

# Aviation

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## 1 Introduction

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No-one now disputes that climate change is the biggest challenge facing our society and quality of life. Aviation is the fastest-growing source of climate change emissions; and owing to the effects of these emissions at high altitudes, they are disproportionately damaging. The environmental impacts of aviation must therefore be considered of paramount importance in the development of aviation policy. This policy statement considers the full range of issues associated with UK aviation policy, and makes recommendations for the development of a fair, economically viable and sustainable approach up to 2050. It includes analysis and recommendations relating to all aspects of sustainable development, and addresses the need to tackle demand and ensure that there is sufficient airport capacity.

There is an urgent need to revise the 2003 Government White Paper *The Future of Air Transport*,<sup>1</sup> which sets government aviation strategy up to 2030. Despite the urgent need to reduce our carbon dioxide (CO<sub>2</sub>) emissions, the White Paper has failed to tackle the industry's significant contribution to climate change.

In addition, the Government's strategy has failed to articulate a clear direction for aviation policy in the coming decades. The resulting lack of a long-term policy framework will hinder the speedy planning and delivery of major infrastructure that is necessary to secure economic, social and environmental stability. Arguably, this has left the industry little better off and the communities around major airports uncertain as to how they will be affected.

## 2 The TCPA's vision

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The TCPA's vision for aviation policy in Great Britain in 2050 is that it should be fully integrated into the planning and development of sustainable communities. Alternatives to flying should be affordable and accessible and should be the natural choice for most short- and medium-distance journeys within the EU. In addition, the environmental costs of aviation should be borne by the industry and those who fly. Meanwhile, the perceived benefits of flying should be re-evaluated and weighed against the costs. Not only is this possible, but it is essential for environmental and social justice, as well as for economic progress.

## 3 Summary of the TCPA position

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Comprehensive demand-side measures to reduce the volume of air transport, and therefore climate change emissions, are a critical prerequisite to the development of further capacity. Such measures should focus on two key mechanisms:

- fiscal measures, such as an aviation fuel tax and inclusion of aviation within an overall carbon tax; and
- the development of alternative modes, particularly high-speed rail.

Once such demand-restraint measures have been developed, some expansion of capacity may still be necessary. In some cases this will involve absorbing traffic from or replacing regional airports. In other cases it may require additional new capacity. Continual assessment will be important to determine whether meeting additional capacity can be justifiable on environmental, economic and social grounds.

As an overall strategy, the TCPA favours promoting the development – or in some cases the expansion – of hub airports outside the South East, each to serve a major area of the country:

- a new *Severnside airport*, on an island in the Severn Estuary, to serve a wide area of southern England west of London, the West Midlands, the South West and South Wales;
- *East Midlands airport*, to serve overspill from Birmingham and to serve a wide area of East Midlands and South Yorkshire;
- use of *Manchester airport* as a European international hub; and
- development of *Prestwick airport* as an international hub for Scotland.

These regional hubs would be complemented by a final measure:

- the development of a *new hub airport for London in the Thames Estuary* (it is important to stress that a variety of options for such an airport should be fully investigated prior to any final decision on location being made).

The TCPA sees these developments as part of a phased strategy. The Thames Estuary hub would be the first priority but would itself be developed in stages: first as a two-runway and then, if necessary, as a four- or five-runway airport. The aim would be to gradually replace outdated airports, such as Heathrow. This would bring environmental and social benefits, as well as create opportunities for integrating airports into a new high-speed rail network. Any necessary expansion at Manchester and East Midlands would continue in parallel. The development of new hubs at Severnside and Prestwick would be part of a longer-term strategy, and would start around 2020.

It is essential to think of airport planning and regional groundside access as an integrated operation. Therefore each of these airports should be linked to its region by a new or upgraded regional high-speed rail network, allowing access from most parts of the wider region within a maximum journey time of one hour. In addition, the new London hub would be directly linked to the Channel Tunnel Rail Link (CTRL), allowing easy transfer to and from trains for short-haul journeys to nearby mainland European cities. The infrastructure for this exists, either in operation now or in the form of abandoned rights of way which could be restored at reasonable expenditure.

## 4 The need to re-assess aviation policy

Airport capacity in Great Britain is not evenly spread. Most regions have their own airport capacity, and everyone within Great Britain is within a reasonable travelling distance of an airport. But most of these airports serve short- and medium-haul destinations. Demand is growing fastest in the regions outside of the South East, fuelled by the growth in the ‘no-frills’ market. However, passengers from regional airports wishing to travel further afield more often than not have to fly to major airports in the South East and then change for longer-haul flights – in the so-called ‘hub and spoke’ system. Around one-third of passengers at Heathrow, for example, are there to catch a connecting flight.

This has resulted in:

- overcrowding in South East airports and on surrounding transport infrastructure;
- the need for relatively more environmentally damaging short-haul flights to feed passengers into principal airports (see Table 1); and
- relatively greater impacts on surrounding communities.

### 4.1 Aviation White Paper

The Aviation White Paper identified a need for airport development across Great Britain. While no proposals for new airports are supported in the White Paper, two new runways are proposed in the South East by 2030. The first would be at Stansted, with the other likely to be at Heathrow. The latter would be a short (2 kilometre) runway, suitable for the type of aircraft operating on shorter-haul routes. Growth is proposed at all existing Scottish airports, particularly at Glasgow. As the main airport serving South Wales, expansion of Cardiff is encouraged, but the need for improved surface access is recognised.

The Government supports growth in capacity at many northern English airports, including Manchester, Liverpool, Newcastle, Teesside and Leeds-Bradford. In most cases, measures to minimise noise and promote access are encouraged. Likewise, the Government sees the need for

**Table 1 Comparison of CO<sub>2</sub> emissions from transport****Comparison of CO<sub>2</sub> emissions by mode<sup>a</sup>**

Transport mode	Load factor, passengers per vehicle	Energy consumption, kilojoules per passenger-kilometre	CO <sub>2</sub> emissions, grams of CO <sub>2</sub> per passenger-kilometre
Passenger rail (diesel)	90	589	41
Passenger rail (electric)	90	465	56
<i>Passenger rail (average UK – electric and diesel)</i>	<i>90</i>	<i>524</i>	<i>49</i>
Mopeds	1.08	1,133	75
Buses (national)	9	1,106	76
Motorcycles	1.08	1,407	94
Diesel cars	1.56	1,535	106
Petrol cars	1.56	1,653	110
<i>All cars average</i>	<i>1.56</i>	<i>1,634</i>	<i>109</i>
Air long haul	approx. 300	1,614	110
Air short haul	approx. 100	2,640	180

**Examples of CO<sub>2</sub> emissions for journeys by different modes<sup>b</sup>**

Journey	CO <sub>2</sub> emissions, kilograms per passenger per journey
<b>London to Edinburgh:</b>	
Plane	96.4
Rail (modern high-speed electric)	11.9
Car (based on a loading of 1.56 people)	71.0
<b>London to Bristol:</b>	
Rail (modern diesel)	10.6
Car (based on a loading of 1.56 people)	21.3

<sup>a</sup> Source: 'Fuel efficiency'. House of Lords Question and Answer. *Lords Hansard*, 5 Jul. 2004, cols WA69-70. Available online at [http://www.publications.parliament.uk/pa/ld200304/ldhansrd/vo040705/text/40705w04.htm#40705w04\\_sbhd5](http://www.publications.parliament.uk/pa/ld200304/ldhansrd/vo040705/text/40705w04.htm#40705w04_sbhd5)

Road transport factors are based on National Atmospheric Emissions Inventory (NAEI) estimates of CO<sub>2</sub> emissions by vehicle type in 2002 and combined with road passenger kilometres taken from *Transport Statistics Great Britain 2002*

Rail factors are also based on NAEI factors for diesel trains and power station emissions. Data were combined with Department of Trade and Industry data on electricity used for electric rail traction and Department for Transport statistics on rail passenger-kilometres. AEA Technology provided estimates on the split between diesel and electric train kilometres

Air factors taken from the Department for Environment, Transport and the Region's Company GHG Reporting Manual 1999. Long-haul journeys refer to average journeys of 6,500 kilometres and short-haul refers to journeys of around 500 kilometres

<sup>b</sup> Source: Department for Transport/National Atmospheric Emissions Inventory

growth in the Midlands, with Birmingham as the preferred location for an additional runway. Expansion at East Midlands airport is encouraged, but no decision has yet been taken on the need for a new runway. Other proposals, at Coventry for example, are to be decided upon locally. The bulk of expansion in the South West is expected to take place at Bristol airport, with some extra capacity at Bournemouth, subject to environmental and access improvements.

## 4.2 Climate change

The analysis that informed the development of existing airports policy remains broadly valid. Aviation accounts for around 5.5 per cent of UK CO<sub>2</sub> emissions, but, because of the effects of emissions at altitude, it accounts for 11 per cent of the total UK climate change impact.<sup>2</sup> The single biggest change since 2003, however, is the recognition that climate change is happening faster, with consequences occurring sooner, than was previously thought. The collapse of large polar ice sheets and the thawing permafrost in Siberia have led scientists to conclude that the planet is already experiencing 'positive feedback' effects. These could be the first signs that runaway climate change could happen within many of our lifetimes if swift and focused action is not taken.

Climate change therefore represents one of the greatest threats to our society. It is no longer simply an environmental problem but a wider issue affecting economic stability. The impacts of climate change will disproportionately affect the most vulnerable members of our communities, both in the UK and globally. A recent study by the Tyndall Centre<sup>3</sup> points to the need to reduce CO<sub>2</sub> emissions by around 6 per cent year-on-year from 2010 onwards (assuming no emissions reductions before that time) to achieve climate stability by mid-century. This presents an enormous challenge and makes it clear that if we are to have any chance of success then the principal mechanisms for CO<sub>2</sub> reduction need to be in place by 2010.

CO<sub>2</sub> emissions from aviation are growing faster than those from any other UK sector. Projected growth means that aviation could account for a third of climate change emissions by 2050. There is a commitment by the Government to develop an emissions trading scheme for aviation and there have been moves by some airlines to introduce 'carbon offsetting' and other voluntary measures; but this does not amount to a comprehensive programme for reducing the industry's impact on climate change. It is particularly worrying that while the UK as a nation is beginning to take action to tackle climate change, aviation is considered to be a 'special case' and worthy of retaining a generally 'business as usual' approach.

Improvements in aircraft design can reduce the impacts of aviation on global and local environments. However, as with surface transport, overall growth in numbers has far outstripped technological improvements. Furthermore, the new Airbus A380 is only 12 per cent more fuel-efficient than the 40-year-old Boeing 747. Technology is therefore only part of the solution to ensuring that the sector's contribution to climate change is minimised sufficiently. Better regulation and fiscal measures are also key.

Aviation is not only a contributing factor to climate change: it is also *affected* by it. The need for society to adapt to climate change is increasingly being recognised, although the opportunities and risks involved are by no means certain. The aviation industry may be vulnerable to the impacts of climate change. This vulnerability may be in terms of the effects of weather patterns on flight scheduling or on building structures and runways, but more fundamentally climate change may impact on passenger numbers. A large proportion of passengers are tourists: warmer, drier summers may encourage more people to holiday in the UK, for instance. The industry needs to assess and manage these risks and opportunities.

### **4.3 Sustainable development**

Sustainable development includes consideration of climate change, but must also address wider environmental, social and economic factors. The TCPA endorses the Government's objective of ensuring that development of aviation is managed so that it is in accord with the principles of sustainable development. However, it is unlikely that this will be achieved unless aviation policy is re-addressed.

Although a large proportion of a plane's activities take place in the air, aviation still has a considerable impact on land and those using land. Airports require car parks, maintenance, storage and freight depots, access roads, taxiways, control towers and other buildings, in addition to terminal buildings and runways. These must be accessed by passengers, employees and service providers by public and private transport. Therefore the impacts that airports have on people and wildlife must be carefully considered against the needs of the economy and the need for people to fly.

A significant number of people live close to or under airport flight paths. In some cases this is through choice – they may work at the airport or in an associated industry. But for many, noise and pollution are a constant and unwanted part of their lives. Improvements in technology have meant that modern planes are quieter and less polluting than their older counterparts; but their overall numbers and the frequency of flights have risen dramatically.

Furthermore, planes are not replaced as often as other vehicles (cars, for instance), and many older aircraft are still in use. Budget carriers, for example, often continue to use old planes bought from airlines that have upgraded their own fleet. The Government accepts that unless there are dramatic improvements in aircraft technology, they will struggle to meet EU NO<sub>2</sub> (nitrogen dioxide) emission limits at Heathrow.

#### **4.4 Economic and competitiveness issues**

The aviation industry is seen as an important economic driver. Indeed, economies are increasingly reliant on air travel. According to the Aviation White Paper, a third of exports are moved by air, export of services contributes 8 per cent of national income and depends on air travel, and a third of foreign tourists arrive by air. The quality of air travel facilities has an influence over foreign investment decisions, and air travel facilities themselves provide 200,000 direct and 600,000 indirect jobs. More locally, aviation plays an important part in local and regional economies and can provide the focus for regeneration as well as new development.

The economic importance of the sector is one of the key factors underpinning the Government's commitment to expanding the capacity of British airports. It is also an important argument for ensuring that Heathrow remains Europe's principal airport – a status that some believe is under threat from Paris Charles de Gaulle, Amsterdam Schiphol or Frankfurt, as a result of a failure to expand Heathrow's capacity.

Estimates of the exact contribution that aviation makes to the national economy vary, but it seems to be somewhere between 1 and 2 per cent of gross domestic product (GDP). Of course, an airport allows travel in both directions. A 2001 IPPR report<sup>4</sup> demonstrated that UK tourists spend £10 billion more abroad than visitors spend in the UK: a net loss to the UK economy. The report also suggested that money spent by overseas tourists rarely penetrates into regional, rural and coastal economies.

The same report acknowledged that new road infrastructure, aviation expansion and other transport developments do not necessarily lead to economic activity and regional regeneration. Rather, non-transport factors, such as the availability of skilled labour, are often more important. This highlights the need for caution in the interpretation of statistics and for honest evaluations of potential positive and negative outcomes from aviation policy- and decision-making at all levels.

The TCPA does not dispute the fact that airports have an important contribution to make to local, regional and national economies. However, sufficient weight must be given to climate change (and any other environmental factors) in aviation-related decisions. Similarly, the health and quality of life impacts on local communities from airports and their associated activities should be considered just as important as the employment-generating potential of expansion proposals.

#### **4.5 Social exclusion**

A central theme of the TCPA's recently-issued transport policy statement<sup>5</sup> is the need for transport and transport proposals to contribute to improved accessibility for all groups in society. It is often necessary to balance this against other sustainable development criteria. The same is often true for aviation, although the unrivalled contribution of aviation to climate change points to the need for significant and sustained efforts to limit or reduce the overall number of flights.

Unprecedented reductions in ticket prices, fuelled by the boom in 'no-frills' airlines, has undoubtedly opened up foreign travel to a wider section of the population. However, despite improved opportunities for those on lower incomes to fly, according to the Civil Aviation Authority social classes D and E account for only 10 per cent of those who fly, with 75 per cent of trips being made by social classes A, B and C.

Aviation does have a role to play in addressing deprivation and social exclusion. For example, East Midlands airport could play a valuable role in providing employment to deprived communities in Nottingham and the Nottinghamshire coalfield. Planning and implementation of airport-related infrastructure should be better integrated to ensure that economic development and social inclusion are linked directly to air-related policies. If such planning is to be genuinely effective, the need for airport development should be assessed according to a broad range of criteria. The aim should be to foster economic, social and environmental development that benefits the region and reduces overheating in the South East.

Aviation can help to address deprivation and exclusion by better serving remote communities, through direct job creation and through enhancing overall economic development potential and performance. But it should be seen as part of a package of improvements to public transport, economic development, training and education programmes, and environmental improvements.

## 5 Tackling demand

Tackling demand for transport has proved to be extremely difficult for hyper-mobile societies. Achieving demand reduction in aviation will be no easier, particularly since often the choice is limited to 'fly or don't travel'.

### 5.1 *Developing alternatives*

Government policy should not seek to meet unconstrained demand for air travel, whether nationally or regionally. Current levels of air travel already have damaging social and environmental consequences that cannot be ignored, and government should seek to limit these impacts, where possible through constraining supply. As with road traffic policy, appropriate charges should first be set to internalise environmental costs, ideally throughout the EU in order to avoid further distortions. The most appropriate way would be through a set of charges on aircraft movements based on computation of their environmental impacts, including noise, pollution and contribution to climate change. These charges should also take into account the potential for diverting some routes to other more environmentally-friendly modes, particularly high-speed rail travel.

Although the Aviation White Paper refers to the need to consider rail investment plans, it falls short of proposing to bring about a major modal shift to rail. The Government recognises that high-speed rail in France has had a dramatic effect on domestic air services, but suggests that the effect on air travel as a whole has been modest. This is a short-sighted view since, by 2007, the opening of the completed high-speed CTRL will have been accompanied by the opening of parallel links in mainland Europe (Brussels-Amsterdam, Brussels-Cologne-Frankfurt), producing an integrated high-speed network connecting the major agglomerations of North West Europe. This will dramatically reduce journey times, with potentially major effects on short-haul air traffic on major routes such as London-Paris, London-Amsterdam and London-Frankfurt. This network could also incorporate UK regional centres were direct services to be introduced.

Further, other European hub airports (such as Paris Charles de Gaulle, Amsterdam Schiphol, Cologne-Bonn and Frankfurt) are working to better integrate air and high-speed rail travel to allow rail to feed into longer-haul air movements. This will place those airports in a very advantageous competitive position compared with the London airport system, where presently no such integration is contemplated. This lack of integration represents a short-term and blinkered approach which could have serious future consequences, not only for UK air traffic, but also for national competitiveness. It can be addressed only by a solution such as that suggested in section 5.1.1 below.

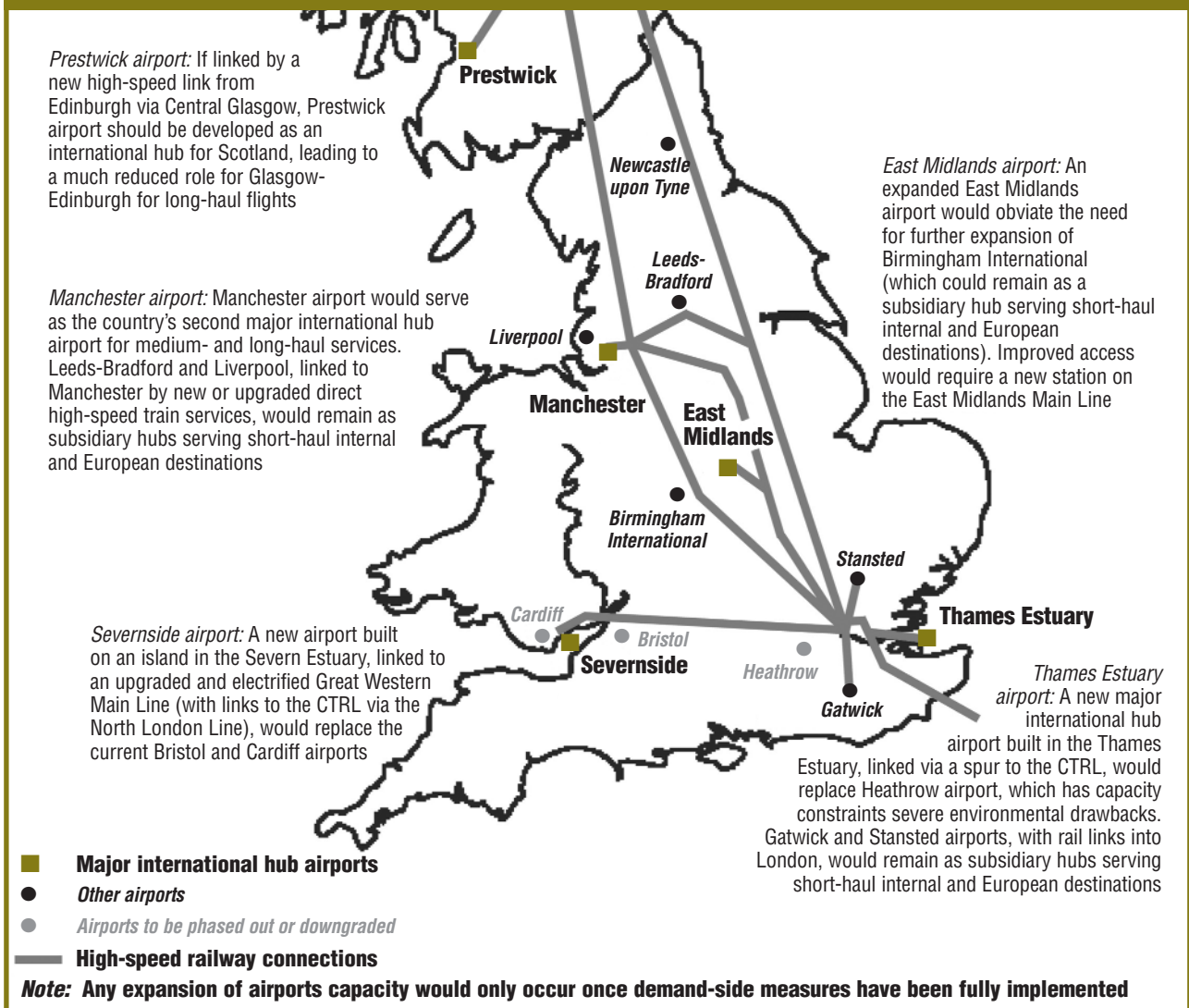
Across the UK regions, more innovative, but realistic solutions to the overall problem are being missed. Encouraging more direct international flights (especially from Manchester) would free up slots in the South East airports and considerably reduce environmental damage. This might also contribute to both regional economic development outside the South East and a reduction in the level of overheating within the South East. In terms of the direct and multiplier effects of airport activity, it would also be beneficial to divert freight traffic from South East airports.

#### 5.1.1 *An alternative solution*

The TCPA proposes an aviation strategy that is fully integrated with a network of high-speed rail connections (see Fig. 1). This would link airports with city centres, regional centres with other regional centres, and all parts of Great Britain with the continental Europe rail network, via the Channel Tunnel. Air travel ticketing and baggage would be directly linked to rail services that replace air connections. A recent study by Jim Steer for Transport 2000 into the possibility of a north-south high-speed rail route<sup>6</sup> suggested that potential journey times to Heathrow would be 40 minutes from Birmingham, two hours 45 minutes from Edinburgh or Glasgow, and two hours 35 minutes from Paris.

Opting to develop a high-speed rail network will have a number of implications for airport development. The location of the UK's principal airports are, in the main, not ideal for connecting to a network. Of the existing South East airports, Stansted offers the most potential. Linking to Heathrow or Gatwick would require spurs from the CTRL. While expensive and probably technically challenging, this would open up the CTRL to a wider market to the west and south

**Fig. 1 An integrated airports and high-speed rail strategy**



west of London, as well as improving rail access to the airport from other regions. Further options are discussed in section 6.

An integrated network would positively improve demand on certain routes. The Civil Aviation Authority suggests<sup>7</sup> that some 12.8 million of the 67 million passengers passing through Heathrow in 2004 could have been diverted to rail were a high-speed rail link to run through the airport. Work by the Commission for Integrated Transport suggests that ordinary rail can compete on time with air travel for distances of up to 400 kilometres. Beyond that, high-speed rail becomes necessary (see Fig. 2<sup>8</sup> overleaf). However, travel on high-speed rail is faster than air travel for journeys up to a distance of 800 kilometres (London-Paris is 343 kilometres; London-Frankfurt is 634 kilometres; London-Lyon is 740 kilometres), and the recent experience of SNCF, the French national railway, shows that rail is competitive over greater distances than was earlier thought, because of its comfort and convenience.<sup>9</sup> On some routes the potential for rail replacement is extremely high: it is these routes that should, in general, be prioritised for development.

Development of a third runway at Heathrow is projected to increase the airport's capacity by 27 per cent. The Government puts the net benefits to the economy of the additional capacity at £6 billion. Steer<sup>6</sup> suggests that a north-south line connected to the airport could contribute £27 billion, while obviating the need for the third runway. Such a new line, or indeed other high-speed lines that form part of an aviation-rail strategic network, could therefore play an important role in the national economy, as well as diverting traffic away from the air and freeing up capacity for longer-haul flights at major airports.

There are also wider environmental and health benefits to be gained from high-speed rail. Travellers would be attracted away from cars as longer journeys become quicker and easier.

Capacity on existing routes would be freed up, allowing expansion of rail commuter services. Fewer air and private car trips would bring local benefits in terms of air quality and noise.

### 5.2 Integrating transport and aviation into wider growth strategies

Government and its agencies at all level should work with airport developers and planners to ensure that any potential employment benefits of aviation are spread to those people and localities that are most in need of such benefits. In addition, government should use aviation and airports policy to contribute to wider growth strategies, such as the Sustainable Communities Plan. Expansion should be avoided in areas of economic overheating (specifically, West London and the M4 corridor) and promoted in less dynamic areas close to locations with high unemployment.

### 5.3 Fiscal mechanisms

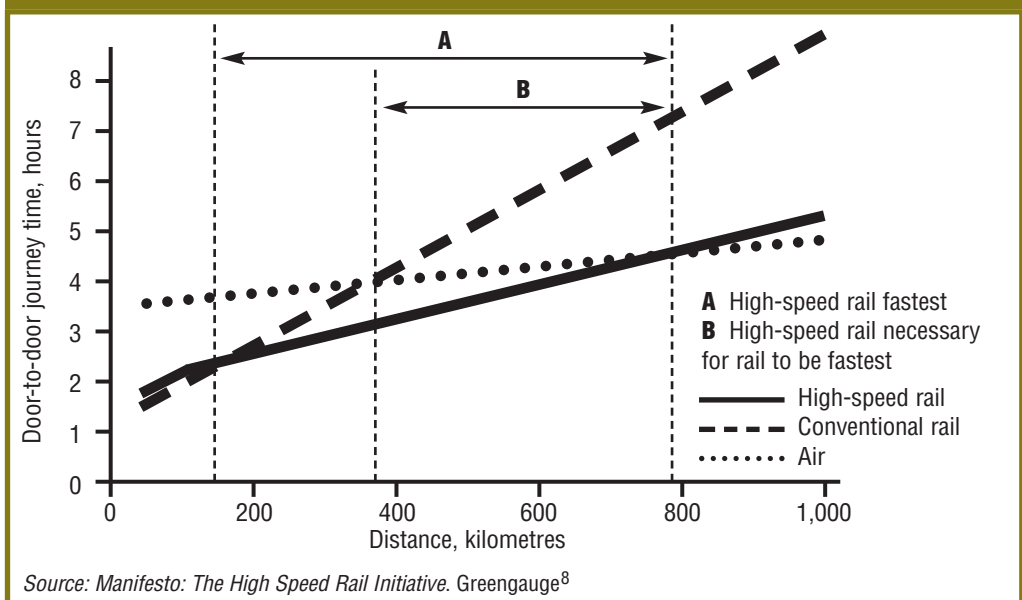
Developing an integrated network of alternatives to aviation would have an important but limited impact on the number of flights. Such a strategy would need to be complemented by the introduction of fiscal mechanisms, the aim being to ensure that the cost of flying reflects the full social and environmental impacts, while at the same time reducing demand in the most socially equitable way.

UK airport forecasts put unconstrained demand at somewhere between 400 million and 600 million passengers per year by 2030. However, the figures are sensitive to the level of air fares: in particular, the Government suggests that a 2 per cent reduction in air fares per annum would increase the central forecast of demand for the year 2020 by no less than 20 per cent. The extremely rapid development of low-cost carriers, and the response by established carriers, has of course achieved a much sharper reduction in recent years. Although the price reductions are probably close to bottoming out, this does put into even sharper relief the need for appropriate demand-side measures.

Government predictions (developed for the 2003 Aviation White Paper) acknowledge that air fares are likely to rise by 5-10 per cent owing to climate change issues – including meeting the costs of environmental damage due to increases in CO<sub>2</sub> emissions, and meeting targets set in the Kyoto Protocol and accepted by the UK Government. It is expected that this, in turn, would reduce demand for air travel by a similar order.

The most suitable economic instruments would be taxes and charges on aviation fuel at a rate at least as high that for motor fuel (this would help to ensure a more level ‘playing field’ between private surface and air transport) and the imposition of VAT at the standard rate. The latter would mean that air travel would be treated as a form of service and would still allow for competitive fares to be charged.

**Fig. 2 Comparison of relative journey times by mode**



Further to this, a real cost element would be included to reflect the environmental damage associated with aviation – damage which has been estimated at £11 billion per year in the European Union.<sup>10</sup> Undesirable economic impacts would be minor or non-existent, accepting that demand for air travel has been unfairly subsidised for years. According to HACAN ClearSkies, each UK taxpayer earning an average income in 2002 effectively subsidised the aviation industry's £7.5 billion (2000) tax exemptions to the tune of £557 per year.<sup>10</sup>

While all forms of emissions are important, the priority for action needs to be those that have the greatest impact on climate change, namely CO<sub>2</sub>, and those that have the greatest associated health risks, such as NO<sub>2</sub>. Economic instruments can be a useful way to achieve reduction, but they should be used in accord with the basic principles of environmental taxation. These include the ideas of 'justice as fairness', 'the polluter pays', 'social and environmental equity' and 'a proportional response'. The application of such basic principles is essential in order to ensure that a 'level playing field' is established. Economic instruments are not the only means of promoting sustainable development in aviation. Other methods, including strategic environmental assessment and mass-balance assessments, are also essential.

Any use of such instruments should be appropriate and practical, taking account of factors such as international and European obligations. Domestic emissions from airlines are currently included as part of the UK's commitments under the Kyoto Protocol. International emissions are not. It would be advantageous to include both – for reasons of simplicity and the establishment of a direct link between all aircraft movements and environmental damage. Action at EU level or wider would be preferable. However, it would be wrong to delay the introduction of domestic measures while waiting for international agreement. Both sets of actions should be introduced as soon as possible.

## **6 Ensuring sufficient airport capacity**

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Aviation has expanded rapidly, as have the airports and associated facilities that serve it. Most airports cater for regional transport and short-haul point-to-point and feeder flights. The UK's principal airport, Heathrow, caters for two types of air travel: short-haul, mainly point-to-point operated by budget carriers; and long-haul, with Heathrow operating in a 'hub-and-spoke' manner. As Heathrow is the main airport, most airlines want to 'hub' through it – which is of course impossible. The current solution offered by the British Airports Authority (BAA) and the Government is a new, short third runway, catering for short-haul flights only. This is despite reassurances at the Terminal 5 Inquiry that no further expansion would be necessary. This course of action would further multiply inefficiencies brought about by the large numbers of feeder flights and would result in breaches in EU environmental limits.

### **6.1 A new geography of airports**

Despite the rapid development of low-cost point-to-point traffic, there will always be the need to maintain and develop an integrated hub to compete with those on the near European mainland (Paris Charles de Gaulle, Amsterdam Schiphol and Frankfurt). However, it is crucial that, like these competitor airports, the hub is properly integrated with other forms of transport, both to replace some flights and also to reduce the need to reach airports by private transport. As set out in section 5 above, emphasis needs to be placed on high-speed rail, which is rapidly becoming the preferred mode for short-haul travel for journey distances up to at least 500 kilometres.

### **6.2 A new South East hub**

Development of at least one new hub is not only desirable, but essential. As the Government admits, any conceivable expansion of Heathrow will be massively sub-optimal – in air transport, social and environmental terms. Even with a third short runway, it cannot compete adequately with the major European mainland airports, and can never do so even if demand is constrained. Therefore it is essential that the Government embrace the option of a major second hub. Of the existing airports in the South East, Stansted is the only one that could fulfil this role. But Stansted is by no means without significant environmental and social constraints.

The TCPA's preferred choice would be a new offshore airport located within the Thames Estuary. The Government considered a new estuarial airport at Cliffe prior to publishing the Aviation White

Paper. This was dismissed on grounds of potential damage to bird life and disruption to air traffic control. While birds would undoubtedly have been affected, principally owing to its marshland location, the marine or water's-edge airports of Copenhagen Kastrup, New York John F. Kennedy International, Los Angeles, Vancouver, Chep Lap Kok in Hong Kong, and Osaka International have all managed to deal with this problem. The issue of air traffic control is less problematic if considered as part of the longer-term strategy proposed by the TCPA. The main complications come from conflicts with flight paths for Heathrow and London City airport: but the former would be phased out as a principal airport under the TCPA proposals, and the closure of the latter is now being actively discussed by the Mayor of London and others.

The real disappointment in the build-up to the Aviation White Paper was the failure to consider other estuarial options, such as the Marinair proposal. While its development would pose engineering challenges, it would certainly overcome many of the conflicts with wildlife that dogged the Cliffe proposal. A Thames estuarial airport would be optimal on the full range of criteria:

- All aircraft noise would be over water.
- There would be no noise shadow, making 24-hour operation possible.
- No settlements would be displaced.
- Ample space would be available for four runways if deemed desirable.
- It would allow direct sea-air interchange for freight.
- A short loop to the CTRL would be viable over a new lower Thames crossing, offering high-speed transit (less than 30 minutes journey time) to Central London.
- It would be easily linked into a new national high-speed rail network.
- It would play a key role in Thames Gateway regeneration.

Over time, such an airport would become London's major airport, allowing Heathrow to close. Transfer to a new Thames Gateway location would happen gradually over a 30-40 year period. The benefits could be enormous. It would provide the opportunity to transfer some of the economic pressure from West London and the M4 corridor to East London. At the same time, some 1,000 hectares of prime development land would become available for mixed-use development, allowing a new town-in-town to be developed. With a little vision, a new edge-of-town development of 30,000 new homes, with superb access to Central London, could be created.<sup>11</sup>

### **6.3 Regional airports**

Across Great Britain, the TCPA favours promoting the development or – in cases where social and environmental considerations permit – the expansion of hub airports outside the South East, each to serve a major area of the country.

#### **6.3.1 Severnside airport**

The TCPA proposes a new *Severnside airport*, on an island in the Severn estuary, to serve the South West, South Wales, the West Midlands and a wide area of southern England west of London.

The South West accounts for only 1.6 per cent of UK air travel and perhaps 'leaks' a further 2.9 per cent of annual passenger numbers to airports outside the region. The dispersal of the population, combined with a low total population, means that a major hub to serve the South West alone would be impractical. Any major airport in the region would need to serve a much wider area, in the same way that major London airports do. However, to disperse such a low level of demand thinly across the region (a 'fly local' strategy) would spread the environmental impacts of airports widely with none of the benefits of concentration. It would also encourage the least sustainable form of travel, namely short-haul flights.

In the short term (10-15 years), the strategy should be to improve rail access to existing 'hub' airports. With the current pre-eminence of Heathrow and the proposal for a Thames Estuary airport, this should mean improving rail access to these airports from the South West, while concentrating any South West air travel at Bristol or Cardiff (recognising Bristol's growth constraints) to the east and Plymouth to the west. The other major airports include St Mawgan, which is unsuitable because of its strategic military importance (its principal use is for defence purposes) and its situation in the least populated part of the South West; Bournemouth, which could rely on London airports; and Exeter, which is less well placed to serve the west of the region.

In the longer term (15 years and beyond), associated with the potential ultimate closure of Heathrow, construction of an offshore Severn Estuary airport would allow the replacement of Cardiff and Bristol airports (and others in the South West). This would offer maximum social and environmental advantages, particularly if linked to an upgraded and electrified Great Western Main Line. In addition to its role for Wales and the West, it could also serve much of southern England's population, particularly to the west side of London. It should be stressed, however, that a new London hub in the Thames Estuary is the TCPA's primary objective, with a Severn Estuary option fulfilling part of a related future strategy.

### **6.3.2 East Midlands airport**

*East Midlands airport* should be used to serve overspill from Birmingham and to serve a wide area of East Midlands and South Yorkshire. The TCPA supports the full utilisation of East Midlands airport as a passenger and freight facility. It accepts that there is strong local demand for expansion of Birmingham International airport, but recognises the considerable environmental impacts of new runway options because of the serious noise impact.

The Midlands cannot and should not seek to fully meet its own demand through a full range of European and intercontinental services. This demand should be met only through a national hub in the South East and a new Severnside hub. The Midlands should not seek to attract demand from the South West and Wales, but could (through East Midlands airport) meet demand from the northern part of the South East and East of England regions. Access to East Midlands airport would require a new 'parkway' station on the Midland Main Line to serve the airport as a priority. This should be funded by the airport via a section 106 agreement.

### **6.3.3 Manchester airport**

*Manchester airport* should be used as a European international hub. It is desirable to reduce the current level of short-haul flights undertaken from the North to the South East in order to make international connections, through the provision of more direct international flights from Manchester. Manchester should be developed as the second UK international hub. Such a strategy has been implemented in other major EU countries (France, Spain and Germany, for example) without detriment to the primary international hub, and has also helped to stimulate regional economic development – as demonstrated by the spectacular success of the new Munich airport.

There is a need to develop a more sophisticated analysis linking air transport to other transport provision – especially provision linked to the economic, social and environmental policy characteristics and priorities evident in the three northern regions. Air transport cannot and should not be treated as a separate issue which can be superimposed onto regions irrespective of other considerations. The other airports in the region should be linked by direct high-speed rail services to Manchester where possible (Liverpool and Sheffield can be linked easily, and it should also be possible to link to Leeds-Bradford and Newcastle). And, irrespective of the link from Manchester to other airports, the vast majority of the population in the Mersey Belt, Lancashire south of Lancaster, Cheshire and North Staffordshire, and West and South Yorkshire should be linked to Manchester airport via high-speed rail services. It will also be essential to retain as high as possible a level of direct services from Manchester and other northern regional airports to those domestic destinations not likely to be served by high-speed rail links and to key European destinations such as Dublin, Brussels, Amsterdam and Paris.

In order to support this arrangement a new terminal will be required at Manchester, together with improvements to current facilities, including a parallel taxiway. These improvements would make best economic use of existing runways. A third runway at Manchester could also be supported if this was deemed necessary in the future.

### **6.3.4 Prestwick airport**

*Prestwick airport* should be developed as an international hub for Scotland. While development of Manchester as the UK's second international hub would cater for some of the needs of Scotland, Scotland can and should serve many of its own needs. Prestwick is well located with regard to environmental considerations, but is on one side of the central urban belt and is currently not served by high-speed rail links. If this difficulty could be addressed by a new high-speed link from

Edinburgh via Central Glasgow, then there should be a greater role for Prestwick as Scotland's long-haul hub airport. This would come with a much reduced role for Glasgow-Edinburgh for long-haul flights (both passenger and freight).

## 7 Effective planning for aviation

The decision-making process for Heathrow Terminal 5 made history as the longest running in history. Much of the blame for the time taken to reach a decision fell on the planning system: the planning inquiry alone lasted 46 months, with much of the cost falling on BAA and British Airways, the two main proponents of the project.

The reality is more complex: planning is just one part of the decision-making and implementation process for major infrastructure projects. There is, however, general agreement that this was an unacceptable length of time to decide such projects. The Terminal 5 Inquiry was not alone: the Inquiry into Sizewell B, the last nuclear power station to be proposed in the UK, lasted almost as long.

In the wake of the Terminal 5 Inquiry, the Government has made a number of attempts to address this problem. The 2001 Planning Green Paper proposed allowing MPs to take decisions (under the party whip) on the principle of a scheme in Parliament, leaving local planning inquiries to decide on the detail. Rightly, this proposal did not appear in the 2004 Planning and Compulsory Purchase Act. Instead, revised procedures to streamline the process and to enable hearings on different elements of a proposal to be dealt with concurrently were announced.

During 2005-2006 the TCPA convened an independent commission (the Hetherington Commission, named after its Chair, Peter Hetherington) to look at the future development needs and priorities of England. The Commission's report, *Connecting England: A Framework for Regional Development*,<sup>12</sup> calls for a national planning framework, particularly for major infrastructure projects. The TCPA fully endorses this recommendation as an effective way of achieving what the Planning Green Paper set out to do, but in a more inclusive way. Crucially, the TCPA advocates a participative approach (initially 'from the regions upwards') which enables communities and civil society generally to have an input into and influence the preparation process.

National planning frameworks may also help to speed up the decision-making process in relation to regional spatial strategies (RSSs) and local development frameworks (LDFs). There are cases where the Government Offices have requested that local authorities delay their LDF preparation processes to await publication of panel reports into RSS examinations in public.

### Notes

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- 2 *The Future of Transport: A Network for 2030*. Cm 6234. Department for Transport. London, Jul. 2004
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- 5 *Planning for Accessible and Sustainable Transport*. Policy statement. TCPA, London, Jul. 2005
- 6 J. Steer: *Fog on the Runway: How Calls for a Third Runway at Heathrow Have Overlooked the Potential of High Speed Rail to Meet Travel Demand*. Transport 2000, London, May 2006
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- 10 *It's the Economy, Stupid*. HACAN ClearSkies, Twickenham, Feb. 2003
- 11 See T. Hall and P. Hall: *Heathrow – A Retirement Plan*. Tomorrow Series Paper 3. TCPA, London, May 2006. Also published as a centre insert in *Town & Country Planning*, 2006. Vol. 75, Jun.
- 12 *Connecting England: A Framework for Regional Development*. TCPA, London, May 2006