <http://ec.europa.eu/transport/publications/statistics/doc/2012/pocketbook2012.pdf>

CHART 2.8

2011 annual air traffic movements versus capacity at major European hub airports



Sources: Civil Aviation Authority, UK Airport Statistics 2011, Table 03

<http://www.caa.co.uk/default.aspx?catid=80&pagetype=88&sglid=3&fld=2011Annual>; Paris Charles de Gaulle air traffic movements <http://www.aeroport.fr/les-aeroports-de-l-uaf/stats-paris-charles-de-gaulle.php>; Amsterdam Schiphol Airport, Traffic Review 2011 <http://www.schiphol.nl/B2B/Cargo/CargoNews2/2011TrafficReviewAvailable.htm>; Frankfurt Airport, Air Traffic Statistics 2011 [http://www.fraport.com/content/fraport-ag/en/misc/binaer/investor\\_relations/other\\_publications/air-traffic-statistics-2011/jcr:content.file/Air%20Traffic%20Statistics%202011.pdf](http://www.fraport.com/content/fraport-ag/en/misc/binaer/investor_relations/other_publications/air-traffic-statistics-2011/jcr:content.file/Air%20Traffic%20Statistics%202011.pdf); European Commission, Impact assessment of revisions to Regulation 95/93 Final report (sections 1-12), March 2011 <http://ec.europa.eu/transport/modes/air/studies/doc/airports/2011-03-impact-assessment-revisions-regulation-95-93.pdf>

*“Birmingham’s runway extension, set to open in 2014, will allow a full range of long-haul destinations to be served.”*

Ironically, Heathrow was never a particularly well-designed hub airport, as those using buses to transfer between terminals could confirm. Walking between gates in the same terminal building at other hub airports is an entirely different experience. But the construction of Terminal 5 and the re-development of Terminal 2, which will serve the Star Alliance network, are transforming Heathrow into a far better hub operation, just as capacity limits are constraining the development of new routes.

It has been argued that hub capacity is not as vital as its proponents would make out. According to a recent report from Birmingham Airport, the total cost of carrying passengers from their point of origin to their point of destination is lower when passengers fly nonstop than when they change planes at a hub. The report also pointed out that once the passenger is locked into the hub, there are increased chances of missed connections. Civil Aviation Authority research cited by the report found that the actual journeys that people wanted to fly were rarely between major hub airports.<sup>85</sup> As the report acknowledged, however, point-to-point growth will tend to complement, rather than replace, hub offerings. And while it may be possible to build up other hub airports in the UK, at the moment the UK only has one hub.

Nevertheless, direct flights from high growth markets to cities outside of London, such as Manchester and Birmingham, would provide a big boost to regional economies. Developing these routes is a vital part of helping to rebalance the UK economy towards manufacturing and away from the South East of England. But there is no capacity constraint at Manchester that is currently preventing such routes from being developed, and at Birmingham, the runway extension, set to open in 2014, will allow a full range of long-haul destinations to be served. It is not a case of these airports needing new runways at present.

By contrast, Heathrow is less well connected than other European hub airports. Unless it is allowed to expand, or more hub capacity is constructed somewhere else, the UK’s hub offering will continue to decline relative to our competitors.

## UK REGIONS

Many UK regions depend on connections through Heathrow to destinations further afield. To give two Scottish examples:<sup>86</sup>

- **British Airways carried 2.6 million passengers to and from Scotland in 2011, with two thirds of these passengers travelling onwards to other destinations.**
- **The present value of journey-time savings from Aberdeen airport's connections to Heathrow have been estimated at between £859 million and £1.7 billion.**

These connections, however, have been declining in recent years. Increasing numbers are transferring through other European hubs, such as Amsterdam, or non-European hubs, such as Dubai, instead.<sup>87</sup>

- **Since 1990, the number of British regional airports with flights to Heathrow has fallen from 21 to 6. Three times as many regional airports – 18 – have direct links to Amsterdam.**
- **Manchester Airport's sixth biggest, highest volume flight route is into Amsterdam.**

It may be argued that it doesn't matter if long-haul passengers from UK regional airports connect through overseas hubs rather than Heathrow, although there will clearly be no environmental benefit from such a substitution away from domestic flying. But service frequencies may be lower; prices higher; and the range of destinations less attuned to the needs of British businesses. If these flights are operated by low cost airlines, separate bookings and rechecking baggage would also be required. In addition, these transfer passengers could be supporting long-haul routes from the UK rather than at other European hubs, helping to maintain Britain's overall connectivity.

As the All Party Parliamentary Group for Aviation recently put it:

*"We believe the regions and nations stand to benefit significantly from connectivity to a hub, spreading the economic benefits of air links to the global marketplace across the whole of the UK. Aviation does not just provide or facilitate jobs in the South East of England. This inquiry received many submissions from businesses and groups across the whole of the UK, where businesses are reliant on excellent air links, and that as a result of reduced or non-existent connectivity with Heathrow are now suffering.... Exporting the UK's hub to European competitors is bad for UK businesses, and limits the prospects for job creation here."*<sup>88</sup>

## AIR PASSENGER DUTY

Excessive levels of APD are undoubtedly having a negative impact on the aviation sector. An "exorbitant" level of tax was one of the main reasons cited by the CEO of Air Asia X, Azran Osman-Rani, for pulling out of the UK earlier this year:

*"The implementation of the Emissions Trading Scheme and the escalating air passenger duty taxes in the UK, which will rise yet again in April 2012, have forced our decision to withdraw our services to Europe."*<sup>89</sup>

The Netherlands' short-lived experiment with APD was particularly revealing. The tax generated €300 million but was estimated to have caused a loss of €1.3 billion to the broader Dutch economy.<sup>90</sup>

<sup>86</sup> House of Commons All Party Parliamentary Group for Aviation, *Inquiry into Aviation Policy and Air Passenger Duty*, August 2012, pp.26-27

<sup>87</sup> House of Commons All Party Parliamentary Group for Aviation, *Inquiry into Aviation Policy and Air Passenger Duty*, August 2012, p.26

<sup>88</sup> House of Commons All Party Parliamentary Group for Aviation, *Inquiry into Aviation Policy and Air Passenger Duty*, August 2012, p.26

<sup>89</sup> Air Transport World, 13 January 2012 <http://atwonline.com/international-aviation-regulation/news/airasia-x-stops-europe-flights-over-taxes-eurozone-woes-0112>

<sup>90</sup> House of Commons All Party Parliamentary Group for Aviation, *Inquiry into Aviation Policy and Air Passenger Duty*, August 2012, pp.12-13

High APD rates are also damaging regional airports. For example, passengers flying out of Newcastle this year are expected to pay a total of £49 million in APD, almost as much as the airport's turnover last year of £52 million.<sup>91</sup> And according to a recent study by York Aviation, passengers in London and the South East are less price sensitive than those in the rest of the country. APD rises will therefore tend to have a larger negative impact on regional airports and less economic routes. For instance, Continental Airlines (now part of United) would have abandoned flights from Belfast to the US if the level of APD had not been reduced in Northern Ireland.<sup>92</sup>

APD is also encouraging passengers to alter behaviour. Nearly a million people depart from Dublin airport despite being resident in Northern Ireland, with APD a major factor. And according to evidence presented to the All Party Parliamentary Group for Aviation, passengers are increasingly flying long-haul via Amsterdam, using two separate tickets, to avoid long-haul APD.<sup>93</sup>

#### THE UK ECONOMY

Aviation capacity, aviation taxes, the visa regime and border operations are clearly far from the only factors affecting the UK's economic fortunes. But they are important. Every measure that makes it harder for people from overseas to travel to the UK will have an impact on businesses and jobs in this country:

- In 2011, there were 31 million visits to the UK from overseas residents (all purposes), and a total of £18 billion was spent. The majority, however, still came from traditional countries – £9.8 billion of spending from Europe, £2.9 billion from North America and £1 billion from Australia. Spending in the UK from visitors from the major high growth nations was very low – just £318 million from Indian visitors, £302 million from Brazilian visitors and £259 million from Chinese visitors (excluding Hong Kong).<sup>94</sup>
- The opportunity, however, is vast. Chinese visitors (excluding Hong Kong) spent an average of nearly £1,500 per visit, nearly three times the average for all visitors. The problem is that only 181,000 visited in 2011 – there were almost as many visits (149,000) from Hong Kong residents.<sup>95</sup> Other countries are far more successful in attracting visitors from China and other high growth markets. For example, in 2010, there were 925,000 Chinese visitors to France,<sup>96</sup> while over 400,000 Chinese travellers visited Switzerland in summer 2011 alone.<sup>97</sup> Figures from the UN World Tourism Organisation, which have the advantage of being compiled on the same basis, show that in 2010, France received 907,000 Chinese visitors, Germany 511,000 and the UK just 109,000.<sup>98</sup>
- Inward investment remains relatively high, but the UK is slipping down the world rankings. In 2011, the UK attracted \$54 billion of inward investment, the seventh largest total and a fall from the fifth largest in 2010 – the UK was overtaken by Brazil and Singapore.<sup>99</sup>
- Measured by number of projects, the UK remains Europe's most attractive location for inward investment. But the number of projects fell by 7% between 2010 and 2011, in contrast to a 7% rise in Germany. If those trends continue,

*“Passengers flying out of Newcastle this year are expected to pay £49 million in APD, almost as much as the airport's turnover last year of £52 million.”*

<sup>91</sup> Financial Times, 15 July 2012 <http://www.ft.com/cms/s/0/579aff2c-c78c-11e1-a850-00144feab49a.html#axzz20mFhIkPg>

<sup>92</sup> House of Commons All Party Parliamentary Group for Aviation, *Inquiry into Aviation Policy and Air Passenger Duty*, August 2012, pp.12 and 15

<sup>93</sup> House of Commons All Party Parliamentary Group for Aviation, *Inquiry into Aviation Policy and Air Passenger Duty*, August 2012, p.13

<sup>94</sup> Office for National Statistics, *Travel Trends 2011*, Table 4.04 <http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcn%3A77-269632>

<sup>95</sup> Office for National Statistics, *Travel Trends 2011*, Table 4.04 <http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcn%3A77-269632>

<sup>96</sup> INSEE (French National Institute of Statistics and Economic Studies) [http://www.insee.fr/fr/themes/tableau.asp?reg\\_id=0&ref\\_id=NATTEF13532](http://www.insee.fr/fr/themes/tableau.asp?reg_id=0&ref_id=NATTEF13532)

<sup>97</sup> Swissair press release, 11 February 2012 [http://www.swiss.com/web/EN/about\\_swiss/media/press\\_releases/Pages/pr\\_20120211.aspx](http://www.swiss.com/web/EN/about_swiss/media/press_releases/Pages/pr_20120211.aspx)

<sup>98</sup> UN World Tourism Organisation, <http://www2.unwto.org/>, cited in the Guardian, 17 August 2012 <http://www.guardian.co.uk/world/2012/aug/17/visas-deter-chinese-tourists>

<sup>99</sup> United Nations Conference on Trade and Development, *World Investment Report 2012*, Annex table I.1 <http://www.unctad-docs.org/files/UNCTAD-WIR2012-Full-en.pdf>



the UK will be overtaken by Germany as Europe's premier investment location. According to an Ernst & Young survey of business executives, Germany and Poland are thought to be more attractive than the UK over the next three years.<sup>100</sup> As Mark Gregory, Ernst & Young's chief economist, said, other countries "probably have better infrastructure to achieve that aim."<sup>101</sup>

- The market for international students has become more competitive over the past decade. The US and UK are still the world's first and second most popular locations for international students, although both lost market share between 2000 and 2009. Other countries, from a smaller base, gained market share over the same period, most notably Australia and Canada.<sup>102</sup> If the visa regime for international students continues to be relatively strict, the UK is likely to lose market share still further.

*“Every measure that makes it harder for people from overseas to travel to the UK will have an impact on businesses and jobs in this country.”*

<sup>100</sup> Ernst & Young, *Growth, actually: Ernst & Young's 2012 European attractiveness survey*, pp. 8 and 23 [http://www.ey.com/Publication/vwLUAssets/Attractiveness\\_2012\\_europe/\\$FILE/Attractiveness\\_2012\\_europe.pdf](http://www.ey.com/Publication/vwLUAssets/Attractiveness_2012_europe/$FILE/Attractiveness_2012_europe.pdf)

<sup>101</sup> Financial Times, 6 July 2012 <http://www.ft.com/cms/s/0/525a7546-c6b1-11e1-943a-00144feabdc0.html#axzz1zqMNOHgy>

<sup>102</sup> OECD, *Education at a glance* 2011, Table C3.6 [http://www.oecd.org/document/2/0,3746,en\\_2649\\_39263238\\_48634114\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/2/0,3746,en_2649_39263238_48634114_1_1_1_1,00.html). Data available at <http://dx.doi.org/10.1787/888932464562>

Scheduled	Flug-Nummer Flight-Number	Aus From
9:10	LH 9538	Saar
:55	DI 7068	Köln
30	C9 1521	Herin
70	LH 9511	Herin
5	SN 2585	Brüsse
HE	518	Dortmu
DI	7072	Köln B
75	116	Dortmur
-	306	Friedri
1586		

### 3. The business view of airport capacity

The analysis in the preceding two chapters set out the importance of aviation to the economy, and how complacency on capacity, taxes and immigration could damage the UK. But what do businesses themselves actually think? And where do they see the best solutions?

In May 2012, the IoD polled 1,076 of its members across the UK to find out what they thought about airport capacity. In this chapter, the key findings are set out.

#### HOW IoD MEMBERS TRAVEL ON BUSINESS

Unsurprisingly, IoD members use a large number of UK airports for business flights. Their local airports are heavily used, but for most regions, Heathrow is still the most frequented airport.

IoD members usually travel to the airport by car or taxi. Public transport is little used.

For business trips in the UK but outside their local area, most IoD members drive or take the train.

For business trips in Europe, members usually fly direct. Those flying indirect are as likely to connect via Amsterdam Schiphol as Heathrow.

For business trips outside Europe, most members also fly direct. For medium- and long-haul flights, Heathrow is a more important hub.





Q: WHICH UK AIRPORTS DO YOU USE MOST FREQUENTLY FOR BUSINESS FLIGHTS? (PLEASE SELECT UP TO 3 AIRPORTS.)

- IoD members make use of a wide range of UK airports for business flights, with Heathrow by far the most extensively used.

TABLE 3.1	
Which UK airports do you use most frequently for business flights? (Please select up to 3 airports.)	
Heathrow	64%
Gatwick	36%
Stansted	15%
Manchester	13%
London City	12%
Birmingham	11%
Luton	10%
Southampton	7%
Bristol	6%
Edinburgh	6%
East Midlands	5%
Glasgow	3%
Leeds/Bradford	3%
Liverpool	3%
Aberdeen	2%
Belfast City	2%
Other	2%
Belfast International	1%
Cardiff	1%
Exeter	1%
Inverness	1%
Newcastle	1%
Norwich	1%

- In most regions, Heathrow is still the airport most frequently used. The exceptions are North West, Yorkshire, West Midlands, North East and Scotland. In all these regions, Heathrow is the second or third most frequently used airport.
- Gatwick is also an important airport for IoD members, particularly in London, the South and Wales.

- Manchester airport is used quite frequently by IoD members outside the North West, in particular Yorkshire and the West Midlands.
- Birmingham airport is important for IoD members in the East Midlands, as well as in the West Midlands.

*“Most IoD members travel to the airport by road, not rail.”*

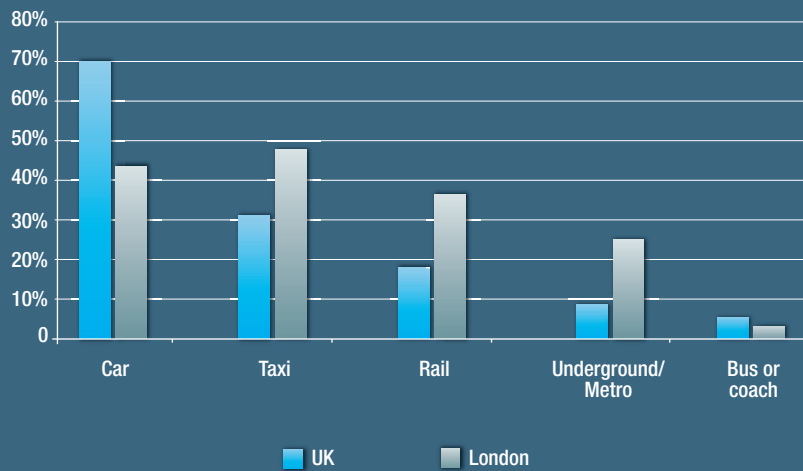
TABLE 3.2			
Most frequently used airports in each region for business flights			
REGION	FIRST	SECOND	THIRD
Scotland	Edinburgh	Heathrow	Glasgow
Northern Ireland	Heathrow	Belfast City	Belfast International
Wales	Heathrow	Gatwick	Cardiff
London	Heathrow	Gatwick	London City
South	Heathrow	Gatwick	Southampton
South West	Heathrow	Bristol	Gatwick
North West	Manchester	Liverpool	Heathrow
East Midlands	Heathrow	Birmingham	East Midlands
East of England	Heathrow	Stansted	Luton
Yorkshire	Manchester	Leeds/Bradford (joint 2nd)	Heathrow (joint 2nd)
West Midlands	Birmingham	Heathrow	Manchester
North East	Newcastle	Heathrow	Gatwick, Leeds/Bradford, Teeside (joint 3rd)

- Almost one in ten IoD members (9%) do not fly on business.
- Q: HOW DO YOU USUALLY TRAVEL TO THE AIRPORT THAT YOU USE MOST FREQUENTLY FOR BUSINESS FLIGHTS? (PLEASE SELECT ALL THAT APPLY.)
- Most IoD members travel to the airport that they use most frequently for business flights by car (70%) and taxi (31%). Smaller proportions travel by rail (18%) and underground/metro (9%). Only 5% travel by bus or coach.
  - These findings are fairly consistent across the regions, with the exception of London. In London, 48% travel by taxi, 43% by car, 37% by rail and 24% by underground.



CHART 3.1

## How IoD members usually travel to the airport – UK and London compared



- The most important point is that most IoD members travel by road to the airport. Even in London, public transport is used less frequently, and outside of London, it is used relatively rarely. These findings clearly have implications for airport location and designing surface access strategies.

Q: FOR BUSINESS TRIPS TO DESTINATIONS WITHIN THE UK BUT OUTSIDE YOUR LOCAL AREA, HOW DO YOU USUALLY TRAVEL? (PLEASE SELECT ALL THAT APPLY.)

- Overall, IoD members tend not to fly on business within the UK. Two thirds (65%) drive and almost six in ten (59%) take the train. Only a quarter (26%) fly direct, and just 1% fly indirect.
- In certain regions, the reverse is true. Not surprisingly, almost three quarters (73%) of IoD members in Northern Ireland fly on business within the UK, and the same is true for 58% of Scottish members.

Q: FOR BUSINESS TRIPS TO EUROPEAN DESTINATIONS, HOW DO YOU USUALLY TRAVEL? (PLEASE SELECT ALL THAT APPLY.)

- Overall, three quarters (75%) usually fly direct to Europe on business, a quarter (26%) usually fly indirect and a fifth (19%) usually take the Eurostar.
- IoD members that fly indirect connect at other European airports as frequently as they do at other UK airports:
  - 13% fly indirect via a UK airport and 13% fly indirect via a European airport;
  - 7% fly indirect via Heathrow and 7% fly indirect via Amsterdam.
- In certain regions, IoD members connect via European hubs to a far greater extent, but other regions rely on connections at Heathrow and other UK airports. For a number of regions, Amsterdam has now become the main hub airport for European business travel:

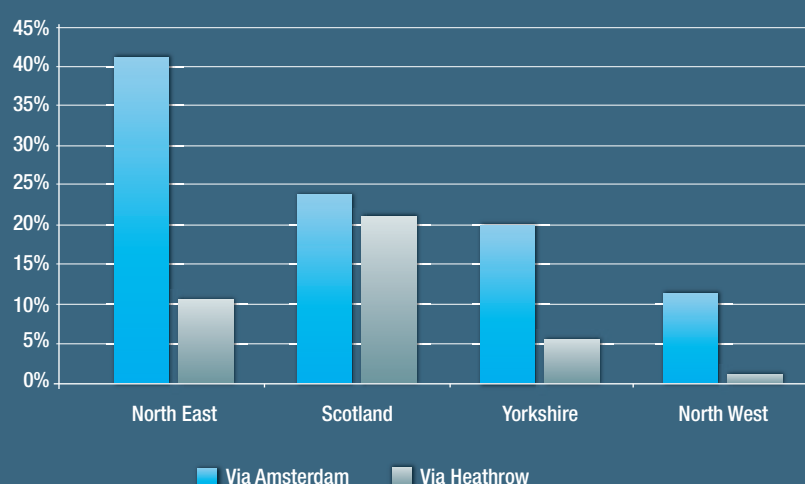
In Scotland, 43% fly indirect via a European airport and 32% via a UK airport. 24% fly indirect via Amsterdam and 22% fly indirect via Heathrow;

- In Northern Ireland, 23% fly indirect via Heathrow, 14% via another UK airport and 9% via Amsterdam;
- In the North West, 11% fly indirect via Amsterdam and 11% via another European airport, compared to just 5% connecting through a UK airport;
- In the East Midlands, 20% connect through a UK airport, compared to just 8% connecting through a European airport;
- In Yorkshire, 20% connect via Amsterdam, 12% via a UK airport and 8% via another European airport;
- In the West Midlands, 26% fly indirect via a European airport, compared to 8% transferring through a UK airport;
- In the North East, 42% connect via Amsterdam, 16% connect via another European airport, 11% transfer at Heathrow and 11% at another UK airport.

*“For IoD members in a number of regions, Amsterdam has now become the main hub airport for European business travel.”*

CHART 3.2

Outsourcing a hub airport – percentage of IoD members from certain regions flying indirect via Amsterdam and Heathrow on European business trips



- Almost one in seven IoD members (14%) do not travel to Europe on business.
- Q: FOR BUSINESS TRIPS TO DESTINATIONS OUTSIDE EUROPE, HOW DO YOU USUALLY TRAVEL? (PLEASE SELECT ALL THAT APPLY.)
- Overall, a slightly lower proportion fly direct to destinations outside Europe than inside Europe. Just over six in ten (61%) fly direct and a third (34%) fly indirect.
- Indirect flights are more likely to be via UK airports:
  - 16% fly indirect via Heathrow and 4% via another UK airport;
  - 7% fly indirect via Amsterdam and 7% via another European airport.

- Again, there are important regional exceptions, although Amsterdam is generally less significant, and Heathrow more significant, than for indirect European flights. The exceptions are the North West and North East, where IoD members are more likely to transfer at Amsterdam than Heathrow:
  - In Scotland, only 25% fly direct. 47% of Scottish IoD members fly indirect via Heathrow, 27% fly indirect via Amsterdam and 10% via Paris;
  - 45% of members from Northern Ireland fly indirect via Heathrow;
  - 31% of IoD members in the North West fly indirect via a European airport, compared to 24% connecting via a UK airport;
  - In Yorkshire, 20% connect via Heathrow and 16% via Amsterdam;
  - In the North East, only 26% fly direct. 26% fly indirect via Amsterdam and 21% via Heathrow.
- A quarter of IoD members (26%) do not travel outside of Europe on business.

*“Nearly two thirds of IoD members (63%) say that direct flights from the UK to emerging markets are likely to be important to their business in the next decade.”*

## ROUTES AND CAPACITY

Just over a third say that direct flights to ‘emerging’ markets are currently important to their business.

In the next decade, nearly two thirds think that direct flights to emerging markets will be important to their business.

IoD members value both a high frequency of direct flights to established destinations and a wide range of flights to emerging market destinations.

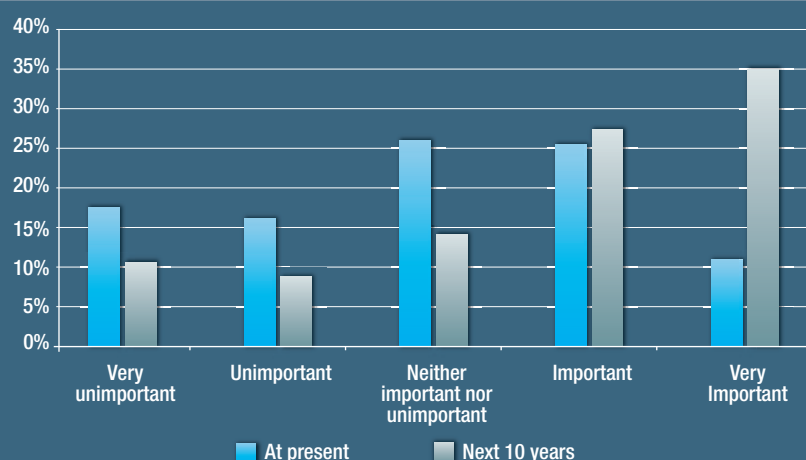
Nearly six in ten agree that Heathrow’s lack of spare capacity has a damaging effect on inward investment to the UK.

Q: FROM THE PERSPECTIVE OF YOUR (PRIMARY) ORGANISATION, HOW IMPORTANT ARE DIRECT FLIGHTS FROM THE UK TO EMERGING MARKETS:

- AT THE PRESENT TIME?
- LIKELY TO BE IN THE NEXT 10 YEARS?
- Over a third of IoD members (37%) say that direct flights from the UK to emerging markets are important to their business at present, compared with 35% who say they are not important.
- Nearly two thirds of IoD members (63%) say that direct flights from the UK to emerging markets are likely to be important to their business in the next decade, compared to just 20% who think they will remain unimportant.
- The high growth markets, therefore, are set to become far more important to IoD members over the next decade, underlining the importance of developing new routes from the UK.

CHART 3.3

From the perspective of your (primary) organisation, how important are direct flights from the UK to emerging markets?



Q: THINKING FROM THE PERSPECTIVE OF YOUR (PRIMARY) ORGANISATION, WHICH OF THE FOLLOWING OPTIONS DO YOU MOST VALUE?

- Overall, 36% of IoD members most value a high frequency of direct flights to established long-haul destinations, while 29% most value a wide range of direct flights to emerging market destinations.
- Heathrow currently excels at providing high-frequency flights to, for example, the US, but it provides a narrower range of flights to emerging market destinations than other European hub airports, such as Amsterdam, Paris and Frankfurt.
- The findings of this poll suggest that a significant proportion of IoD members would prefer a better balance between the two. With existing capacity constraints, it will be harder to expand Heathrow's emerging market routes without reducing the frequency of flights to the US, although other UK airports could prioritise the development of routes to Asia and Latin America. Without capacity constraints, Heathrow, or another hub airport, could provide both.

Q: TO WHAT EXTENT WOULD YOU AGREE OR DISAGREE WITH THE FOLLOWING STATEMENT? "HEATHROW'S LACK OF SPARE CAPACITY HAS A DAMAGING EFFECT ON INWARD INVESTMENT TO THE UK."

- As mentioned above, Heathrow's lack of spare capacity does constrain the development of new routes. IoD members generally think that this is harmful to the UK economy. Almost six in ten (59%) agree that a lack of spare capacity at Heathrow has a damaging effect on inward investment to the UK, compared to just 17% who disagree.
- In all regions of the UK, more IoD members agree than disagree with this statement.

## POSSIBLE CAPACITY SOLUTIONS

Almost eight in ten would support the building of at least one new runway in the UK.

Views are mixed on the desirability of mixed mode operations at Heathrow, although more support than oppose the idea.

Asked individually, members support a wide range of options to increase airport capacity:

- 58% support a third runway at Heathrow;
- 58% support a major expansion of one or more airports outside of London and the South East;
- 56% support the construction of a high-speed rail link between Heathrow and Gatwick to create a 'virtual hub' airport, known as "Heathwick";
- 54% support a second runway at Gatwick;
- 43% support the construction of a new hub airport in the Thames estuary or North Kent;
- 38% support a second runway at Stansted.

If a new hub airport in the Thames estuary or North Kent required the closure of Heathrow to be viable, only 24% of IoD members would support it.

When asked to pick just ONE of the above options, views are very mixed. The most popular options are:

- A third runway at Heathrow – 27%;
- A major expansion of one or more airports outside of London and the South East – 21%;
- A new hub airport in the Thames estuary or North Kent – 13%.

Views on capacity solutions differ widely depending on the region.

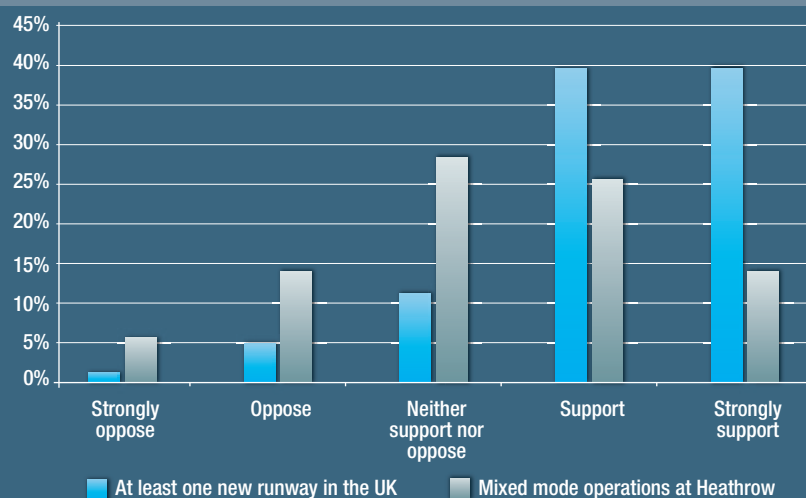
Q: TO WHAT EXTENT WOULD YOU SUPPORT OR OPPOSE:

- THE BUILDING OF AT LEAST ONE NEW RUNWAY IN THE UK?
- THE USE OF 'MIXED MODE' OPERATIONS AT HEATHROW?
- In all regions, there is strong support for the construction of at least one new runway somewhere in the UK. Overall, 79% of IoD members express support, compared to just 7% expressing opposition.
- There is far weaker support for the option of increasing capacity at Heathrow through the use of mixed mode operations. Two fifths (40%) express support, compared with a fifth (20%) expressing opposition. Opinions are quite consistent across the regions.



CHART 3.4

To what extent would you support or oppose...?



NB: Note that the following questions were asked independently. Only the last question required IoD members to choose between different options for increasing capacity.

Q: WHICH OF THE FOLLOWING OPTIONS BEST MATCHES YOUR VIEW ON THE POSSIBILITY OF A THIRD RUNWAY AT HEATHROW?

- Support for a third runway is strong amongst IoD members. Overall, 58% support and 21% oppose, with 13% neither supporting nor opposing.
- At the time of polling, there were two key proposals for a third runway. The main proposal has been for a short runway to the North of the existing Northern runway, and an alternative proposal has been made for a close parallel runway to the South of the existing Southern runway.<sup>103</sup> Overall, 41% of IoD members support a third runway and have no preference about its location, 9% support a close parallel runway and 8% support a runway to the North.
- Support is relatively consistent across all regions. At least 45% of IoD members support a third runway in every region, while no more than 30% oppose a third runway in any region.

Q: AN ALTERNATIVE PROPOSAL HAS BEEN MADE FOR A RECONFIGURATION OF THE RUNWAY AT RAF NORTHOLT, LOCATED APPROXIMATELY 6 MILES NORTH OF HEATHROW, TO OPERATE AS A THIRD RUNWAY FOR HEATHROW, WITH THE ASSOCIATED RAIL INFRASTRUCTURE TO CONNECT THE TWO. TO WHAT EXTENT WOULD YOU SUPPORT OR OPPOSE SUCH A DEVELOPMENT?

- Support for the reconfiguration of the runway at RAF Northolt is weaker than for a third runway at Heathrow. Over two fifths (43%) support, while over a quarter (27%) oppose.

Q: A FURTHER PROPOSAL HAS BEEN MADE FOR THE CONSTRUCTION OF A HIGH-SPEED RAIL LINK BETWEEN HEATHROW AND GATWICK, CREATING A 'VIRTUAL HUB' AIRPORT, KNOWN AS "HEATHWICK". TO WHAT EXTENT WOULD YOU SUPPORT OR OPPOSE SUCH A DEVELOPMENT?

- Opinion is strongly in favour of this proposal, with 56% supporting and 19% opposing.
- Only in the West Midlands is opinion mixed, with 38% in favour and 31% against.

<sup>103</sup> For more details, see Chapter 4.

*“IoD members would not support a new hub airport East of London if it meant the closure of Heathrow.”*

Q: A NUMBER OF PROPOSALS HAVE ALSO BEEN MADE FOR A NEW HUB AIRPORT AWAY FROM HEATHROW, IN THE THAMES ESTUARY OR NORTH KENT. TO WHAT EXTENT WOULD YOU SUPPORT OR OPPOSE THE CONSTRUCTION OF A NEW HUB AIRPORT IN THE THAMES ESTUARY OR NORTH KENT?

- IoD members tend to favour the construction of a new hub airport in the Thames estuary or North Kent, although not as strongly as some of the other proposals. Overall, 43% support and 30% oppose.
- Regionally, opinions are mixed:
  - IoD members in the East Midlands and London are most strongly in favour, with 53% support (although support for a third runway at Heathrow is stronger in both regions);
  - IoD members in the West Midlands, Scotland and Northern Ireland oppose the idea, while IoD members in the South West are divided equally.

Q: IT HAS BEEN ARGUED THAT, TO BE FINANCIALLY VIABLE, A NEW HUB AIRPORT WOULD NECESSITATE THE CLOSURE OF HEATHROW. WOULD YOU REMAIN IN FAVOUR OF A NEW HUB AIRPORT IF HEATHROW WAS CLOSED?

- Support for a new hub airport drops dramatically if it results in the closure of Heathrow. Only 55% of those supporting a Thames estuary hub continue to favour the idea if it means that Heathrow is closed.
- This means that, if Heathrow is closed, only 24% of IoD members overall support a Thames estuary hub airport, with 45% opposed.

Q: OTHERS HAVE ARGUED THAT ONE OR MORE REGIONAL AIRPORTS, SUCH AS BIRMINGHAM, COULD BE EXPANDED TO BECOME HUB AIRPORTS IN THEIR OWN RIGHT, RELIEVING THE PRESSURE ON AVIATION CAPACITY IN THE SOUTH EAST, AND PROVIDING AN ALTERNATIVE TO NEW RUNWAYS IN THE SOUTH EAST. TO WHAT EXTENT WOULD YOU SUPPORT OR OPPOSE THE MAJOR EXPANSION OF ONE OR MORE REGIONAL AIRPORTS?

- Overall, this is the most strongly supported proposal, with 58% expressing support and 17% expressing opposition.
- Unsurprisingly, the proportions in favour are even higher in certain regions, with 85% support in the West Midlands, 80% support in Wales, 77% support in the North West, 76% support in the East Midlands, 70% support in Scotland and 69% support in the North East.
- London and the South are unsurprisingly the regions with the lowest comparative levels of support, although IoD members in these regions are still strongly in favour. In London, 45% support and 24% oppose, while in the South, 48% are in favour and 19% are opposed.

Q: A MORATORIUM CURRENTLY PROHIBITS AN ADDITIONAL RUNWAY AT GATWICK UNTIL 2019. TO WHAT EXTENT DO YOU AGREE OR DISAGREE THAT A SECOND RUNWAY SHOULD BE CONSTRUCTED AFTER THE CURRENT MORATORIUM ENDS?

- Overall, 54% support a second runway at Gatwick after the current moratorium ends, while 16% are opposed.
- Support is quite consistent across all regions, with the strongest support (62%) in London.

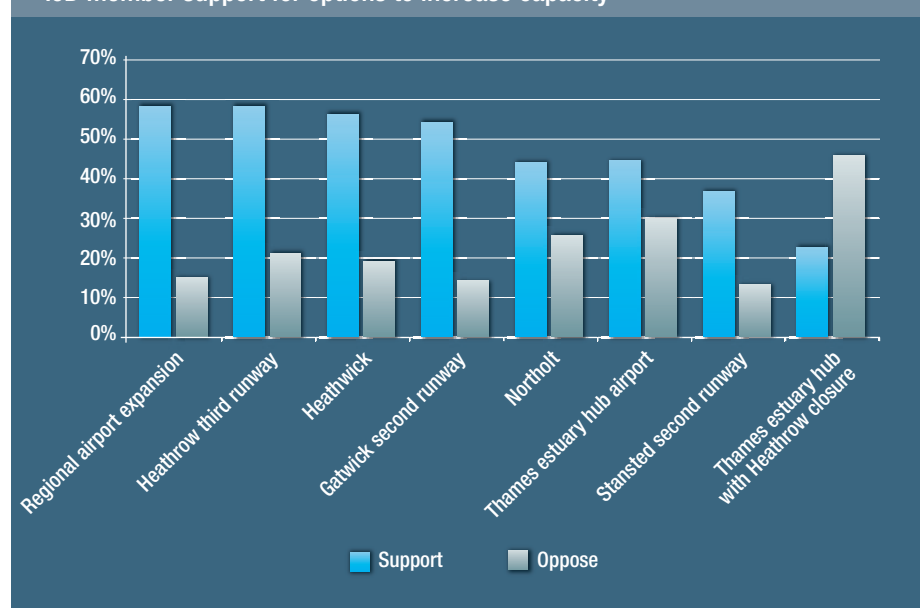
Q: TO WHAT EXTENT WOULD YOU SUPPORT OR OPPOSE THE CONSTRUCTION OF A SECOND RUNWAY AT STANSTED?

- A second runway at Stansted is the least popular idea. Almost two fifths (38%) support it, 15% are opposed and 42% are undecided.
- Unsurprisingly, two thirds (67%) of loD members in the East of England support a second runway at Stansted, with just over half (53%) of members in the East Midlands also in favour.

*“If they could only select one option, loD members are most likely to choose a third runway at Heathrow.”*

CHART 3.5

loD member support for options to increase capacity



Q: IT IS VERY UNLIKELY THAT ALL OF THE MANY PROPOSALS FOR MORE AVIATION CAPACITY WILL PROCEED. FROM THE PERSPECTIVE OF YOUR (PRIMARY) ORGANISATION, WHICH **ONE** OF THE FOLLOWING PROPOSALS WOULD BE OF MOST BENEFIT TO YOUR BUSINESS?

- It was important to ask this last question. It could be said that many loD members are in favour of almost any option to increase capacity. It is, however, unlikely that all of the ideas, or even most of them, will be implemented. Hence this question required loD members to choose one option only, thinking about their primary business.

TABLE 3.3

From the perspective of your (primary) organisation, which ONE of the following proposals would be of most benefit to your business?

A third runway at Heathrow	27%
A major expansion of one or more regional airports	21%
A new hub airport in the Thames estuary or North Kent	13%
None of the above options	9%
Construction of a high-speed link between Heathrow and Gatwick to create a 'virtual hub' airport, known as "Heathwick"	8%
Reconfiguration of the runway at RAF Northolt to operate as a third runway for Heathrow	5%
A second runway at Gatwick	5%
Don't know	5%
A second runway at Stansted	4%

- The three most popular options are a third runway at Heathrow (27%), a major expansion of one or more regional airports (21%) and a new hub airport in the Thames estuary or North Kent (13%).
- Regionally, members naturally tend to choose expansion of their nearest airport, although not in all cases. As Table 3.4 shows, a third runway at Heathrow is the most popular option in Northern Ireland, London and the South, and the second most popular option in Scotland, Wales, the South West, the East Midlands, the East of England, the West Midlands and the North East.

TABLE 3.4

Airport capacity improvements that would be of most benefit to IoD members' businesses

REGION	FIRST	SECOND
Scotland	Regional airport expansion	Heathrow third runway
Northern Ireland	Heathrow third runway	Regional airport expansion
Wales	Regional airport expansion	Heathrow third runway
London	Heathrow third runway	Thames hub airport
South	Heathrow third runway	Thames hub airport
South West	Regional airport expansion	Heathrow third runway
North West	Regional airport expansion	None of the above options
East Midlands	Regional airport expansion	Heathrow third runway
East of England	Stansted second runway	Heathrow third runway
Yorkshire	Regional airport expansion	Thames hub airport
West Midlands	Regional airport expansion	Heathrow third runway
North East	Regional airport expansion	Heathrow third runway





## 4. A long-term plan for growth

In setting out a good long-term plan for the aviation sector, three points must be emphasised:

- **We've been here before.** Almost every option proposed in this latest round of the aviation debate has been proposed before, in identical or variant form.
- **The main blockage is planning not money.** The private sector is able and willing to invest in expanding airport capacity. With the notable exception of improved surface access to airports, the taxpayer does not need to contribute. But the Government does need to approve the location/s for development.
- **A single solution is not enough.** A good plan needs to address the short term as well as the medium term – realistically when any new runways would open. It also needs to connect with transport policy more widely and with other policy areas such as immigration and taxation.

The Government has decided to delay making any decision on new capacity until after the next election, with the Davies Commission not due to produce its final report until 2015. Such an elongated time-scale is disappointing, but if it results in actual decisions which are then actually implemented, the wait will have been worth it.

Numerous interested organisations will submit their own variations of proposals for the sector: What the Davies Commission finally recommends will no doubt be a balance between the best economic solutions and the most realistic political ones. The IoD does not claim any unique expertise, but this chapter lays out our own suggestions.

### WE'VE BEEN HERE BEFORE

A number of proposals have been made over the last year for aviation capacity improvements. Most have been proposed before, including:

- **Several variations on the idea of a major hub airport in the Thames estuary or North Kent;**
- **A new hub airport to the North West of London, probably in Oxfordshire (NB: this proposal has been hinted at, but not yet formally made, this time around);<sup>104</sup>**
- **A third runway at Heathrow;**
- **A second runway at Stansted;**
- **A more substantial development of Stansted;**
- **Development of Birmingham airport.**

Table 4.1 sets out a timeline of indecision surrounding UK aviation policy, at the same time as other countries have pressed ahead with development. As the timeline shows, both main parties have at times abandoned airport expansion plans.

<sup>104</sup> Little has been revealed of the plans for an airport in Oxfordshire. See Independent on Sunday, 2 September 2012 <http://www.independent.co.uk/travel/news-and-advice/ios-exclusive-secret-plan-for-fourrunway-airport-west-of-heathrow-8100772.html>

TABLE 4.1

## UK aviation policy over the last 50 years

1963	<ul style="list-style-type: none"> <li>• Interdepartmental Committee reports shortlist of 18 sites for major new airport, recommending Stansted as the best option. Stansted's runway first became operational in 1943.</li> </ul>
1965	<ul style="list-style-type: none"> <li>• Plan to develop six runway airport on the Isle of Sheppey to replace Heathrow.</li> </ul>
1966	<ul style="list-style-type: none"> <li>• Government sets up a Second Interdepartmental Committee to revisit case for Stansted.</li> </ul>
1967	<ul style="list-style-type: none"> <li>• Ministerial statement announcing decision to develop Stansted.</li> </ul>
1968	<ul style="list-style-type: none"> <li>• Government sets up the Roskill Commission to recommend a new London airport</li> </ul>
1971	<ul style="list-style-type: none"> <li>• Government selects Maplin Sands, Foulness to be London's new hub airport.</li> <li>• Roskill Commission recommends Cublington, Oxfordshire as new airport for London.</li> </ul>
1974	<ul style="list-style-type: none"> <li>• Maplin Sands proposal abandoned by the Government</li> <li>• Paris opens its new four-runway Charles De Gaulle Airport.</li> <li>• BOAC and BEA combine to create British Airways.</li> </ul>
1978	<ul style="list-style-type: none"> <li>• Government's Aviation White Paper identifies Heathrow capacity as "restricted".</li> </ul>
1979	<ul style="list-style-type: none"> <li>• 'Gatwick Agreement' between BAA and West Sussex County Council that there would be no operational second runway at the airport before 2019.</li> <li>• New Government says "Heathrow capacity is virtually exhausted..."</li> </ul>
1984	<ul style="list-style-type: none"> <li>• Frankfurt Airport opens its third runway.</li> <li>• Virgin Atlantic's maiden flight.</li> </ul>
1990	<ul style="list-style-type: none"> <li>• Government commissions a new study on airport capacity (RUCATSE – Runway Capacity in the South East Study).</li> <li>• CAA advises Government that air traffic in the South East would reach saturation point by 2005.</li> </ul>
1997	<ul style="list-style-type: none"> <li>• RUCATSE concludes that expanding Heathrow "would afford the greatest benefits".</li> <li>• Planning permission granted for second runway at Manchester Airport.</li> </ul>
1998	<ul style="list-style-type: none"> <li>• Government's Transport White Paper says it will "prepare a UK airports policy looking some 30 years ahead".</li> </ul>
2001	<ul style="list-style-type: none"> <li>• Second runway at Manchester Airport completed.</li> </ul>
2002	<ul style="list-style-type: none"> <li>• Government publishes SERAS (South East of England Regional Air Services Study) with options for new runway capacity in the South East.</li> </ul>
2003	<ul style="list-style-type: none"> <li>• Future of Air Transport White Paper supports a third runway at Heathrow and a second runway at Stansted.</li> <li>• Amsterdam Schiphol opens its fifth runway.</li> </ul>
2006	<ul style="list-style-type: none"> <li>• Madrid Barajas Airport opens its third and fourth runways.</li> </ul>
2007	<ul style="list-style-type: none"> <li>• Birmingham Airport rejects Government suggestion that it would need a second runway by 2030. Makes the Government's additional suggestion of extending its existing runway its main priority.</li> </ul>
2008	<ul style="list-style-type: none"> <li>• Dubai International Airport opens its third terminal.</li> </ul>
2009	<ul style="list-style-type: none"> <li>• Government backs a third runway at Heathrow but rules out greater use of existing runways.</li> </ul>
2010	<ul style="list-style-type: none"> <li>• Coalition Government reverses third runway decision and rules out new runways at Gatwick or Stansted.</li> </ul>
2011	<ul style="list-style-type: none"> <li>• Government publishes "scoping document" on a "sustainable framework for UK aviation".</li> <li>• Frankfurt opens its fourth runway.</li> <li>• "Thames Hub" report recommends construction of a new airport on the Isle of Grain.</li> </ul>
2012	<ul style="list-style-type: none"> <li>• Government publishes draft aviation policy framework for further consultation.</li> </ul>

NB: red – Labour governments; blue – Conservative governments; blue and yellow – Conservative-Liberal Democrat coalition government.

Source: Aviation Foundation, Fifty Years of Indecision – a timeline of UK aviation policy [http://www.aviation-foundation.org/docs/Timeline\\_50YearsOfIndecision\\_Final.pdf](http://www.aviation-foundation.org/docs/Timeline_50YearsOfIndecision_Final.pdf)



The Future of Air Transport White Paper, published in 2003, was particularly comprehensive. The White Paper recommended that provision should be made for two additional runways in the South East by 2030. Its conclusions are worth re-stating:<sup>105</sup>

- *“There is an urgent need for additional runway capacity in the South East.*
- *“There is no strong case for the development of a second international hub airport alongside Heathrow.*
- *“The first priority is to make best use of the existing runways, including the remaining capacity at Stansted and Luton.*
- *“Provision should be made for two new runways in the South East by 2030.*
- *“The first new runway should be at Stansted, to be delivered as soon as possible (around 2011 or 2012).*
- *“The further development of Heathrow is supported, including a further new runway and additional terminal capacity to be delivered as soon as possible (within the 2015-2020 period) after the new runway at Stansted, but only if stringent environmental limits can be met. An urgent programme of work and consultation will be started to examine this issue further and to consider how best use can be made of the existing airport.*
- *“The Government will not seek to overturn the 1979 planning agreement preventing construction of a second runway at Gatwick before 2019.*
- *“In case the conditions attached to the construction of a third Heathrow runway cannot be met, and since there is a strong case on its own merits for a new wide-spaced runway at Gatwick after 2019, land should be safeguarded for this.*
- *“The option to develop two or three additional runways at Stansted is not supported.*
- *“The option for two new runways at Gatwick is not supported.*
- *“The development of a second runway at Luton is not supported.*
- *“The option to develop a new airport at Cliffe is not supported.*
- *“No other proposals put forward during the consultation for new airports at alternative locations are supported.”*

The White Paper also recommended that land be safeguarded for improvements at a number of airports outside of the South East, for terminal and access improvements, runway extensions and, in a few cases, new runways. Birmingham airport was named as the preferred location for a new runway in the Midlands, although as Table 4.1 showed, in 2007 the airport rejected the suggestion that it would need a new runway by 2030.

Passenger demand forecasts used in the White Paper were over-optimistic, and have now been revised down substantially. For example, by 2030, the White Paper was forecasting that 400-600 million passengers would be using UK airports each year.<sup>106</sup> The latest unconstrained forecasts suggest that the 2030 figure will be 300-400 million.<sup>107</sup>

Not surprisingly given the passenger demand outturns, the major airports outside of the South East retain considerable spare capacity, which has made terminal improvements, runway extensions and new runways far less urgent. Improvements are going ahead at some airports, for example a runway extension at Birmingham and capacity enhancements at Bristol airport. These improvements will continue incrementally.

In the South East, despite lower-than-expected passenger numbers, hub capacity is

<sup>105</sup> Department for Transport, *The Future of Air Transport*, White Paper, December 2003, pp.13-14  
[http://openlearn.open.ac.uk/file.php/4432/lvia/oucontent/course/5679/dft\\_aviation\\_031516.pdf](http://openlearn.open.ac.uk/file.php/4432/lvia/oucontent/course/5679/dft_aviation_031516.pdf)

<sup>106</sup> Department for Transport, *The Future of Air Transport*, White Paper, December 2003, p.23  
[http://openlearn.open.ac.uk/file.php/4432/lvia/oucontent/course/5679/dft\\_aviation\\_031516.pdf](http://openlearn.open.ac.uk/file.php/4432/lvia/oucontent/course/5679/dft_aviation_031516.pdf)

<sup>107</sup> Department for Transport, *UK Aviation Forecasts*, August 2011, unconstrained terminal passenger forecasts by airport (low scenario and high scenario)

already squeezed and capacity overall will be squeezed over the next 20 years. The 2003 White Paper failed to ensure that the additional runways were constructed. Nine years after its publication, we are effectively back to square one, with a key exception – Gatwick, and shortly, Stansted, are under new ownership, offering up the prospect of genuine competition between London's airports.

## PLANNING NOT MONEY

The main role for government is not a financial one, with perhaps the notable exception being surface access to airports. Most airport capacity improvements can be financed by the private sector. The government does, however, have an important role to play in ensuring that capacity improvement plans are permitted to go ahead.

The planning system is not a major issue in all parts of the country. Outside the South East, airport improvements have generally proceeded relatively smoothly. Birmingham airport's runway extension, due to open in 2014, received widespread backing locally. Around Liverpool, the principal local councils are all in favour of a runway extension at John Lennon airport, which is set out in the airport's Master Plan, despite its encroachment onto greenbelt land.<sup>108</sup>

In the South East, however, the picture is radically different. Where new capacity is most needed, opposition is strongest, not just from campaign groups such as HACAN and Stop Stansted Expansion, but also from local authorities. No South East council is in favour of a new runway at their local airport, or the construction of a new airport.<sup>109</sup>

There is, then, a role for central government in overcoming planning obstacles. As a recent report by Policy Exchange and Centre Forum argued:

*"Since there is nowhere within the South East that wants more airport capacity, the government needs to be involved. It needs to make a decision as to whether the South East should have more airport capacity, or whether it should make do with what is there. If government decides that Britain needs more capacity in the South East, only government can decide where that capacity should go. Government does not need to fund the building of the airport, but without government support for the location, funding will not be readily available."*<sup>110</sup>

## A SINGLE SOLUTION IS NOT ENOUGH

A key point for any plan is that one solution on its own is not enough. There are five aspects to this:

- First, most options, on their own, fail to provide enough extra capacity to meet the forecast increase in demand.
- Second, it will be at least a decade, and given that the Davies Commission will not conclude until 2015, probably closer to 15 years, before any new runway can be opened. A number of solutions are therefore needed to address immediate pressures.
- Third, airport capacity should be planned with the wider transport network in mind. Similarly, parts of the wider transport network should be planned with airports in mind.
- Fourth, it is no use having a shining new airport if it takes two hours to pass through passport control, or three months to get a UK visa in the first place, or if demand for flying is reduced through punitive levels of taxation.

*"UK aviation policy over the last 50 years has been a timeline of indecision, but competition between the main London airports does offer new opportunities."*

<sup>108</sup> For more details on Liverpool John Lennon airport, see Tim Leunig, *Bigger and quieter: The right answer for aviation*, Policy Exchange and Centre Forum, October 2012, p.14 <http://www.policyexchange.org.uk/publications/category/item/bigger-and-quieter-the-right-answer-for-aviation>

<sup>109</sup> Tim Leunig, *Bigger and quieter: The right answer for aviation*, Policy Exchange and Centre Forum, October 2012, p.15 <http://www.policyexchange.org.uk/publications/category/item/bigger-and-quieter-the-right-answer-for-aviation>

<sup>110</sup> Tim Leunig, *Bigger and quieter: The right answer for aviation*, Policy Exchange and Centre Forum, October 2012, p.16 <http://www.policyexchange.org.uk/publications/category/item/bigger-and-quieter-the-right-answer-for-aviation>



- Fifth, noise is the biggest factor preventing new runways from being constructed. Any new runways need to be accompanied by plans to moderate noise and other local environmental impacts.

The latter four points are self-explanatory, and the solutions that this report proposes will try to address them. But the first point needs further elaboration.

As was shown in Chapter 2, the principal capacity shortfalls are hub capacity now and overall capacity in London and the South East by 2030. According to the Department for Transport's central forecasts of unconstrained demand:<sup>111</sup>

- London and the South East, overall, will have a capacity shortfall of 16 million passengers per annum in 2030, rising to 57 million in 2040 and 106 million in 2050.
- Hub capacity will be constrained more quickly, given that Heathrow is currently the UK's only hub airport – Heathrow will have a capacity shortfall of 9 million passengers per annum in 2020, 29 million in 2030 and 54 million in 2040.

Most options are not enough, on their own, to meet the South East capacity shortfall, as Table 4.2 shows (note that these are very illustrative estimates).

TABLE 4.2		
The contribution of various solutions, on their own, to meeting the South East capacity shortfall		
MILLION PASSENGERS PER ANNUM	ADDITIONAL CAPACITY	REMAINING SOUTH EAST CAPACITY SHORTFALL, 2040
Thames estuary airport with Heathrow closure	64 <sup>112</sup>	0
Four runway Heathrow (two sets of close parallel runways)	54 <sup>113</sup>	3
Stansted second runway	46 <sup>114</sup>	11
Gatwick second runway	40 <sup>115</sup>	17
Heathrow third runway	Up to 30 <sup>116</sup>	At least 27
Full use of Birmingham airport capacity	27 <sup>117</sup>	30
NB: These are very indicative estimates. They do not take into account the potential for larger planes on average, nor the likelihood that a portion of the extra capacity would be used to increase resilience at, especially, Heathrow.		

Table 4.2, although very indicative, does provide some interesting conclusions:

- The only solution that meets projected capacity shortfalls in 2040 is a new hub airport in the Thames estuary or North Kent. Even this proposal, though, is not sufficient to meet the projected capacity shortfall in 2050, assuming Heathrow closes.
- A third runway at Heathrow is plainly insufficient, on its own, to meet the forecast capacity shortfall after 2030.

<sup>111</sup> Department for Transport, *UK Aviation Forecasts*, August 2011, unconstrained terminal passenger forecasts by airport (central scenario). It's worth noting that larger planes on average will increase the number of passengers carried on the same number of ATMs, but the capacity shortfalls will still be large.

<sup>112</sup> Assumes a new hub airport would have capacity for 150 million passengers per annum, minus Heathrow's current maximum capacity.

<sup>113</sup> Tim Leunig, *Bigger and quieter: The right answer for aviation*, Policy Exchange and Centre Forum, October 2012, p.38

<http://www.policyexchange.org.uk/publications/category/item/bigger-and-quieter-the-right-answer-for-aviation>. Note that the report itself suggests a maximum of 121 million passengers to ensure smoother running of the airport – this would increase capacity by 35 million passengers per annum, relative to Heathrow's current maximum. A four runway Heathrow was also proposed by the Free Enterprise Group, *Policy Bites: Seven Shots in the Arm of Britain*, July 2012

<http://www.freeenterprise.org.uk/sites/freeenterprise.drupalgardens.com/files/FEG%20Policy%20Bites.pdf>

<sup>114</sup> Department for Transport, *The Future of Air Transport*, White Paper, December 2003, p.114 [http://openlearn.open.ac.uk/file.php/4432/via/oucontent/course/5679/dft\\_aviation\\_031516.pdf](http://openlearn.open.ac.uk/file.php/4432/via/oucontent/course/5679/dft_aviation_031516.pdf)

<sup>115</sup> Department for Transport, *The Future of Air Transport*, White Paper, December 2003, p.125

[http://openlearn.open.ac.uk/file.php/4432/via/oucontent/course/5679/dft\\_aviation\\_031516.pdf](http://openlearn.open.ac.uk/file.php/4432/via/oucontent/course/5679/dft_aviation_031516.pdf)

<sup>116</sup> Assumes ATMs reach 700,000 a year, up from the current maximum of 480,000, and average number of passengers per plane remains at current levels of around 150 – in reality, a third runway is likely to deliver less additional capacity, with a lower cap on ATMs and smaller planes. This includes the main proposal to build a short third runway to the North of the current Northern runway, and proposals to develop RAF Northolt as a third runway for Heathrow, made by Rothwell Aviation Ltd, and to build a close parallel runway to the South of the existing Southern runway, made by Aras Global Ltd.

<sup>117</sup> Paul Kehoe, *Don't put all your eggs in one basket: A challenge to aviation orthodoxy*, Birmingham Airport, 2012, p.19 [http://balancedaviationdebate.com/aviation\\_report.pdf](http://balancedaviationdebate.com/aviation_report.pdf)

*“One capacity solution is unlikely to be enough on its own.”*

- A combination of a third runway at Heathrow and a second runway at Stansted or Gatwick, as recommended in the 2003 Future of Air Transport White Paper, would be sufficient to meet the South East capacity shortfall in 2040, though not in 2050.
- Developing Heathrow as a four-runway airport would meet forecast capacity needs until roughly 2040, but not beyond. If part of the extra capacity at Heathrow was used to improve the operational resilience of the airport, then it would not, on its own, be sufficient to meet South East capacity shortfalls by 2040.
- Making full use of Birmingham airport's spare capacity does not, on its own, solve the South East capacity issue.
- Other proposals have been made, most notably to expand Stansted into a four-runway airport.<sup>118</sup> If Heathrow remained open, then this proposal would likely be sufficient to meet South East capacity needs through 2040.

Some capacity increases, however, are more equal than others. As Chapter 2 explained, hub capacity is particularly vital to ensuring that long-haul routes to the high growth markets are viable. And as shown in Chapter 3, direct flights to a wide range of high growth markets will be increasingly important to IoD members. The above solutions perform very differently in terms of increasing hub capacity:

- A new hub airport in the Thames Estuary or North Kent succeeds in meeting hub capacity needs through 2040, even with the closure of Heathrow.
- A third runway at Heathrow adds hub capacity, but not enough on its own to meet the forecast hub capacity shortfall in 2040.
- A four runway Heathrow, on the other hand, is likely to be sufficient to meet hub capacity needs through 2040.
- A second runway at Gatwick or Stansted would not, on its own, meet hub capacity needs, unless either airport could develop a hub offering. This is not impossible – New York has two hub airports – but neither airport is remotely close to being a hub airport at present.
- Neither does Birmingham airport offer a hub solution, unless the airport can develop a hub offering, which is unlikely on one runway.
- Developing Stansted as a four runway airport would only meet hub capacity needs if it could compete effectively with Heathrow. So far, Stansted has failed to compete with Heathrow, although new owners and greatly improved surface access could provide fresh impetus.

These findings will be used to evaluate the various schemes in more depth, but for the sake of this section they show that one capacity solution is unlikely to be enough on its own.

## A HOLISTIC PLAN

The considerations described in the previous sections of this chapter illustrate how a holistic approach is necessary:

- To overcome previous failures to get new runways built;
- To limit government to its appropriate role, facilitating the planning process and ensuring good integration with the rest of the transport network;
- To get agreement for a range of measures to increase overall capacity, increase hub capacity and ensure smoother journeys to and from the UK;
- And to make sure that improvements are made in the period before new runways are agreed upon and then built.

As the All Party Parliamentary Group for Aviation recently put it:

*“...The key lesson that the UK could learn from European competitors is that the most successful approaches to aviation policy are those that are holistic in nature. Aviation policies developed by Governments that recognise aviation as an economic driver, and who support it accordingly with co-ordinated infrastructure provision, good surface access and a considered approach to taxation, are facilitating the growth of an industry that will ensure their national economy is connected to growing economies across the world. Furthermore, the Group would suggest that review of the planning system is an important component in ensuring a viable future for aviation as it cannot be sustainable to repeat the 20 year planning saga that surrounded Terminal 5 for additional capacity in the future. A holistic approach from the UK Government is vital to the future of this country’s trade links, and future economic success.”<sup>119</sup>*

**“A holistic approach is needed to aviation in the UK.”**

There are six key elements to a holistic plan:

- **Making best use of existing capacity in the short term;**
- **Making decisions about where increased capacity should go in the short term, so that new runways can open in the medium term;**
- **Surface access and integration with the wider transport network;**
- **Noise and other environmental mitigation measures;**
- **Taxation;**
- **Visas and borders.**

## MAKING BEST USE OF EXISTING CAPACITY

In the short term, there will be no new runway capacity. The Davies Commission is not set to publish its recommendations until 2015. At that point, there will need to be political agreement followed by a planning process before construction can start.

The IoD believes it is unlikely, therefore, that any new runways will open within the next 10 years. Given the Davies Commission timescale, it seems that the mid 2020s would be a reasonable date to expect any new runways to be operational. It is a deplorably long time to wait.

The need for short-term measures to make the best use of existing capacity is paramount. These should not need the agreement of the Davies Commission, but should be implemented as quickly as possible.

The IoD has five recommendations in this area.

### I: CONTINUE WITH OPERATIONAL FREEDOMS AT HEATHROW, BUT DO NOT INTRODUCE MIXED-MODE

In order to protect the quality of life of residents under the Heathrow flight path as far as possible, the airport is subject to a policy of runway alternation. For half the day (until a changeover at approximately 3pm) planes will land on the Northern runway and take off on the Southern runway, and vice-versa for the other half of the day. This means that residents have regular respites from noise.

But this does limit Heathrow’s resilience to some extent – allowing planes to land and take off on both runways simultaneously would allow more flights over a given time period.

<sup>119</sup> House of Commons All Party Parliamentary Group for Aviation, *Inquiry into Aviation Policy and Air Passenger Duty*, August 2012, p.31

Operational freedoms are currently being trialled at Heathrow.<sup>120</sup> They allow the airport to use both runways for landing and take-off at the same time, and trial a number of other measures to increase resilience, including re-directing departing aircraft from the Noise Preferential Routes more quickly.<sup>121</sup> The crucial limiting factor is that these procedures can only be used once certain delay thresholds have been met. Operational freedoms are there to limit delays, reduce stacking, and help the airport recover from disruptions. They do not allow the airport to increase the number of flights beyond the 480,000 limit nor increase the number of scheduled night flights.

By contrast, mixed mode would allow Heathrow to use both runways for landings and departures all of the time. This could increase the number of flights by perhaps 10%, although part of this extra capacity would likely be used to increase the airport's resilience. Mixed-mode would, however, come at the expense of respite for hundreds of thousands of residents – a large increase in noise for a small increase in the number of flights. The planning inquiries that the introduction of mixed-mode would require could take almost as long to complete as those needed for a third runway.<sup>122</sup> For these reasons, the IoD does not recommend that mixed-mode be introduced.

Operational freedoms, by contrast, appear to have had some success. Although analysis of the full impact will have to wait until the Phase 2 trial is completed next Spring, the programme does appear to be improving resilience at Heathrow. During Phase 1, operational freedoms movements totalled 1,802 out of a total of approximately 56,260 Westerly arrivals, or just over 3%.<sup>123</sup> Arrival punctuality during Phase 1 improved compared to the baseline, although other factors, including a milder winter, may also have helped.

The IoD recommends that, subject to positive results being confirmed for Phase 2, operational freedoms at Heathrow should be allowed to continue beyond the trial phase.

## 2: REDUCE THE LEVEL OF REGULATION OF STANSTED AND GATWICK

The Civil Aviation Authority (CAA) regulates airport charges paid by airlines at Heathrow, Gatwick and Stansted airports. These include runway charges, charges per passenger for the use of a terminal and aircraft parking charges.<sup>124</sup> This regime dates from the period when BAA owned all three airports and it was put in place to prevent the abuse of market power.

Now Gatwick has been sold, and Stansted is about to be sold, the level of regulation applied to both airports should be re-examined. Neither would appear to have significant market power any longer, and allowing both airports to determine their own charges, and freeing them from the wider bureaucracy associated with price-capping, may allow them to compete better with Heathrow and make the best use of their spare capacity. Competition is always preferable to regulation.

The current price control arrangements expire in April 2014, the appropriate time for any deregulation to come into effect. The Civil Aviation Bill, currently passing through the House of Lords, is expected to receive Royal Assent in the early part of 2013. The Bill will reform the framework for the economic regulation of airports, but the market power test will still remain.

In early 2012, the CAA published initial views on the market power of Heathrow, Gatwick and Stansted airports, concluding that all three airports retained market power and therefore ought to remain subject to price control.<sup>125</sup> Over the coming months, the CAA is set to publish its “minded to” views on the three airports.

<sup>120</sup> Phase 1 ran between 1 November 2011 and 29 February 2012, and Phase 2 runs between 1 July 2012 and 31 March 2013

<sup>121</sup> For more detail on Phase 1 and Phase 2, see <http://www.heathrowairport.com/noise/noise-in-your-area/operational-freedoms-trial/phase-1> and <http://www.heathrowairport.com/noise/noise-in-your-area/operational-freedoms-trial/phase-2>

<sup>122</sup> This point about the length of planning inquiries was confirmed to me by both the Department for Transport and Heathrow Airport.

<sup>123</sup> Heathrow Airport, *Heathrow Operational Freedoms Trial: Phase 1 Report*, April 2012

[http://www.heathrowairport.com/static/Heathrow\\_Noise/Downloads/PDF/Heathrow\\_Operational\\_Freedoms\\_trial-Phase\\_1-report.pdf](http://www.heathrowairport.com/static/Heathrow_Noise/Downloads/PDF/Heathrow_Operational_Freedoms_trial-Phase_1-report.pdf)

<sup>124</sup> See <http://www.caa.co.uk/default.aspx?catid=78&pagetype=90&pageid=68>

<sup>125</sup> Civil Aviation Authority, *Heathrow, Gatwick and Stansted – market power assessments: Summary of the CAA's initial views*, January 2012

<http://www.caa.co.uk/docs/5/MarketAssessmentsJan12.pdf>

Now that Stansted is being sold, the IoD believes that the CAA should change its view of Stansted, no longer designating the airport as having substantial market power, and ending price controls from April 2014. The IoD believes that Gatwick should also be removed from detailed price control, although we recognise that the issue is more finely balanced in the case of Gatwick.

In addition, “fifth freedoms”, which are already enjoyed by airports outside of the South East, should be extended to Gatwick, Stansted and Luton. These freedoms allow overseas airlines to stop-over on longer journeys (for example, from Singapore to New York stopping at Gatwick), increasing the number of potential routes on offer from these airports and encouraging greater competition with Heathrow.

*“Any solution that aims to make the best use of the UK's existing capacity should promote the non-South East airports.”*

### 3: PROMOTE AIRPORTS OUTSIDE OF THE SOUTH EAST

As Chapter 2 showed, all airports outside of the South East have significant spare capacity. Any solution that aims to make the best use of the UK's existing capacity should therefore promote the non-South East airports.

With the exception of Birmingham airport, the non-South East airports are located too far from London to be a practical alternative to Heathrow for Londoners. The bigger problem is that millions of people living outside of the South East travel to the main London airports for short-haul journeys, rather than flying from their local airport. According to Bristol Airport, in 2010, 6.1 million passengers with an origin or destination in the South West and South Wales flew from the London airports (primarily Heathrow and Gatwick), over half of whom were travelling to short-haul destinations.<sup>126</sup>

In a competitive market, it is not for government to determine where airlines choose to locate and where passengers should fly from, but the Government can encourage a change to travel patterns and promote non-South East airports overseas. Four measures could be particularly useful:

- First, a campaign should be launched in the UK and abroad to promote the benefits of airports outside the South East, not least in terms of lack of congestion. British embassies and trade missions abroad should also promote non-South East airports as possible point-to-point locations for new routes. This should be linked both to a wider tourism strategy to promote areas outside of London as tourist destinations in themselves, and an inward investment and exports strategy.
- Second, code-sharing between rail and air should be introduced on the West Coast Main Line in order to encourage greater use of Birmingham airport (see the “surface access and wider transport integration” section for more details). Birmingham airport is only 1h 10m from Euston, with a service every 20 minutes during the day. Code-sharing could increase the attractiveness of Birmingham airport, reducing peak time rail fares for air passengers and allowing the use of any relevant rail service, without the restrictions of advance or off-peak tickets.
- Third, promoting the non-South East airports should also involve surface access improvements and a reduction in the burden of regulation.
- Fourth, introducing a unilateral open access policy for airports outside the South East, moving from the current reciprocal open access arrangements for these airports, could help to facilitate inward investment in new routes.

<sup>126</sup> Bristol Airport, *Giving wings to airports across the UK: Bristol Airport's recommendations for a balanced aviation policy*, October 2012, p.5 <http://www.bristolairport.co.uk/about-us/planning-and-development/-/media/files/brs-airport/content/Giving-wings-to-airports-across-the-UK.ashx>



#### 4: ACCELERATE PLANS TO OPEN UP CHANNEL TUNNEL PASSENGER RAIL SERVICES TO COMPETITION

There is now an excellent high speed rail network to destinations in France, Belgium, the Netherlands and parts of Germany. Running direct trains from London to Amsterdam, Frankfurt and other destinations beyond Paris and Brussels has the potential to replace a significant proportion of point-to-point journeys between these destinations and London, benefitting the environment and helping to relieve some of the pressure on Heathrow.

The Channel Tunnel has plenty of space available, with less than 50% of passenger capacity currently used, and only about 10% utilisation for freight. HSI also has spare capacity. Currently, 50% of the Channel Tunnel's capacity is reserved for Eurostar and the freight operators under the current Rail User Contract, with the remaining 50% being available for other operators to enter the market under the open access rules.<sup>127</sup>

An excellent high speed rail network and a large amount of spare capacity in the Channel Tunnel have not yet, however, resulted in the opening up of passenger services to competition. In particular, Deutsche Bahn's plans to run direct trains from London to Amsterdam and Frankfurt have been put back until 2015, although one of the reasons for this has been delays to the rolling stock.

The Eurostar monopoly and high access charges levied by Eurotunnel have meant that prices can sometimes be astronomical – far more than flying, even including travel to the airport. But even so, rail now accounts for around 80% of the market share for travel between London and Paris and Brussels.<sup>128</sup> Although destinations such as Amsterdam and Frankfurt are further than Paris and Brussels, it illustrates the potential for competition to drive further air traffic to rail.

There are several issues hindering the development of competition through the Channel Tunnel, as the House of Lords European Union Committee noted:<sup>129</sup>

- **High access charges for the Channel Tunnel itself. According to Lord Faulkner:**  
“If we compare a London to Paris journey, the total infrastructure charges – that is, terminal costs, handling fees and landing charges – for a flight are around £2,400; for a Eurostar train to Paris they are £21,500, of which the tunnel accounts for £12,500. Even taking account of the fact that a Eurostar train tends to carry two and a half times as many people as a plane, that is still a huge difference”<sup>130</sup>;
- Difficulties in setting up UK border controls at other European stations;
- Slow decision-making on the part of the Intergovernmental Commission (the body responsible for managing all aspects of the operation of the Channel Tunnel on behalf of the UK and French governments), particularly on safety issues.
- Poor provision of through-ticketing, with passengers often forced to buy tickets separately for onward destinations, and problems if the first train is delayed. This of course limits the attractiveness of rail compared to air.

<sup>127</sup> House of Lords European Union Committee, 24th Report of Session 2010–12, *Tunnel vision? Completing the European rail market*, December 2011 <http://www.parliament.uk/documents/lords-committees/eu-sub-com-b/EuropeanRailMarket/RailReport.pdf>

<sup>128</sup> See [http://www.eurostar.com/UK/uk/leisure/about\\_eurostar/press\\_release/press\\_archive\\_2011/20110131\\_eurostar\\_contributes\\_to\\_rail\\_renaissance.jsp](http://www.eurostar.com/UK/uk/leisure/about_eurostar/press_release/press_archive_2011/20110131_eurostar_contributes_to_rail_renaissance.jsp)

<sup>129</sup> House of Lords European Union Committee, 24th Report of Session 2010–12, *Tunnel vision? Completing the European rail market*, December 2011 <http://www.parliament.uk/documents/lords-committees/eu-sub-com-b/EuropeanRailMarket/RailReport.pdf>

<sup>130</sup> House of Lords Hansard, 14 June 2012, Col. 1512 <http://www.publications.parliament.uk/pa/ld201213/ldhansrd/text/120614-0003.htm>

There are a number of difficulties in overcoming each of these issues, but the IoD would urge that work be driven forward as swiftly as possible:

- Access charges are determined by the private operator, Eurotunnel, and the expense of building the Channel Tunnel does justify higher charges than for other sections of railway. But the Intergovernmental Commission certainly needs to carry out more scrutiny to ensure that charges do not discriminate against new entrants, and that Eurotunnel is not abusing its monopoly position on cross-channel rail traffic.<sup>131</sup> In the medium term, access charges should fall in order to support the development of more passenger services.<sup>132</sup>
- At the moment, UK-bound Eurostar passengers often have to pass through passport control twice, which is a deplorable state of affairs. A lack of space at St Pancras means that long queues are inevitable, negating some of the benefits of rail travel over air. If Channel Tunnel services are expanded, the problem will only get worse. At the same time, it is unrealistic to expect numerous European rail stations to set up border controls and x-ray machines solely for UK-bound services. The only practical means of overcoming these difficulties is to use onboard checks after the train has passed through Lille, or the last continental stop before the tunnel. If passengers do not have the correct documentation, they can be put in the gaol on the train (there are two on each Eurostar) before the first UK stop and sent back. Onboard checks can be speeded up by the provision of advanced passenger information for UK-bound passengers.
- The Intergovernmental Commission needs to grant Deutsche Bahn (DB) the Part B safety certificate for operating services in the Channel Tunnel without delay. The apparent problem is that DB will be using two trains of 200m length joined together, but the tunnel's escape doors are 400m apart, the length of a Eurostar train. Eurotunnel are carrying out a safety study that will report by the end of this year and recommend changed evacuation procedures. If DB can comply with these, they should be able to receive their safety certificate in 2013.<sup>133</sup> There should be no further slippage in the timetable.
- Ticketing is a major issue, with significant time and effort needing to be expended to get good value and through tickets. At the time of writing, the Eurostar website itself recommends that, for journeys to Amsterdam and Cologne, a Eurostar ticket from London to Brussels is purchased first, followed by a second purchase of a Thalys ticket from Brussels to Amsterdam or Cologne. These problems are compounded by the fact that Eurostar tickets go on sale four months in advance, while other European rail tickets only go on sale three months in advance. European high speed rail ticketing systems need to be linked together, with passengers able to purchase one ticket for their entire journey that includes the cheapest fares. It is a deplorable state of affairs that such an expensive physical infrastructure is so poorly supported by a ticketing service.

Assuming that DB's rolling stock is not delayed any further, there is no reason for services to Amsterdam and Frankfurt to start any later than 2015. We would also hope to see other operators entering the market, and Eurostar to run direct services to more destinations. These will inevitably be commercial decisions, but the remaining issues need to be resolved as quickly as possible in order to encourage a further shift from short-haul flying to rail.



*“More short-haul flights can be shifted to high speed rail, but without rail competition the Channel Tunnel is likely to remain half empty.”*

<sup>131</sup> The Joint Economic Committee of the Intergovernmental Commission recently published a review of the Channel Tunnel, but did not reach a conclusion on access charges. See *Channel Tunnel – 2012 report of the Joint Economic Committee to the IGC*, 4 October 2012 <http://www.channeltunneligc.co.uk/IGC-Market-Monitoring.html>

<sup>132</sup> House of Lords European Union Committee, 24th Report of Session 2010–12, *Tunnel vision? Completing the European rail market*, December 2011, pp. 31–32 <http://www.parliament.uk/documents/lords-committees/eu-sub-com-b/EuropeanRailMarket/RailReport.pdf>

<sup>133</sup> This point about the Part B safety certificate was confirmed to me by the Department for Transport.

5: ENSURE THAT THE REMAINING PARTS OF THE SINGLE EUROPEAN SKY PACKAGE ARE IMPLEMENTED SWIFTLY

European developments can also assist the UK in making the best use of limited capacity. European airspace is amongst the busiest in the world, but air traffic management is fragmented and dominated by national monopoly service provision. This leads to longer flight paths than necessary, more delays and higher costs. According to the European Commission:<sup>134</sup>

- **There were 19.4 million minutes of delay related to en-route Air Traffic Flow Management in 2010;**
- **On average, each flight is 49km longer than a direct route;**
- **Fragmentation of airspace leads to €4 billion of extra costs each year.**

As the Commission put it:

*“As air traffic volumes have increased considerably, not least because of the development of the aviation single market, this fragmentation is now posing serious capacity problems and major delays for passengers. In addition it causes needless fuel consumption and emissions and generates higher infrastructure charges than would be the case if it would operate at European rather than national level. While the cost for the provision of air navigation services in Europe amounts to some €8 billion per year, the total additional cost borne by airlines because of suboptimal cost-efficiency and fragmentation of the European airspace is estimated at some €4 billion per year.”<sup>135</sup>*

In 2010, European airspace handled 9.5 million flights, with up to 33,000 flights on busy days. In 2020, the number of flights is forecast to increase to 17 million per annum, with up to 50,000 on the busiest days.<sup>136</sup> Without reform, delays and costs are likely to increase still further.

The Single European Sky is composed of several regulations to create a pan-European framework for air traffic management. The most significant change is to re-organise European airspace from national borders into functional airspace blocks. This should improve the management of higher flight volumes, allow more direct flight paths and reduce delays.

The UK and Ireland already have a functional airspace block, which commenced in 2008 and has been estimated to have saved £35 million, 50,000 tonnes of fuel and 150,000 tonnes of CO<sub>2</sub>.<sup>137</sup>

Parts of the Single European Sky have already been implemented, and the IoD would encourage the remaining parts of the package to be implemented swiftly across the EU.

<sup>134</sup> European Commission, Single European Sky [http://ec.europa.eu/transport/modes/air/single\\_european\\_sky/](http://ec.europa.eu/transport/modes/air/single_european_sky/)

<sup>135</sup> European Commission, *Report from the Commission to the European Parliament and the Council on the implementation of the Single Sky legislation: Time to deliver*, November 2011, p.2 [http://ec.europa.eu/transport/modes/air/single\\_european\\_sky/doc/reports/2011\\_11\\_14\\_com\\_2011\\_0731\\_f\\_rapport\\_en.pdf](http://ec.europa.eu/transport/modes/air/single_european_sky/doc/reports/2011_11_14_com_2011_0731_f_rapport_en.pdf)

<sup>136</sup> European Commission, Single European Sky [http://ec.europa.eu/transport/modes/air/single\\_european\\_sky/](http://ec.europa.eu/transport/modes/air/single_european_sky/)

<sup>137</sup> Department for Transport, *Draft Aviation Policy Framework*, July 2012, p.40 <http://assets.dft.gov.uk/consultations/dft-2012-35/draft-aviation-policy-framework.pdf>

## NEW CAPACITY

As this report has shown, hub capacity shortfalls are already starting to bite, and overall capacity in the South East will be constrained before 2030. There is therefore an urgent need to agree the location/s for new capacity, so that construction can start as soon as possible.

According to the Department for Transport's forecasts of unconstrained demand, as shown in Chapter 2, no airport outside of the South East will need a new runway before 2040.<sup>138</sup> As explained above, the IoD supports the growth of airports outside of the South East, but new runways will not be necessary for some time.

The same DfT unconstrained demand forecasts also show that Heathrow will need a third runway by 2020 and a fourth by 2030, and that Gatwick will also need a second runway by 2030.<sup>139</sup> These forecasts are worth taking seriously.

The IoD does not believe that the following five schemes are ideal, although if they were the only options on the table, the IoD would not oppose them.

### THAMES ESTUARY HUB

One scheme that could be attractive is a new hub airport in the Thames Estuary, for three key reasons:

- As shown earlier in this chapter, it would provide sufficient hub capacity to meet London's needs until 2040 if not beyond, even with the closure of Heathrow.
- It would reduce noise levels over West London.
- It could be built in conjunction with a new Thames Barrier, which will be needed in any case. The barrier could support the new road and rail links to the airport, offering an integrated solution.

There are, however, far more reasons to oppose the idea:

- It could only be financed with the proceeds from the sale of Heathrow, and landing charges would likely be very high.
- If Heathrow was not closed, the new airport could be underused, with airlines not moving.
- For most people, especially those living North and West of London, the new airport would be considerably further away, and therefore less convenient to get to – it would effectively be on the wrong side of London. In this respect, Hong Kong's new island airport is not a relevant comparison. London, unlike Hong Kong, does have a hinterland, which is to the North and West of the city.
- A high proportion of people drive to the airport, and although surface access strategies should encourage a greater use of public transport, ensuring easy road access should not be forgotten. Most IoD members travel to the airport that they use most frequently for business flights by car (70%) and taxi (31%). Even in London, 48% travel by taxi, 43% by car, 37% by rail and 24% by underground. A new Thames estuary airport would be nearly 100 miles away around the M25 from areas immediately West of London.

*“The IoD supports the growth of airports across the UK, but new runways outside of the South East will not be necessary for some time.”*

<sup>138</sup> Department for Transport, *UK Aviation Forecasts*, August 2011, unconstrained terminal passenger forecasts by airport (central forecast)

<sup>139</sup> Department for Transport, *UK Aviation Forecasts*, August 2011, unconstrained terminal passenger forecasts by airport (central forecast)

- Surface access improvements currently planned or underway will transform Heathrow's connectivity by rail: Crossrail will deliver direct journeys within 45 minutes from Canary Wharf, and around 30 minutes from a number of stops in Central London; a Western access line to the Great Western Main Line will reduce journey times to Heathrow from key cities to the West of London; and HS2 will bring the airport much closer to cities from the North West, the Midlands, Yorkshire and the North East. In order to provide good links to a new Thames estuary airport, this sort of infrastructure would have to be built, but it is already being built to serve Heathrow.
- People living in Hounslow and in other areas around Heathrow would either lose their jobs or be forced to relocate to North Kent, and new towns would need to be built in North Kent to house airport workers.
- Businesses currently located near Heathrow would be placed at a competitive disadvantage, and may ultimately be forced to move in order to maintain their international connectivity.
- A new Thames estuary airport would damage pristine environmental areas, and the risks of bird strikes would present a major difficulty, although not an insurmountable one.
- It would take a significant amount of time to build, making the need for short-term measures all the more important.
- If a new Thames estuary airport required the closure of Heathrow, IoD members would be opposed, with 24% in favour and 45% against.
- The 2003 Air Transport White paper did not support the development of a new airport at Cliffe, although other locations have been proposed this time around.

For these reasons, a new airport in the Thames estuary or North Kent would not be ideal.

#### HEATHWICK

"Heathwick" has a superficial attractiveness, with a high-speed rail link between Heathrow and Gatwick providing an alternative to new runways. But the idea should be dismissed:

- The high speed rail link would be an expensive way of adding no new runway capacity.
- Linking an airport that is already full with one that is likely to be full once the rail link opened would provide Heathrow with no extra capacity at all.
- A long transfer between airports of at least 15 minutes would make the hub experience appalling. Other hub airports offer a quick transfer, often within the same terminal.
- Heathrow and Gatwick are no longer under the same ownership, reducing the likelihood of smooth operations for passengers transferring between the two airports.
- There is no guarantee that full-service airlines would move to Gatwick, with low-cost airlines moving to Stansted, which would be necessary for hub services to work.

"Heathwick" would be more attractive if a second runway was built at Gatwick, but it is no substitute for increasing hub capacity directly.



## MAKING FULL USE OF BIRMINGHAM AIRPORT

The IoD supports the development of Birmingham airport. The runway extension, set to open in 2014, and code-sharing arrangements with the new West Coast Main Line rail operator would increase the airport's attractiveness. The airport has room for around 27 million more passengers per annum.

But, as was shown earlier in this chapter, making full use of Birmingham airport would not meet the South East capacity shortfall, and would add no extra hub capacity. Greater use of Birmingham airport is important, but is not a substitute for more capacity in the area of greatest demand.

## SECOND RUNWAY AT STANSTED

A second runway at Stansted was supported by the 2003 White Paper, at a time when low cost flying was growing rapidly. Over the last few years, however, the airport has stagnated, with passenger numbers falling steadily from 23.8 million in 2007 to 18 million in 2011.<sup>140</sup>

New owners will undoubtedly improve the airport, and a reduction in regulation could also aid development. But Stansted currently has about 50% spare capacity, so could accommodate a lot of growth before needing a new runway. And according to the Department for Transport's unconstrained demand forecasts, Stansted will not be full before 2050.<sup>141</sup>

There are several further reasons why Stansted is not an ideal location for new runways:

- **The airport has no immediate hinterland outside of London.**
- **Stansted has not been a location of choice for full-service airlines, and is still dominated by Ryanair. New capacity at Stansted would not be likely to be hub capacity.**
- **The airport would need substantial infrastructure improvements, including a fast rail link to London, better rail links to the Midlands, and improved road access via the A14.**

Having said that, a relatively small number of people would be affected by extra noise and a good portion of the surface infrastructure is already in place. But until passenger numbers start to increase steadily, a second runway at Stansted would not be an ideal option.



<sup>140</sup> Civil Aviation Authority, *UK Airport Statistics 2011*, Table 10.3 <http://www.caa.co.uk/default.aspx?catid=80&pagetype=88&sglid=3&fid=2011Annual>

<sup>141</sup> Department for Transport, *UK Aviation Forecasts*, August 2011, unconstrained terminal passenger forecasts by airport (central forecast)

#### FOUR RUNWAY STANSTED

Many of the same arguments apply to the idea of developing Stansted into a four runway airport.<sup>142</sup> At present, demand is only sufficient to fill one half of Stansted's runway, so building an extra three would risk being a very poor investment.

Having said that, if a new hub airport was deemed necessary, locating it at Stansted would be preferable to the Thames Estuary or North Kent:

- **The airport is already there and would need expanding, rather than a new airport needing to be built from scratch.**
- **Similarly, much of the surface access infrastructure already exists. It would need radical improvement, for example extending Crossrail to the airport, but again would not need to be built from scratch.**
- **The price tag would therefore be far lower, and Heathrow would not need to close in order to fund construction.**
- **Stansted is closer to London's hinterland than a Thames estuary airport.**
- **Like a Thames estuary airport, the number of people affected by noise would be relatively small, but the risk of bird strikes would not be an issue at Stansted. New towns, however, would still need to be constructed for airport workers.**

Overall, a four runway Stansted would be unlikely to compete effectively with Heathrow, as it is far less well located for surface access, and would risk being a poor investment.

Running two hub airports, however, does work in New York. The DfT's unconstrained demand forecasts show that demand will increase most swiftly at Heathrow and Gatwick, but if capacity constraints started to bite, then demand could shift to Stansted. If expansion of Heathrow was deemed to be impossible, then a major development of Stansted could be an alternative.

The following schemes, by contrast, look more promising. In the IoD's view, they represent the best options for increasing both overall capacity, and crucially, hub capacity.

The IoD has two recommendations in this area.

#### I: ALLOW HEATHROW TO EXPAND BY ONE, OR PREFERABLY TWO, RUNWAYS

As Chapter 2 showed, Heathrow is the UK's only hub airport. Unless one or more other airports can be developed as hubs, the only way to increase the UK's hub capacity is to increase Heathrow's capacity.

Heathrow is already full – an expansion of the airport is therefore the only option that does not rely on forecast increases in demand or shifts in the location of demand. An expansion of Heathrow would only be a poor investment if aviation demand actually fell. Even if aviation demand remained flat, an extra runway at Heathrow would improve the airport's operations, reducing delays and emissions from stacking.

According to the DfT's unconstrained forecasts, demand at Heathrow will increase to 115 million by 2030 and 140 million by 2040.<sup>143</sup> This is clearly far more than a third runway can meet. As the section earlier in this chapter showed, a fourth runway would meet a larger proportion of the demand shortfall up to 2040, but extra capacity would likely be needed elsewhere, most probably at Gatwick.

<sup>142</sup> This proposal has been made by the London Stansted Airport Delivery Company

<sup>143</sup> Department for Transport, *UK Aviation Forecasts*, August 2011, unconstrained terminal passenger forecasts by airport (central forecast)

There are a number of further reasons why Heathrow expansion is the best solution to the UK's hub capacity needs:

- Heathrow is the location of choice for airlines. Previous attempts to move traffic away from Heathrow through the London Traffic Distribution Rules failed – as soon as the rules were lifted in 1991, Virgin Atlantic moved to Heathrow.
- Heathrow is well located for road access, and within a reasonable taxi ride of central London. As the survey of IoD members showed, most IoD members travel to the airport that they use most frequently for business flights by car (70%) and taxi (31%). Even in London, 48% travel by taxi, 43% by car, 37% by rail and 24% by underground;
- Heathrow is well located for surface access from London via public transport, with the Heathrow Express and Piccadilly Line offering fast, or cheap, access to the airport.
- All the rail infrastructure improvements currently underway or planned will improve surface access to Heathrow:
  - Crossrail will deliver direct journeys within 45 minutes from Canary Wharf, and around 30 minutes from a number of stops in Central London;
  - A Western access line to the Great Western Main Line will reduce journey times to Heathrow from key cities to the West of London;
  - HS2 will bring the airport much closer to cities from the North West, the Midlands, Yorkshire and the North East;
  - The Piccadilly Line upgrade will reduce journey times to Central London by a fifth, and will increase the frequency of services;
  - A Southern rail link to Heathrow, probably via Staines, would provide direct rail access to the airport from South West London.
- As Chapter 3 showed, when asked to choose just one option to increase capacity, a third runway at Heathrow was the preferred choice of IoD members.
- Heathrow expansion can be funded privately, without any risks to the taxpayer, and construction can be undertaken relatively quickly.

Heathrow is the UK's only hub airport; it is where the demand is strongest; the rail infrastructure improvements will cement the airport's position as a hub; and Heathrow expansion is the preferred choice of IoD members. The fact that existing infrastructure is in place does not mean that this option is a "make do and mend" solution – the opposite, in fact, is true. The logic of expanding Heathrow is extremely strong.

The downsides of Heathrow expansion are noise, local air pollution and road congestion. They are far more serious issues at Heathrow than at other possible locations for new capacity. But they are not insurmountable problems:

- The "noise and other environmental mitigation" section below sets out a number of stringent noise and air pollution conditions that an expanding Heathrow would have to meet.
- Local air pollution and road congestion can also be mitigated through greater use of public transport to travel to and from the airport. The rail improvements detailed above will greatly improve the public transport options, while the "surface access and wider transport integration" section below details a more transformative proposal to connect Heathrow directly with the UK's major cities by rail.

*“All the rail infrastructure improvements will improve access to Heathrow. A new airport would need a similar set of improvements to be built from scratch.”*

As detailed above, a third runway at Heathrow would improve the airport's connectivity, and was recommended by the 2003 White Paper, but a fourth runway would be needed for the longer term in order to meet the forecast hub capacity shortfalls. As explained below, it may be possible for Gatwick to compete as a hub airport with Heathrow, but it would be more sensible to see additional capacity at Gatwick as complementing, rather than competing with, Heathrow.

It is outside the IoD's competence to determine which runway solutions would be best at Heathrow. We note five suggestions, in isolation or in possible combination. Further work is clearly needed to evaluate these options in more detail:

- A short third runway to the North, at Sipson;
- A close-parallel runway to the South of the existing Southern runway, which could be contained almost entirely within the existing airport boundary, together with the demolition of Terminal 4 and its relocation to the central area;<sup>144</sup>
- Reconfiguration of the runway at RAF Northolt to serve as a third (or a fourth) runway, with a fast rail link between the terminals;<sup>145</sup>
- The construction of two pairs of close parallel runways immediately to the West of the existing site, with Terminals 2, 3 and 5 retained and a new Heathrow West terminal;<sup>146</sup>
- In addition to the third runway, building a fourth runway North of the airport, by the M4, or South of the airport, or building two new runways to the West of the airport.<sup>147</sup>

With the possible exception of a close parallel runway to the South of the existing Southern runway, these options, unfortunately, involve the demolition of a number of houses, although other proposals, including the proposal by Foster and Partners for a new hub airport, also involve the demolition of houses. The most generous compensation arrangements should be put in place for anyone forced to move as a result of Heathrow expansion.

## 2: ALLOW GATWICK TO BUILD A SECOND RUNWAY

As the section earlier in this chapter showed, expanding Heathrow by one runway will not be sufficient to meet capacity shortfalls. Expanding Heathrow by two runways may just about be sufficient until 2040, but Heathrow could not expand further.

A second runway at Gatwick airport 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.

Gatwick is currently about 80% full, and is likely to be completely full over the next 15 years. According to the DfT's forecasts, which assume that demand is not constrained at Heathrow, demand at Gatwick will increase to 45 million passengers per annum by 2030, 50 million by 2040 and 60 million by 2050.<sup>148</sup> The airport's current capacity is around 42 million passengers per annum. The DfT forecasts show that, even with expansion of Heathrow, demand at Gatwick will increase steadily.

*“Expansion of Heathrow and a second runway at Gatwick would be likely to offer sufficient extra capacity, at least until 2040.”*

<sup>144</sup> This proposal was made by Aras Global Ltd

<sup>145</sup> This proposal was made by Rothwell Aviation Ltd

<sup>146</sup> This proposal was made by Tim Leunig, *Bigger and quieter: The right answer for aviation*, Policy Exchange and Centre Forum, October 2012 <http://www.policyexchange.org.uk/publications/category/item/bigger-and-quieter-the-right-answer-for-aviation>

<sup>147</sup> These proposals were made by the Free Enterprise Group, *Policy Bites: Seven Shots in the Arm of Britain*, July 2012 <http://www.freeenterprise.org.uk/sites/freeenterprise.drupalgardens.com/files/FEG%20Policy%20Bites.pdf>

<sup>148</sup> Department for Transport, *UK Aviation Forecasts*, August 2011, unconstrained terminal passenger forecasts by airport (central forecast)

There is therefore a good case for a second runway at Gatwick to enable the airport to meet the forecast demand increases, and the airport recently confirmed that it would examine various options.<sup>149</sup> The 2003 White Paper also concluded that there was a good case for a second runway on its own merits.

Gatwick's legal agreement with West Sussex Council prevents construction of a new runway before 2019, but there is no reason for approval not to be granted before that date. This would allow construction to begin after the expiry of the legal agreement, and the runway to open in the mid 2020s.

There are several further reasons why expansion of Gatwick should be permitted:

- **The airport is well located for rail access, and its rail services will improve after the Thameslink upgrade is completed in 2018. It is currently far better located than Stansted for rail access;**
- **The investment risk would fall on the airport, not the taxpayer;**
- **It remains to be seen whether London can accommodate two hub airports, as per New York. A larger Gatwick may remain a very busy point to point airport, or start to develop a hub offering. A second runway at Gatwick would offer a low-risk way of finding out whether two hub airports in the South East are feasible – certainly far less risky than Stansted.**

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.

The final point to make is that the best should not be the enemy of the good. Expanding Heathrow and Gatwick seem to be the most sensible solutions, but if expansion of Heathrow proved to be impossible, then other options (in addition to Gatwick expansion) should be considered seriously, in particular the development of Stansted.

## SURFACE ACCESS AND WIDER TRANSPORT INTEGRATION

The UK has suffered from the failure, over many decades, to implement an integrated transport policy. There is still a pressing need to ensure that different transport modes connect well with each other to facilitate seamless end-to-end journeys.

It is important that airport capacity is not looked at in isolation, but planned with the wider transport network in mind. Similarly, improvements to the wider transport network should not ignore airport development. Planning rail and airport developments together, in particular, would maximise the benefits of investment in both modes, which is especially important in a time of limited resources. Of any aviation issue, improving rail access to airports is most likely to need government funding.

As the previous section concluded, a new hub airport in the Thames Estuary or North Kent is not an ideal solution, and so this section does not address the issues of surface access to a new hub any further. Rather, it concentrates on surface access improvements to the three airports where new runways are most likely.

The recommendations in this section do depend somewhat on the airport capacity solutions that are actually chosen. In a world of unlimited resources, the IoD would hope that most of the recommendations below would be adopted, but we recognise that finite resources mean that those airports building new runways should be prioritised.

The IoD has four recommendations in this area.

*“Rail and air should be planned together, not separately.”*

<sup>149</sup> Gatwick Airport, 17 October 2012 <http://www.mediacentre.gatwickairport.com/News/Gatwick-Airport-to-develop-options-for-a-new-runway-79d.aspx>



I: TRANSFORM HEATHROW'S RAIL CONNECTIVITY BY CONSTRUCTING THE HEATHROW HUB AND RUNNING THE HS2 LINE DIRECTLY THROUGH HEATHROW

Rail already provides a good substitute for flying between major cities in the UK. City-centre to city-centre, major rail routes are already quicker than flying, although they may be more expensive at peak hours. But Heathrow is incredibly badly connected to the national rail network outside of London, with rail passengers from the North and the West having to travel into London and then out to Heathrow. With the exception of driving for shorter journeys, flying to Heathrow and then changing planes is generally quicker and more convenient.

Currently, there are a number of disparate schemes to improve rail access to Heathrow from outside of London (in addition to those from London), including a link from the airport to the Great Western rail line running West, and an eventual spur line from HS2 during the second phase. These are welcome, but a fully integrated plan would deliver more benefits at potentially lower cost.

The IoD believes that the Heathrow Hub is an excellent plan that could offer transformative benefits.<sup>150</sup> The idea has several elements, including:

- The construction of a new station to the North of the airport on the existing Great Western Main Line. This would bring direct services to Heathrow from all cities currently on the Great Western line – Reading, Swindon, Bristol, Cardiff, Exeter etc.
- At the site of the Heathrow Hub station, the construction of an airport terminal (which would also have space for car parking). Upon leaving the train, passengers would check in directly, pass through security and transfer onto a fast airside tracked transit, which would take them directly to their aircraft satellite.
- Changing the route of HS2 so that it runs through the Heathrow Hub, before following roughly the route of the M40 Northwards. This would link all cities connected to the planned HS2 with frequent direct services to Heathrow – Birmingham, Manchester, Liverpool and eventually Sheffield, Leeds, Newcastle etc.<sup>151</sup>
- Providing a direct connection from HS1 to HS2, with no need to interchange. This would provide direct connections between Heathrow and cities on the HS2 route, and easy interchange for cities on the Great Western line, to Europe, without the need to travel through central London on the Underground.

Currently, Heathrow only has direct rail access from London. The Heathrow Hub would transform the airport's rail connectivity to the rest of the UK. It should be implemented whether or not Heathrow expands, but if Heathrow is chosen as the location for the UK's main hub airport, it would seem particularly odd not to run the high speed line directly via the airport:

- If Heathrow does not expand, the Heathrow hub would allow passengers to travel direct to the airport in less than two hours from most key cities, and less when the second phase of HS2 is complete. This could free up much-needed capacity at Heathrow by replacing domestic flights on a number of key routes, while enabling the airport to continue to draw in hub traffic.
- If Heathrow does expand, the Heathrow Hub could help to support further long-haul routes, by ensuring that a greater proportion of hub traffic from the Midlands and the North arrives and departs Heathrow by rail rather than air.



<sup>150</sup> For more details, see <http://www.heathrowhub.com/>

<sup>151</sup> This would also free up Old Oak Common for Crossrail services to connect with the West Coast Main Line, relieving the pressure on commuter services into Euston.

- It is worth emphasising the importance of running rail services direct to the airport. It would make travelling from, say, Manchester to a long-haul destination far easier, and quicker, than flying from Manchester and transferring at Heathrow. Changing at Old Oak Common, by comparison, would be much less convenient.
- Other airports, such as Amsterdam, Paris and Frankfurt, have high speed lines running directly through the airport, not on branch lines. A direct line allows a high frequency of service to and from the airport, and combines city centre with airport traffic. It is far superior to putting Heathrow at the end of a branch line, which would offer a much lower frequency of service.
- The Heathrow Hub terminal makes it easier to demolish Terminal 4 and provide a more coherent airport, with the Piccadilly Line running to Terminals 2 and 3 and Terminal 5, without the need for a Terminal 4 branch.
- Compared to the current HS2 route and a Western connection to Heathrow, the Heathrow Hub and the altered HS2 route could save £2.2-3.6 billion. It would also greatly enhance the connectivity benefits of HS2, while increasing journey times by just 3 minutes.

*“The Heathrow Hub plan could offer transformative benefits.”*

Should the Heathrow Hub plan not be implemented, the next best solution would be to build the spur line to Heathrow from HS2 during the first phase rather than the second, bringing it forward by six years, and to press ahead with the Western rail link.

Other important developments that should also be pursued are a connection to Heathrow from the South, probably via Staines, and an upgrade to the Piccadilly Line, which will reduce journey times to central London by a fifth.<sup>152</sup> Extending Crossrail to Reading would also seem sensible.<sup>153</sup>

Taken together, these improvements are not only necessary to reduce the number of domestic flights to Heathrow while retaining the airport's ability to draw in hub traffic, but are also essential to reducing the volume of road traffic to and from the airport.

Further work would be needed to develop these options, but fundamentally, if Heathrow is to continue to be the UK's main hub airport, then rail planning and airport capacity planning have to be conducted jointly, not separately.

## 2: IMPROVE AND EXTEND RAIL SERVICES TO GATWICK

Gatwick Airport is currently the UK's best connected airport by rail, with the rail station serving 12.8 million passengers a year, more than a third of Gatwick's total and more than any other UK airport station.<sup>154</sup> Improvements to the airport station are underway, and the expanded Thameslink service will from 2018 provide significant extra capacity to the City and to destinations North of London, and will interchange with Crossrail at Farringdon. Further improvements are, however, needed, especially if Gatwick is to open a second runway.

Peak time congestion is a major issue. The merging of the Gatwick Express with services to and from Brighton helped to increase capacity on the commuter route, at the expense of reducing the quality of service for airport users. The enhanced Thameslink service should reduce peak-time overcrowding into London Bridge, but capacity issues on the Victoria route remain. Further work is likely to be needed on the Brighton Main Line, including at East Croydon, to increase the number of Victoria services. Once that occurs, it should be possible to re-introduce the dedicated airport express service.

<sup>152</sup> See <http://www.tfl.gov.uk/corporate/projectsandschemes/18098.aspx>

<sup>153</sup> Network Rail's Route Utilisation Strategy for London and the South East, published in 2011, recommended a detailed examination of extending Crossrail to Reading. Direct Crossrail trains from Reading would then pass through Heathrow on their way to London. See Network Rail, *London and South East Route Utilisation Strategy*, July 2011, Table 8.1 <http://www.networkrail.co.uk/browse%20documents/rus%20documents/route%20utilisation%20strategies/rus%20generation%202/london%20and%20south%20east/london%20and%20south%20east%20route%20utilisation%20strategy.pdf>

<sup>154</sup> Gatwick Airport, *Master Plan*, July 2012, p.66 [http://www.gatwickairport.com/Documents/business\\_and\\_community/Gatwick%20master%20plan/2012-07-18-GAL\\_Masterplan.pdf](http://www.gatwickairport.com/Documents/business_and_community/Gatwick%20master%20plan/2012-07-18-GAL_Masterplan.pdf)

The Thameslink upgrade will increase the frequency of services to destinations North of London. But destinations to the North West and West of London have poor links to the airport:

- From the West Coast Main Line, getting to Gatwick involves either taking the Victoria Line from Euston and a train from Victoria, or walking from Euston to King's Cross and taking the Thameslink service, or taking the infrequent service along the West London line from Milton Keynes to Clapham Junction and changing onto a Gatwick service.
- From Reading, direct services to Gatwick Airport only run hourly, taking 1h 16m.

There is a good case to improve rail services to Gatwick airport from destinations North West and West of London. Possible improvements could include:

- Increasing the frequency of services on the West London line and terminating them South of Clapham Junction, allowing more frequent, direct services from destinations on the West Coast Main Line (Milton Keynes, Watford Junction etc) to Gatwick Airport.
- Constructing an interchange at Old Oak Common between the West London line and Crossrail, providing one-change access to Gatwick from destinations in West London (provided non London Overground services terminated South of Clapham Junction). This would be particularly relevant if the Heathrow Hub is constructed and an interchange is built between Crossrail and the West Coast Main Line at Old Oak Common. With HS2's hub at Heathrow, Old Oak Common could be improved as a commuter hub and offer good interchange with Gatwick Airport services.
- Increasing capacity between Gatwick Airport and Redhill, allowing more frequent services to Reading and other destinations in Surrey and the Thames Valley.

Further work would be needed to determine the best ways to improve rail access to Gatwick.

### 3: EXTEND CROSSRAIL TO STANSTED

Stansted airport is also important. Passenger numbers have fallen significantly since the start of the recession, but, like Gatwick Airport, the new owners will have a strong incentive to grow traffic. Greater competition between the London airports is undoubtedly a positive development and means that Stansted's future prospects are brighter than they were under BAA ownership.

Stansted has good road access, particularly following the widening of much of the M25 and once the introduction of hard-shoulder running on the remaining stretches of the M25 North of London is completed. Its rail access, by contrast, is extremely poor, with the Stansted "Express" taking around 45 minutes to Liverpool Street, and infrequent and slow services to destinations North and West of the airport.

The reason why the Stansted "Express" cannot be a true express service is that much of the line has only two tracks, preventing faster trains from overtaking stopping services. The final approach to Stansted Airport itself only has one track, which must be used by trains travelling in both directions. Several suggestions have been made for improvements to the rail service from London to Stansted, and the IoD recommends that further work be undertaken to examine the options in greater detail:

- One option would be to increase the number of tracks on the line to Liverpool Street from two to four, allowing direct fast services. This would, however, be expensive, and require the demolition of a number of houses on the route.
- A second option would be to extend Crossrail out to Stansted, via either Stratford or Canary Wharf, connecting with the current railway to Stansted at Sawbridgeworth.<sup>155</sup> This option would provide fast and frequent connections to East London, the City and Central London. Because it would connect large parts of London with a direct Stansted rail service, rather than just Liverpool Street and Tottenham Hale, this option would be preferable to increasing the speed of the Stansted Express service. Cost, again, would be an issue, especially given that destinations North of Stansted (including Cambridge) are already well served from London via the East Coast Main Line.

Cost will be a factor for any option to enhance the rail service to Stansted. Nevertheless, if the airport is to grow substantially, even to the extent of using its full current capacity, rail services will need to be improved.

#### 4: INTRODUCE SMART TICKETING AND CODE-SHARING BETWEEN RAIL AND AIR

To make the most of better rail services to airports, ticketing systems also need to be radically improved.

For most airports, the most relevant improvement would be to introduce smart ticketing, removing the need to purchase a ticket prior to travel and making journeys to and from the airport faster and more flexible. The existing rail services to Gatwick, Stansted, Heathrow and Manchester, for example, could all benefit from smart ticketing:

- For the London airports, it would seem most sensible to extend the existing Oyster system to the airports, meaning that visitors to London need only purchase one smartcard. The Oyster system is well equipped to deal with varying charges, and to add charges for premium services onto season tickets. Riverboat services and the new Emirates Air Line are good examples of this.
- Greater Manchester is also planning to introduce its own smartcard, and it should include airport public transport services, including the Metrolink extension to the airport, which is due to open in 2016.

For long distance services to airports, principally Birmingham Airport at present (as mentioned previously), but potentially Heathrow airport as well, the most important improvement would be to introduce code-sharing between rail and air:

- Code-sharing between rail and air is already in use in Germany. For example, it is possible to fly from London to Cologne direct, or via Frankfurt, with a high-speed rail connection running directly from Frankfurt airport's rail station to Cologne city centre. Unsurprisingly, there are more flights from Frankfurt to London than from Cologne to London, and so the rail-air option can at times be more convenient.

*“Smart ticketing and code-sharing between rail and air could boost airports outside of the South East and encourage people to switch from cars to trains to get to the airport.”*

<sup>155</sup> This proposal has been developed by the London Stansted Airport Delivery Company. A variant was also highlighted, but not recommended, in Tim Leunig, *Bigger and quieter: The right answer for aviation*, Policy Exchange and Centre Forum, October 2012, p.59 <http://www.policyexchange.org.uk/publications/category/item/bigger-and-quieter-the-right-answer-for-aviation>

- Code-sharing for rail services on the West Coast Main Line to Birmingham airport would increase the attractiveness of using the airport. It currently takes 1h 10m from Euston to Birmingham airport, with very cheap advance fares on offer at off-peak times. However, fares are extremely expensive at peak times, and if flight arrivals are delayed, then an advance ticket is no longer valid. Code-sharing between the new operator of the West Coast Main Line and key airlines at Birmingham would offer better prices than at peak times and the flexibility to take the first available train from the airport after landing. With rail services to London every 20 minutes during the day, and the possibility of reducing journey times to Euston from 1h 10m to about an hour on the existing line, such a proposition could make air passengers think beyond the London airports. HS2 will also stop at Birmingham Airport, and code sharing should also be introduced for HS2 services.
- Code-sharing would also be vital to encourage passengers who currently take domestic flights to Heathrow for the first leg of their journey to travel to the airport by train instead. As explained above, the Heathrow Hub and HS2 (or even a spur line from HS2 and a Western access line from the Great Western Main Line) could offer extremely attractive journey times to the airport from a number of key cities. But high fares at peak times and a lack of flexible tickets could potentially put passengers off. Code-sharing on both HS2 and the Great Western Main Line would offer lower fares for passengers booking their rail and air journeys together, and would allow arriving passengers to take the first available train after landing, whether or not their flight is delayed or arrives early. Code-sharing could also benefit Manchester, if the airport was linked to HS2.

Making the journey to the airport as seamless as possible and ensuring that different transport modes connect well not only physically, but also on the ticketing side, will be key to encouraging passengers to take the train rather than the car or the connecting domestic flight.

## NOISE AND OTHER ENVIRONMENTAL MITIGATION

If no new capacity is added, then noise and other local environmental problems will diminish over time, as aircraft steadily become quieter and cleaner; operational procedures improve and road transport becomes less polluting. But if new runways are built, then noise and local air pollution will affect people who are currently less affected, or not affected at all.

Similar problems accompany new roads, railway lines and other local developments. But the local environmental impacts of airport expansion are of particular concern. Measures to compensate affected residents, such as insulation and improvements to local schools and amenities, are a matter for planning inquiries. But regardless of compensation measures, any airports building new runways should be subject to the strictest environmental standards.

The IoD has four recommendations in this area.

- I: AIRPORTS BUILDING NEW RUNWAYS, OR A NEW AIRPORT, SHOULD BE SUBJECT TO STRICT NOISE MEASURES

New runways will inevitably mean that more people are affected by noise, so it is only fair that strict standards are applied, to limit additional noise as far as practical.

These standards should be applied to the whole airport, not just to new runways, and should come into effect when the new runways open. Given that it will take a number of years before new runways are completed, the airport and airlines would have time to adjust. Applying the standards to the whole airport may also help to balance local interests, by providing some relief to residents already affected.



There are two measures that stand out in particular:

- First, ensuring that no planes above a certain noise threshold are permitted to use the airport, except in an emergency. The noise limits should be agreed as part of the planning process and therefore announced before the construction of any new runways, giving airlines a number of years to adjust. They should also fall further over time. It is outside the IoD's competence to determine exactly what the noise levels should be, although we are persuaded by the conclusions of a recent Policy Exchange and Centre Forum report. The report stated that all planes arriving at their suggested four-runway Heathrow would have to be QC 0.5 or lower on arrival, while narrow bodied departures would be QC 1 or lower and wide bodied departures QC 2 or lower. This would allow a large range of existing long-haul and short-haul aircraft to operate, although would mean that a number of airlines, not least British Airways, would have to upgrade their fleets.<sup>156</sup> Further work would be needed, but this may be a sensible noise limit for any airport building new runways.
- Second, increasing the angle of descent so that planes are higher above people's homes when they land. This can also dramatically reduce noise levels. Planes currently descend to land at Heathrow at an angle of 3 degrees, compared to 5.5 degrees at London City. Although the steeper angle of descent is necessary at London City because of the M25 bridge at Dartford, rather than as a noise mitigation measure, it illustrates that steeper landings for smaller planes are perfectly possible. Although it is unlikely that wide-bodied planes could land at 5.5 degrees, it may be possible to raise their angle of descent above 3 degrees by the time new runways open. Again, further work would be needed to determine the precise angles that would be safe.

Overall, the IoD believes that the concept of "noise envelopes" is important when planning new capacity. Noise envelopes seek to place a limit on the overall noise impact of an airport. As technology improves, the airport can expand within the noise envelope, or the noise envelope can be reduced. Applying a noise envelope to an airport building a new runway may, depending on the level set, prevent the airport from making maximum use of its new runway initially. Then, as technology improves, the number of movements on the new runway can be increased within the noise envelope.

This is a strategy worth considering, although it must be noted that a cap on the annual number of ATMs and restrictions on night flights serve a similar purpose. But a noise envelope could help an airport to grow whilst providing reassurance that the overall noise impacts will be capped.

It is worth noting that a one-size-fits-all approach would not be ideal, and that the appropriate noise regime for each airport should be examined on a case-by-case basis.

## 2: AIRPORTS BUILDING NEW RUNWAYS, OR A NEW AIRPORT, SHOULD BE REQUIRED TO IMPLEMENT BEST PRACTICE GROUND PROCEDURES

Chapter 1 set out how operational measures can reduce emissions and noise on the ground, and it would be sensible for an airport building new runways to be subject to strict requirements to implement best practice. Three areas stand out:

- First, as Chapter 1 showed, in 2009, aircraft ground movements at Heathrow accounted for almost 600,000 tonnes of CO<sub>2</sub> – around the same amount as emissions from approaching and departing aircraft – as well as considerable quantities of harmful air pollutants. A Boeing 747 can consume a tonne of fuel during an average 17 minute taxi to take off. Towing aircraft by tugs to and from the runways could save huge quantities of fuel, reduce emissions of CO<sub>2</sub> and air

*“Any airport building new runways should be subject to strict noise and other environmental measures.”*

<sup>156</sup> Tim Leunig, *Bigger and quieter: The right answer for aviation*, Policy Exchange and Centre Forum, October 2012, pp. 43-45 <http://www.policyexchange.org.uk/publications/category/item/bigger-and-quieter-the-right-answer-for-aviation>

pollutants, and cut down on airport noise. As Chapter 1 pointed out, the TaxiBot tug, currently being developed by Israel Aerospace Industries, would use just 20-30 litres of fuel, while it may also be possible to use electric power to drive aircraft to and from the runway. Requiring airports to move planes around by alternative means would seem sensible, and perhaps the best way to achieve this would be by setting a cap on emissions from aircraft ground movements, giving the airports flexibility in how best to adhere to the cap.



- Second, as Chapter 1 pointed out, using fixed electrical ground power (especially if powered by low carbon sources) rather than running auxiliary power units on stationary aircraft also has the potential to reduce emissions, and the IoD would encourage further work to be undertaken to establish a baseline of best practice that expanding airports would have to adhere to.
- Third, it would be desirable to require expanding airports to use electric vehicles for airport operations. The biggest problem that electric vehicles have is range, which is clearly not an issue at a specific location such as an airport.

### 3: AIRPORTS BUILDING NEW RUNWAYS, OR A NEW AIRPORT, MUST HAVE A STRATEGY TO REDUCE AIR POLLUTION AND CO<sub>2</sub> RESULTING FROM ROAD ACCESS TO THE AIRPORT.

Parts of London in particular suffer from poor air quality, with high levels of Nitrogen Dioxide (NO<sub>2</sub>) and particulates. Central London, key trunk roads and the area around Heathrow are worst affected.<sup>157</sup>

Over time, CO<sub>2</sub> and air pollution from road transport will gradually fall, as engines become cleaner; the uptake of hybrid and stop-start non-hybrid engines increases, and as electric car technology develops. But, especially for Heathrow, these improvements are unlikely to come fast enough.

Any expanding airport, especially Heathrow, should therefore be required to produce a strategy to reduce emissions of CO<sub>2</sub> and air pollution from road access to the airport, with measurable goals. Such a strategy should both inform, and be informed by, improvements to public transport services to the airport – if public transport services are improved, it will be easier to restrict car access.

A one-size-fits-all strategy would clearly not be appropriate, but common elements may include:

- Increasing the proportion of journeys by public transport;
- Introducing “kiss and fly” charges for dropping passengers off or picking them up at the airport;
- Introducing or tightening low emission zones around the airport.

### 4: A BALANCE NEEDS TO BE STRUCK REGARDING NIGHT FLIGHTS

Night flights are by far the most damaging to the quality of life of local communities, and so need to be considered carefully.

The ability to depart or arrive between 23:00 and 06:00 is more important for next-day freight deliveries than it is for passengers, with the exception of certain flights operated by low cost airlines and a few early morning services arriving from Asia. Allowing night flights does, however, give airports the flexibility to accommodate delayed arrivals, while freight is quite often carried in the hold of passenger aircraft.

<sup>157</sup> For maps of NO<sub>2</sub> and PM10 particulates within the M25, see <http://www.londonair.org.uk/london/asp/annualmaps.asp?species=NO2&LayerStrength=75&lat=51.5008010864&lon=-0.124632000923&zoom=14>

A balance therefore needs to be struck, and the solutions are likely to differ between airports:

- For airports with a significant number of low-cost airlines, the current night flight regimes tend to strike the best balance.
- For airports that serve as express freight gateways, principally East Midlands, Edinburgh and Stansted, where express couriers operate their own aircraft, a number of night flights do need to be allowed. It is most sensible to have a monthly or annual cap, giving the airports flexibility to respond to periods of higher demand.
- For airports that build new runways, there are a number of options:
  - There is a strong case to ban all flights arriving or departing between 23:00 and 06:00, except in the case of emergencies or following major incidents such as the 2010 volcanic ash cloud. Late arrivals would be subject to a fine, payable by the airport or airline;
  - Alternatively, the airport could be prevented from scheduling flights between 23:00 and 06:00, but could have a low monthly or annual cap on the permitted number of night flights in order to help maintain flexibility;
  - Or the ban could apply between 23:00 and 05:00, with a limited number of movements permitted between 05:00 and 06:00.

Any of these options for expanding airports would be far stricter than the current regime at Heathrow and would complement the measures described above to ban the noisiest aircraft and introduce steeper descents where possible. Provided that the night flying regime was maintained at express freight hubs such as East Midlands airport, the impact on express couriers should be manageable. Similar approaches have been taken overseas. Last year, Frankfurt airport balanced the opening of a fourth runway with a ban on flights between 23:00 and 05:00.

Taken together, the proposed measures on noise, ground procedures, surface access and night flights would be quite stringent, but they are a necessary accompaniment to new capacity. The IoD is not proposing that these measures apply to all airports, but they should certainly apply to airports building new runways. The fact that most airports will not be building new runways does allow airlines to move their fleets around, concentrating their quietest aircraft at airports where new runways are built. It also allows express freight operators to continue to base their operations at a number of key airports.

## TAXATION

It is vital to ease the burden of taxation on the aviation sector. As Chapter 2 showed, the UK is levying the highest taxes on flying of any country in the world. It will undoubtedly have an impact on demand, to the detriment of the UK economy. Those who are considering the UK alongside other possible destinations for investment may well be put off by the high rates of Air Passenger Duty charged in the UK, alongside all our other tax burdens. And flight patterns will undoubtedly be affected, benefitting continental airports and airlines at the expense of UK ones.

The IoD has three recommendations in this area.

*“It is vital to ease the burden of taxation on the aviation sector.”*

### 1: FREEZE AIR PASSENGER DUTY (APD) RATES IN CASH TERMS

APD is already too high, but a freeze in cash terms will allow APD rates to fall in real terms over the coming years. It is a necessary first step.

### 2: OFFSET THE IMPACT OF THE EU ETS

Although including airlines in the EU ETS allows aviation to expand whilst meeting overall CO<sub>2</sub> reduction targets, it was a development that the IoD opposed:

- **In the absence of a global agreement, it could easily lead to an aviation trade war, a point that the EU has now conceded.**
- **It will also add yet another charge onto airline tickets, making the UK, and the EU as a whole, a less attractive destination to visit, either for tourism or on business.**

APD is already levied at a far higher rate than the environmental costs of flying would suggest. For that reason, including aviation in the ETS should not add to the overall tax burden on flying. An allowance should be introduced against APD to cover 100% of the impact of the ETS. As ETS charges rise over the coming years, the allowance should be correspondingly increased.

### 3: CARRY OUT A COMPREHENSIVE ANALYSIS OF THE ECONOMIC IMPACT OF APD AND THE ETS

APD has increased rapidly in recent years, and the All Party Parliamentary Group for Aviation's recent inquiry received numerous submissions providing evidence of its damaging impact. A number of these were summarised in Chapter 2. Ever higher rates are highly likely to be subject to rapidly diminishing returns.

The APPG recommended that an economic analysis be undertaken of the total impact of APD on growth and employment in the UK economy, and that analysis also be undertaken to establish fare price elasticities of leisure and business travel.<sup>158</sup>

The IoD supports this recommendation, and given that aviation is now to be included in the ETS, the review should also investigate the impacts of the ETS charge.

## VISAS AND BORDERS

The benefits of more airport capacity, better integration with the wider transport network and reduced levels of taxation would be considerably reduced if the UK continues to make it difficult and time-consuming for people from outside the EU to come to this country. And even if no extra capacity was added, journeys to this country could still be made a lot smoother.

The IoD has seven recommendations in this area.



### 1: EMPLOY MORE PERMANENT BORDER STAFF

As Chapter 2 showed, following a disastrous performance in the Spring and early Summer, UK Border Force performance at Heathrow improved for the Olympics. In August, 100% of EEA passengers waited for less than 25 minutes and virtually 100% of non-EEA passengers waited for less than 45 minutes. The efforts made by the Border Force during the Olympics should be commended.

But these targets were achieved because hundreds of extra staff were drafted in for the Games, offsetting a fall in Border Force staff at Heathrow of 10%, and nationwide of 6%, between March 2011 and March 2012.<sup>159</sup>

Other things equal, more border staff will mean shorter queuing times. The use of automatic e-gates is increasing, but at the moment these can only be used by EEA passengers. Staff are still needed to assist at these gates, and there is a need for more staff at the regular gates, particularly for non-EEA passengers. There is nothing worse than waiting in line when half the passport gates are unmanned.

The IoD does not have the expertise to determine exactly how many extra permanent Border Force staff should be recruited. It was encouraging to hear that the recruitment of 70 new permanent staff for Heathrow, planned for when the new Terminal 2 opens in 2014, has been brought forward. But more staff are certainly needed.

### 2: MODERNISE BORDER FORCE WORKING PRACTICES TO MAXIMISE THE USE OF LIMITED STAFF RESOURCES

According to the Home Affairs Select Committee's recent inquiry, the majority of Border Force officers work on a system of annualised hours working. On this system rosters are agreed a year in advance, but are subject to change up to seven days before the start of the shift. This is the point at which the Border Force can increase the number of staff on duty. With less than seven days notice, however, all the Border Force can do is change, extend or curtail shifts.

This is clearly an unsatisfactory state of affairs. Without the flexibility to increase the number of staff on duty at short notice, there will inevitably be times when the number of people passing through the border becomes overwhelming, especially when last-minute plane tickets are sold.

At Heathrow, the Border Force has introduced a control room, which allows border staff to be dispatched to different terminals in response to demand. This has been working well and should be expanded to other major airports.<sup>160</sup>

*“The benefits of more airport capacity, better integration with the wider transport network and reduced levels of taxation would be considerably reduced if the UK continues to make it difficult and time-consuming for people from outside the EU to come to this country.”*

<sup>159</sup> House of Commons Home Affairs Select Committee, *Sixth Report – The work of the Border Force*, July 2012 <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmhaff/523/52302.htm>

<sup>160</sup> House of Commons Home Affairs Select Committee, *Sixth Report – The work of the Border Force*, July 2012 <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmhaff/523/52302.htm>



At the same time, there are three other changes to working practices that should be introduced, the last two of which were recommended by the Home Affairs Select Committee:<sup>161</sup>

- Rosters should be subject to change less than seven days in advance.
- On-call schemes at local levels should be introduced, allowing the Border Force to increase the number of staff on duty quickly should chronic queues build up.
- Many airlines have years of experience in providing advanced passenger information to the United States and are now obliged to provide advanced information to e-Borders before departure. It is vital that Border Force staff in charge of rosters make the best use of this information to plan shifts and ensure that all desks are manned at peak times.

### 3: ACCELERATE DEVELOPMENT OF ADVANCE-CLEARANCE SYSTEMS

Advance-clearance systems enable passengers on these routes to be screened by immigration in advance of their arrival in the UK. After successful trials of “smart zones” in 2011, the Home Affairs Select Committee concluded that advance-clearance systems on low-risk routes have the potential to reduce queuing times substantially.<sup>162</sup>

It is worth noting that speaking to an immigration officer and answering questions about your visit is a far more pleasant process before you get on the plane, rather than at the end of a long flight, when you are tired and jet-lagged. For a Briton, entering the US at Shannon airport in Ireland is a very different experience to entering at JFK or O'Hare.

Smart zones should be developed as a matter of urgency, and rolled out as widely as possible.

### 4: FAST-TRACK LANES SHOULD NOT COME AT THE EXPENSE OF IMPROVEMENTS AT THE BORDER FOR ALL VISITORS

Another idea that is being examined is to introduce dedicated fast track lanes for high value business travellers.<sup>163</sup> Variants of such “trusted traveller” schemes are used in other countries, for example the United States, and to a very limited extent in the UK already. This idea is to be welcomed insofar as it will smooth the entry of important businesspeople into the UK, but it is no substitute for improving the border experience for all people entering this country, for leisure as well as business. The IoD would therefore caution against deploying too many resources into fast-track lanes at the expense of the normal entry process.

<sup>161</sup> House of Commons Home Affairs Select Committee, Sixth Report – The work of the Border Force, July 2012 <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmhaff/523/52302.htm>

<sup>162</sup> House of Commons Home Affairs Select Committee, Sixth Report – The work of the Border Force, July 2012 <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmhaff/523/52302.htm>

<sup>163</sup> See Financial Times, 18 September 2012 <http://www.ft.com/cms/s/0/6e479256-01b3-11e2-8aaa-00144feabdc0.html#axzz2A785Wtgy>

## 5: ENCOURAGE AIRPORTS TO CONTRIBUTE TO IMPROVED PERFORMANCE AT THE BORDER

People arriving at UK airports do not recognise the administrative division between the airport operations and the border operations. Quite naturally they see arrival as one continuous process – waiting to land, taxiing to the gate, passing through the border, collecting baggage, and proceeding with their onward journey. It is therefore in the interests of airports themselves that border processes run swiftly and smoothly.

In an era of tight government resources, there is no reason why airports should not contribute to improved border processes. Airports are already permitted to do this, and such partnerships between the airports and the Border Force should be encouraged, not least to increase the number of e-gates and improve the look and feel of the border halls with large signs welcoming visitors to the UK and highlighting local attractions.

## 6: OVERHAUL THE VISA APPLICATION PROCESS

A robust system for ensuring that people are properly checked before being permitted to travel to the UK is needed, and the IoD is not suggesting that this be done away with. Given that, unlike most other countries, people are not counted when they leave the UK, it is especially important to carry out screenings to ensure that those arriving are not likely to overstay.

But there are improvements that can be made:

- **First, the UK Border Agency has a target to process 90 per cent of non-settlement applications within 3 weeks, 98 per cent within 6 weeks and 100 per cent within 12 weeks of the application date.<sup>164</sup> This is really not good enough. It takes a week to get a Russian visa and less than a week to get a Chinese one. As long as the appropriate documentation is provided, there is no reason why the majority of applications for UK visitor visas cannot be processed as quickly. Visa approvals need to be speeded up.**
- **Second, there should be better integration with the Schengen visa application process. It should be possible to apply for a Schengen visa and a UK visa at the same time, with a single form containing questions common to both systems followed by Schengen-specific and UK-specific questions, together with payment of the two fees. This would help to ensure that fewer tourists visiting Schengen countries are deterred from visiting the UK on the same trip.**

None of this means that the UK should cease to carry out robust checks, but the default attitude to those applying for visitor visas ought to be one of welcome rather than suspicion. Many parts of the world are growing far more quickly than the UK, and the UK economy needs more businesspeople and tourists from these countries to visit.

<sup>164</sup> See <http://www.ukba.homeoffice.gov.uk/visas-immigration/general-info/processing-times/>

7: REMOVE INTERNATIONAL STUDENTS FROM THE TARGET FOR NET MIGRATION DURING THE PERIOD OF THEIR STUDY

As Chapter 2 noted, the Business, Innovation and Skills Select Committee recently recommended that overseas students be recorded under a separate classification and not counted against the overall limit on net migration. The report noted that while the UN definition of migration includes overseas students, the Government is under no obligation to use that definition for the development of domestic policy.<sup>165</sup>

In response, the Government pledged to produce two separate datasets showing the number of migrants with and without students, although will continue to include students in the net migration target.<sup>166</sup> Transparency is always an improvement, but the Government should take the next step and not include students in the net migration target while they are studying.

This move would provide a boost to British universities and their export potential, ensure that the UK remains one of the best places in the world to receive a higher education, and help to encourage improved links with the UK long after the students have completed their studies.

UK universities are already an export success story, and taking overseas students outside the net migration target would add to their success. And the wider benefits to the UK economy from links to intelligent and ambitious people from around the world are vital to ensure that the UK continues to develop its overseas trade in the future. These wider benefits are probably even more important.

*“Above all, the UK must end up with an airports system that allows for a flexible response to changing economic circumstances, travel patterns and technology.”*

<sup>165</sup> House of Commons Business, Innovation and Skills Committee, *Overseas Students and Net Migration*, 4 September 2012 <http://www.publications.parliament.uk/pa/cm201213/cmselect/cmbis/425/425.pdf>

<sup>166</sup> David Willetts, Minister of State for Universities and Science, Speech to Universities UK conference at Keele University, 13 September 2012 <http://www.bis.gov.uk/news/speeches/david-willetts-uuk-conference-2012>



## FLYING INTO THE FUTURE

Above all, the UK must end up with an airports system that allows for a flexible response to changing economic circumstances, travel patterns and technology:

- If demand growth projections are too high, and video-conferencing does in fact replace an increasing number of face-to-face meetings, then it is important not to have sunk huge sums of money into an overprovision of capacity. As Chapter 2 showed, there is a huge difference between the DfT's low and high demand forecasts. If the private sector wishes to take the risk of building a massive new hub airport, then it must be liable for any losses. Most airport projects can be funded privately, so taxpayers' money need not be put at risk.
- If demand really takes off, then new runways will have to be built relatively quickly. It is vital that the planning system allows them to go ahead.
- Given the continuing debate about the merits of hub and point-to-point airports,<sup>167</sup> it would seem sensible for the UK to maintain a mixture of the two. Outside of London, airports may not yet have the critical mass to develop into genuine hubs, but there is every reason to encourage them to do so.
- Over the horizon, there are a number of hugely exciting developments that could revolutionise air travel, including the prospect of hypersonic aircraft that could reduce the flying time to Australia to 4 hours.<sup>168</sup> The impact of such advances on airport provision is not yet clear.

If the UK puts in place a sensible long-term framework that allows for growth, there is no reason why this country cannot continue to be a world-class trading hub, well connected to all the major economies.

<sup>167</sup> For a good counter to aviation orthodoxy, see Paul Kehoe, *Don't put all your eggs in one basket*, Birmingham Airport, 2012 [http://balancedaviationdebate.com/aviation\\_report.pdf](http://balancedaviationdebate.com/aviation_report.pdf)

<sup>168</sup> For a look even further over the horizon at what may be possible, see Institution of Mechanical Engineers, *Aero 2075: Flying into a Bright Future?*, Part 2



# About the Infrastructure for Business series

The UK's infrastructure was once the best in the world. Great innovators like Brunel and Stephenson were pioneers of the railway, which revolutionised the way people and goods moved around the country.

Faster, better and cheaper infrastructure helped fuel the rapid growth of the industrial revolution, giving businesses the platform they needed to thrive at home and export to the world. In the last century, Britain continued to develop new forms of travel, leading the way in aviation and building an extensive motorway system.

The UK still benefits from its infrastructure inheritance, and parts of our network function relatively well. But we have lost our lead, as we try to squeeze too many onto too little. Our roads are congested, many of our trains are standing room only, and planes are forced to circle in stacks before getting a landing slot at our main airport. High taxes on driving and flying, and big rail fare increases, have made getting around more expensive.

And there are risks to the security of our energy supply, as replacements for our ageing coal and nuclear power stations are not built quickly enough and environmental regulations and taxes, which should be better focused on reducing emissions in the cheapest way, push up the cost of powering the country.

Infrastructure for Business is a new series of papers looking at the key energy, transport and technology infrastructure developments that would help the UK regain competitiveness and encourage a thriving private sector. We need to put Britain back in the lead again to help our firms compete in the world.

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