

The Future of Air Transport Progress Report

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Front cover

This Progress Report refers to aviation policy across the UK.

In Scotland, Wales and Northern Ireland, land-use planning, surface access and a number of other matters associated with airport development are the responsibility of the devolved administrations.

Foreword

This progress report fulfils a commitment made in December 2003's *The Future of Air Transport White Paper*. That White Paper set out a sustainable long-term strategy for the development of air travel out to 2030 and demonstrated the essential role that aviation plays in our economy and continued prosperity.

Much has already been delivered since the publication of the White Paper.

- We are leading the debate within Europe, pressing for the inclusion of aviation in the EU Emissions Trading Scheme.
- The Civil Aviation Act 2006 has been passed, strengthening powers over the control of aircraft noise and local air quality.
- The aviation industry has made progress in reducing the noise of the airline fleet and in addressing local air quality issues.
- Improved passenger facilities have been delivered through terminal development and refurbishment across the country.
- Engagement with local communities over airport development has been improved through the publication, for the first time, of long-term proposals and environmental mitigation measures.
- Central Government Departments now offset emissions from official and Ministerial air travel.

Since *The Future of Air Transport White Paper*, the Stern Review and Eddington Study have been undertaken and were published in late 2006. Taken together, these authoritative reports demonstrate that sustainable economic growth requires recognition of our environmental responsibilities.

The 2003 White Paper placed aviation within this context. It argued that the aviation sector must fully meet its environmental costs. These recent reports have reinforced the logic of this approach.

This report demonstrates the progress we have made in delivering a sustainable future for aviation.

Rt Hon Douglas Alexander MP
Secretary of State for Transport
December 2006

Introduction and overview

Introduction

1.1 In December 2003, the Government set out a sustainable long-term strategy for the development of air travel out to 2030. It balanced the growing aspirations we have to travel and the needs of our economy with the need to protect our environment. It rejected a 'predict and provide' approach and instead proposed a comprehensive strategy that:

- **committed the Government to ensuring that aviation reflects the full costs of its climate change emissions**, which will influence the amount of traffic growth that will occur. This is the same approach Sir Nicholas Stern¹ recommended right across our economy;
- **put in place tough local environmental conditions for our most environmentally sensitive airport**, London Heathrow. Further expansion in flights would not be allowed unless limits on noise and air quality could be met;
- **recognised that aviation brings real** benefits to the lives of ordinary people and to business. It connects people and places in ways that many people value highly and is also critical for a successful economy. Since publication of *The Future of Air Transport* White Paper in 2003, the number of passengers using our airports has risen by 14 per cent;²
- **rejected proposals for new capacity at several airports and at new greenfield locations, and instead promoted making much better use of existing airport capacity.** The strategy supported the development of regional airports mostly within existing capacity, as well as the construction of a further runway at Stansted and at Heathrow, and measures to make better use of existing runways at those airports.

1.2 The Government remains committed to the strategy set out in the White Paper: it strikes the right balance between economic, social and environmental goals. This document reports on progress on the policies and proposals set out in the White Paper.

The global environmental challenge

1.3 The Stern Review has stressed the need for an urgent and effective international response to the global problem of climate change. Aviation emissions contribute to climate change regardless of the country in which they are emitted.

1.4 Our national climate change strategy sets out our commitment to reduce climate change emissions right across our economy, including domestic aviation, by 60 per cent by 2050. We are strongly committed to achieving this goal, and aim to do so in the most effective way.

1.5 The Stern Review also recommended that the best way to tackle the complex pattern of carbon emissions is to ensure that each activity which consumes carbon is priced in the way that reflects its true cost to society, and to the environment. The Review thus supported the policy set out in the 2003 *The Future of Air Transport* White Paper which stated that the price of air travel should, over time, reflect its environmental and social impacts.

1.6 As a result:

¹ Stern Review on the Economics of Climate Change, published 30 October 2006, www.hm-treasury.gov.uk

² CAA Airport Statistics (2005), www.caa.co.uk

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- We continue to pursue the inclusion of aviation emissions in the European Union (EU) emissions trading scheme (ETS) as soon as practicable, and to do so for all flights departing from EU airports, whatever their destination. This trading scheme ensures that carbon emissions from all sectors of the economy that are included in the scheme are properly priced. Inclusion of aviation in the EU ETS is the most efficient and cost-effective way to ensure that the sector plays its part in tackling climate change. It avoids artificial targets for each sector which would distort economic decision-making.
- However, the Government has always recognised that its focus on EU ETS should not preclude examining other economic instruments to ensure that aviation reflects its environmental costs.
- We propose to consult on the development of a new emissions cost assessment to inform Ministers' decisions on major increases in aviation capacity. This assessment would consider whether the aviation sector is meeting its external climate change costs.
- We aim soon to bring forward proposals which will make it simpler for air passengers to offset the carbon emissions arising from the flights that they take by setting out a Government standard for how such schemes should operate. This will help people to take responsibility for tackling their contribution to climate change. Some airlines and travel agents have already begun to do this, as part of the aviation industry's concerted work to deliver a more sustainable model for their business.
- At the same time, Government is leading the way in taking responsibility for the carbon that we emit. We are offsetting officials' and Ministers' air travel through equivalent investment in renewable energy technologies and energy-saving projects. In the first year we estimate that we will contribute around £1 million towards these projects, which is equivalent to offsetting up to 100,000 tonnes of carbon. Some companies have also begun to follow the Government's lead in offsetting travel undertaken by their employees.
- The 2006 Pre-Budget Report announced that the rates of air passenger duty (APD) would double with effect from 1 February 2007.

1.7 Chapter 2 of this progress report deals in more detail with the central issue of the part aviation must play in the global challenge to reduce carbon emissions.

The local environmental challenge

1.8 The *Future of Air Transport* White Paper likewise provided a clear approach to the local environmental challenges of airport operation, in terms of air pollution, noise and the impact on the area in which airports operate. There are a number of important strands to this:

- Parliament has recently agreed the Civil Aviation Act 2006, which introduces measures to strengthen and clarify airports' powers to control noise and local air quality. This means that airports will be able to penalise the noisiest and most polluting aircraft.
- The aviation industry has itself made progress in addressing the noise of the airline fleet.
- We are pleased that most airport operators have chosen to promote their plans for airport development in consultation with the local community. Their master plans provide a basis for ensuring that measures to address noise, air quality, impacts on biodiversity and heritage, and issues of blight are properly considered, clearly set out and taken forward transparently.
- We welcome the leadership of those airport operators who are taking steps to improve local air quality. At Heathrow, reducing air pollution levels is vital before the airport can expand further. For other airports the focus is on developing public transport links to airports and promoting effective travel planning so as to increase the number of passengers taking public transport to and from airports.

1.9 Chapter 3 of this report deals with these local environmental issues in more detail.

Economic benefits of air travel

1.10 The aviation industry makes an important contribution to the UK economy, supporting around 200,000 jobs directly³ and many more indirectly. The importance of aviation to the economy is rising as a result of broader economic trends:

- growing global economic integration, which leads to increasing business travel and greater movement of international freight: about one-quarter of the UK's visible trade by value is carried by air;⁴
- rising disposable incomes in the UK, which enables more people than ever before to travel abroad for leisure;
- increases in the number of foreign visitors and residents travelling to and from the UK;
- the UK's success in acting as a hub for international air travel - 15 per cent of international air passengers are flying to or from a UK airport.⁵

1.11 Other EU countries with major hub airports have already expanded capacity to cater for future demand. For example, airports in Amsterdam and Paris now operate five and four runways respectively, and a fourth runway is also planned for Frankfurt. Internationally, over the next five years, China plans to invest \$17.5 billion on launching 71 airport expansion projects, relocating 11 airports and building 49 new airports⁶.

Progress since the 2003 White Paper

1.12 Three years into the White Paper's thirty-year strategy, delivery on the ground is at an early stage.

The first priority is to make the most of the UK's existing airports through a process of improvement and modernisation. Growth and developments at regional airports, without the need for new runways, give people across the country improved access to air travel from modern airports. It is now clear that operators of Edinburgh and Birmingham airports, where new runways were supported, do not expect to build them until some time after 2020.

At Heathrow, where *The Future of Air Transport* White Paper indicated that delivery of a new runway could be in the period 2015 to 2020, expanding the airport is conditional on meeting the noise and air quality limits that we have set out. The Government has led work to consider whether the environmental impact of making more use of existing runways, or building a third runway, would be acceptable. We will be consulting in detail on these issues in 2007.

At Stansted, significant progress has been made on the location, layout and operation of a potential second runway. We expect BAA to submit its planning application in 2007. But there is a planning process to be gone through and a substantial amount of work still to be done.

1.13 Chapter 4 of this report updates the Government's forecasts of air passenger demand and covers changes in the aviation industry. Chapter 5 then reports progress on developments since 2003, and next steps.

³ Oxford Economic Forecasting, *The Economic Contribution of the Aviation Industry in the UK*, December 2006

⁴ Department for Transport, *Focus on Freight*, 2006 edition, www.dft.gov.uk

⁵ Calculated from ICAO data and CAA data, 2004

⁶ Source: Chinese Government's official web portal, <http://english.gov.cn/>

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1.14 Aviation has an important role to play in the future, in developing the UK economy, supporting leisure, and in further enhancing our global connectivity. There is a strong demand for air travel, but this must be delivered in a way that balances the need to manage aviation's environmental obligations. This report sets out the current progress towards achieving this.

1.15 The report also sets out specific next steps in delivering the Government's policy. We intend to report on progress again in three to five years' time. The exact timing will be aligned to the delivery of significant milestones on major policies in *The Future of Air Transport* White Paper.

The global challenge of climate change

Introduction

2.1 Climate change is the biggest single issue that we face. Aviation contributes to global warming through the emission of greenhouse gases. As well as carbon dioxide these include oxides of nitrogen (NO_x) and water vapour which can form condensation trails (contrails) and cirrus clouds.

2.2 The Government is committed to responding effectively to the threats and challenges that climate change poses. We must act now to mitigate the environmental impacts that it will cause and to prepare for future sustainable economic growth.

Aviation and Kyoto - the international context

2.3 Agreement of the Kyoto Protocol in 1997 was an important landmark in global efforts to tackle the overall impact of climate change. The Protocol sets out targets for a global reduction in greenhouse gases based on 1990 emission levels and describes what contribution different countries should make to this.

2.4 The Government has been a consistently strong advocate and supporter of the Kyoto agreement. The UK has led by example through its implementation of its Kyoto commitments. In 2004 (the last year for which figures are available), it is estimated that total UK greenhouse gas emissions were 15.1 per cent below 1990 levels. Emissions of carbon dioxide were about 5.6 per cent lower than in 1990.⁷ The UK is currently one of only two EU member states on track to meet its Kyoto objectives on time.

2.5 However, specific Kyoto targets are based on a series of national commitments by certain countries to reduce emissions of greenhouse gases. Although domestic aviation emissions are included within these targets, international aviation emissions are not. This was because of the perceived difficulty in allocating emissions from international flights on a national basis. International aviation is not included in longer term UK domestic targets such as the goal to reduce emissions by 60 per cent by 2050.

2.6 Instead, work on the environmental impact of international civil aviation is managed through the International Civil Aviation Organisation (ICAO), a United Nations (UN) body with 189 member countries. ICAO has been in place since the birth of international civil aviation at the end of the Second World War, and its role is set out in the 1944 Chicago Convention, the international treaty that governs civil aviation. Over the years, ICAO has delivered a firm foundation for the development of the aviation industry by setting the basis for the operation of international air services, safety and technical standards, as well as facilitating work in other important areas, such as aviation security.

2.7 However, despite a number of revisions, the Chicago Convention is in many ways now very out of date. This is particularly true in relation to the environment. ICAO has been considering since 1998 how best to respond to the issue of aviation emissions. While some constructive action has been agreed, overall progress has been too slow. Although the last ICAO Assembly in 2004 agreed a resolution on environmental policy, many countries still see aviation only as a very minor part of the global problem of climate change and are concerned about the potential impact on the industry of measures such as emissions trading. The Convention itself also stands as a barrier to action. While we have obtained formal recognition for our view that provisions such as fuel tax exemptions are anomalous, it has not yet been possible to reach consensus within ICAO with regard to specific economic instruments. We have, however, been working within ICAO's Committee on Aviation and Environment Protection to develop guidance on emissions trading schemes. If agreed, this would be published in 2007.

⁷ UK emissions of greenhouse gases, 1990-2004 (final figures), www.defra.gov.uk

2.8 We will work energetically, together with our European and international partners, to press for the modernisation of the Chicago Convention and ICAO. The ICAO Assembly in 2007 should be the starting point for meaningful work to equip international civil aviation with a structure and legal framework that effectively maintains ICAO's good work on safety, security and technical co-operation while taking account of the economic and environmental realities of today's world.

Building an effective approach at EU level

2.9 In the meantime, progress has already been made within the EU on establishing a clear policy for tackling the climate change impacts of aviation in line with *The Future of Air Transport* White Paper. There is now a stronger consensus among EU countries on the need for action.

2.10 The Government continues to believe that this can best be done by emissions trading. This mechanism - which already operates across the EU in other sectors - should be extended to the aviation sector at the earliest possible opportunity. Inclusion of aviation in the emissions trading scheme is the most efficient and cost-effective way to ensure that the sector plays its part in tackling climate change. This approach was endorsed by Sir Nicholas Stern's recent report on the economics of climate change, which strongly supports carbon pricing to ensure that economic decisions fully reflect social and environmental costs.

2.11 Since *The Future of Air Transport* White Paper we have made significant progress in arguing for the inclusion of aviation in the EU emissions trading scheme. With our encouragement the European Commission supported a study which was completed in 2005.⁸ During our Presidency of the European Union in the second half of 2005, the UK secured the agreement of our European partners that the Commission should be invited to draw up a draft Directive. Since then, the Government has continued to work with the European Commission to develop detailed proposals for bringing aviation within the existing EU emissions trading scheme. We expect these proposals very soon, and call on the German and Portuguese Presidencies to make agreement of the necessary legislation a high priority during 2007. Our approach to these negotiations will be to ensure that the full climate impact of aviation is addressed.

2.12 The focus on an EU emissions trading scheme does not preclude consideration of additional economic instruments to ensure that aviation plays its part in meeting the challenge of climate change. The 2006 Pre-Budget Report announced a doubling of the rates of air passenger duty with effect from 1 February 2007.

Emissions trading

In his recent report,⁹ Sir Nicholas Stern sets out his strong belief that market mechanisms are the most effective way of reducing carbon emissions. He identifies carbon pricing and the removal of barriers to behavioural change as key issues in this.

The Government's preferred way of introducing these incentives in relation to carbon emissions from aviation is through a well-designed emissions trading scheme. For an international industry, an international trading scheme is the best solution and we are therefore pursuing this in ICAO. But until a truly global solution can be found, the existing EU Emissions Trading Scheme (the largest carbon trading market in the world), represents the best multilateral option available. This is why we are focusing on including aviation within it as soon as possible.

⁸ **Giving Wings to Emissions Trading**, CE Delft, July 2005

⁹ **Stern Review on the Economics of Climate Change**, published 30 October 2006, www.hm-treasury.gov.uk

The purpose of emissions trading is to create a market for reductions in carbon so that those companies who innovate to reduce emissions more quickly than expected can benefit, and those who find it more difficult can contribute to reducing emissions by funding reductions made elsewhere.

The market trades in a fixed number of carbon allowances, which is equivalent to the amount of carbon that can be emitted overall. Each company is allocated a certain number of allowances. Those companies who can reduce their emissions below their allocation can sell their unused allowances for a profit. Those that want, or need, to increase their emissions have to buy allowances to allow them to do so.

In this way, a carbon trading scheme introduces incentives similar to a carbon tax. It introduces a direct cost, proportionate to the amount of carbon emitted. But a trading scheme also encourages further efficiencies and incentivises good behaviours by the companies within it (i.e. the 'tax' is only paid by those who do not change behaviour):

- A trading scheme delivers a market price of carbon, which can be tied to the specific environmental outcome that the market is created to deliver.
- This then encourages companies to develop their own strategies for managing their carbon emissions, by providing a monetary incentive for them to do so.
- And by including different sectors of industry in one system, it encourages efficient behaviours and establishes a cost of carbon that reflects true demand across the whole economy. This contrasts with the alternative of industry-specific carbon targets which can constrain growth and be arbitrary and inflexible.
- It also establishes a direct link between the cost of carbon abatement and the price companies pay for permits.

Emissions trading or alternative market-based mechanisms provide cost-effective ways of reducing carbon emissions while responding to the strong demand for air travel.

National work to reduce the impact of aviation on the climate

2.13 In parallel with our work internationally, we have made good progress since 2003 on taking national measures to address the problem:

- creating a clearer national policy framework;
- supporting work by industry to reduce emissions, and helping improve the research base for this; and
- taking a lead in offsetting the impacts of aviation emissions from air travel by central Government.

Creating a clearer policy framework

2.14 In 2006, the Government published its revised Climate Change Programme,¹⁰ which outlined the progress made to date in achieving our Kyoto and medium-term domestic goals. This set out the important role that Government, industry and individuals have to play in order to lessen the UK's environmental impacts. The Energy Review built upon this work and considered how we can achieve our longer-term climate change goals whilst protecting the security of our energy supplies.

2.15 The 2006 Queen's Speech underlined the Government's determination to address climate change by committing to undertake legislation, including measures to create an independent Carbon Committee in this session of Parliament. We will consult on the details of this legislation in 2007.

¹⁰ **Climate Change: The UK Programme 2006**, published March 2006, www.defra.gov.uk

2.16 The Government has already strengthened inter-departmental co-operation on climate change issues through the establishment of an Office of Climate Change (OCC). The OCC is intended to support Ministers as they decide future UK strategy and policy on domestic and international climate change. For example, this will be done by consolidating existing analysis to develop a cross-government consensus on current progress and outstanding issues. The OCC will also promote understanding of climate change across government and support departments in considering how their policies respond to climate change challenges.

Supporting work by industry

2.17 Effective policy development and environmental action by Government and the aviation sector rely on sound research, evidence and knowledge transfer. A key area of baseline work is to improve our scientific understanding of the climate change impact of aviation.

2.18 The UK hosted, with Government support, a major academic conference in Oxford in June 2006 on Transport, Atmosphere and Climate Change. This provided a platform for an international information exchange on the current status of our knowledge of the impact of transport on the composition of the atmosphere and the climate. The UK also supports the EU-led QUANTIFY project. This is a five-year project starting in 2006 to improve assessment of the environmental impact of polluting emissions from global transport systems, including aviation.

2.19 To strengthen the academic contribution to action, the Government has committed £5m through the Higher Education Funding Council to a new knowledge transfer network called OMEGA (Opportunities for Meeting the Environmental challenge of Growth in Aviation). OMEGA will define specific areas where further work is needed, facilitate inter-disciplinary research and support strategic longer-term thinking. The Government intends that this initiative will improve our evidence base on aviation science, technology, operations and economic issues in ways that will help deliver sustainability.

2.20 The Government welcomed the aviation industry's Sustainable Aviation initiative, launched in June 2005, as a mark of greater commitment to address aviation's environmental impacts. A key early achievement has been to lodge sustainability firmly at the forefront of the sector's strategic planning. All players in the industry, from manufacturers to airport operators and airlines, have a key role to play in tackling climate change.

How industry is delivering:

- adopting a target to improve fuel efficiency by 50 per cent per seat kilometre in new aircraft in 2020 compared to 2000;
- ensuring common reporting of CO₂ emissions and fleet fuel efficiency to improve transparency of industry performance;
- continuing to improve the fuel efficiency of operations, for example by ensuring aircraft are well maintained and operate efficiently, encouraging aircraft to taxi using only single engines where possible and to take off without engines operating at full thrust; and

promoting the Continuous Descent Approach, by which aircraft descend steadily under minimum power to landing, which, combined with low-power, low-drag techniques, can save about 1 per cent of total fuel (and CO₂) per aircraft. Already over 80 per cent of aircraft movements at Heathrow do so.

Energy efficiency and use of renewable sources at airports

2.21 A number of airports have also set themselves targets for energy efficiency and use of renewable sources. We welcome these activities and encourage all airports to take similar action to tackle their local as well as global environmental impacts.

Energy Efficiency - Examples of Best Practice at Airports

- BAA airports - BAA is one of the UK's top 20 industrial consumers of energy and already participates in the EU Emissions Trading Scheme. It has a group objective to achieve a 15 per cent reduction in absolute CO₂ emissions from fixed sources by 2010 compared to 1990.
- Manchester Airport - has set a target to reduce CO₂ emissions from its energy plant by 10 per cent. In addition, the airport has a target that, by 2010, 25 per cent of its energy supply will be from renewable sources.
- East Midlands Airport - has set a target to make its operations carbon neutral by 2012. Last year the airport generated 10 per cent of its electricity from renewable sources. The airport also plans to use biomass fuels to heat its extended passenger terminal.
- Bristol International Airport - has converted its airport fleet to biodiesel.
- Luton - the proposed new south terminal building will be designed for maximum energy efficiency. The airport intends to use solar panels and generate electricity, heat and possibly cooled air from airport waste.

Taking a lead in offsetting existing climate change emissions

2.22 As well as Government taking action, individual citizens can help to mitigate the climate change impact of their activities - whether this is from air travel, domestic energy use or other areas of their life - by using an offsetting scheme. This involves making a financial contribution to schemes that reduce CO₂ production elsewhere by an amount equivalent to the CO₂ generated by that individual. There are companies who specialise in offering offsetting services to individuals and companies. Typically the cost of carbon-only offsetting for a short-haul return flight has recently been around £5, for a transatlantic return flight £10, and for a return flight to Australia around £30¹¹

2.23 From April 2006, emissions attributable to central government official and ministerial air travel have been captured by an offsetting scheme. The Government Carbon Offsetting Fund is expected to offset up to 100,000 tonnes of CO₂ per year, at a cost of around £1 million. The fund will purchase Certified Emissions Reductions generated by small-scale renewable energy and energy efficiency projects that reduce carbon emissions in developing countries. More and more British businesses are now taking a similar approach, in order to take responsibility for the impact of their air travel on the environment.

2.24 We welcome the steps some airlines and travel agents have taken to offer customers the opportunity to offset emissions from air travel. The Office of Climate Change, in its governmental co-ordinating role, has been working with airlines to encourage the promotion of offsetting schemes for airline passengers. This is linked to the development of a proposed Government standard for carbon offsetting supported by a voluntary code of best practice. Consultation on this standard is expected to be launched in due course.

Predicting and pricing emissions

2.25 Our policy approach to aviation and climate change is described above. This is based on our understanding of the nature of the challenge facing us.

Aircraft emissions

The Future of Air Transport White Paper acknowledged that aviation emissions arising from the combustion of kerosene include:

¹¹ Average charge of a representative sample of offsetting providers (CO₂ Balance, Carbon Neutral, Carbon Clear, Climate Care)

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- carbon dioxide;
- water vapour (which leads to the formation of contrails and cirrus cloud at altitude);
- nitric oxide and nitrogen dioxide (or NO_x, which forms ozone, a greenhouse gas, at altitude);
- particulates (soot and sulphate particles);
- other compounds including sulphur oxides, carbon monoxide, hydrocarbons and radicals such as hydroxyl.

Understanding of the impacts of carbon emissions is relatively good. For other emissions there are greater uncertainties, although the impacts of NO_x emissions are better understood than other non-CO₂ emissions. Further research is ongoing - for example through the EU QUANTIFY project - to understand better the effects of these other emissions at altitude. These 'radiative forcing' impacts were estimated by the Inter-Governmental Panel on Climate Change (IPCC) in 1999 to be 2-4 times greater than that from carbon dioxide alone (excluding cirrus cloud enhancement). More recently the total radiative impacts were estimated, by the EC TRADEOFF project,¹² to be approximately twice those of CO₂, once again excluding cirrus. Separately, the upper limits of cirrus impacts have recently been estimated to be potentially twice those estimated by the IPCC in 1999.

In taking forward our approach to ensure that aviation reflects its external costs, we seek to take account of the full range of climate effects.

2.26 Chapter 4 of this report sets out in detail our revised forecasts for the future growth of aviation.

2.27 We have provided information to the Environmental Audit Committee (EAC)¹³ on the relationship between domestic aviation emissions and the UK's goal of a 60 per cent reduction in emissions by 2050. In line with the goal, UK carbon emissions would reduce from 152.2 million tonnes in 2000 to 65.8 million tonnes in 2050. Within that total, domestic aviation emissions rise from 0.8 to 1.6 million. This means that in 2050 domestic aviation would represent 2.4 per cent of UK carbon emissions.

2.28 As explained earlier, international aviation is not included in the UK's domestic targets. However, we track emissions from international aviation as well, and have reported on this also to the EAC. There is no agreement on how to score individual countries' share of international aviation emissions. But, as an illustration of one methodology, we project total 2050 aviation carbon emissions of 17.4 million tonnes for all departing flights. This estimate excludes the radiative forcing consequences described above, in the box on aircraft emissions.

2.29 This is why we are pressing for the modernisation of the Chicago Convention and are leading the way on the inclusion of aviation in the European emissions trading scheme. This would mean that the aviation sector would be paying for reductions elsewhere in the economy if its emissions continue to grow, to secure an economy-wide reduction. It would also strengthen incentives for the sector to play its part in reducing emissions, to the extent that this is the most cost-effective way to reduce overall emissions. As discussed earlier in this chapter, emissions trading schemes help reduce overall emissions in the way that imposes the lowest cost on the overall economy.

¹² The EC TRADEOFF project (Aircraft emissions: contributions of various climate compounds to changes in composition and radiative forcing - tradeoff to regulate atmospheric impacts) involved ten European scientific organisations, including Manchester Metropolitan University. The project completed in 2003 (Sausen et al, 2005).

¹³ Figures previously provided to the House of Commons Environmental Audit Committee, are published in the document Aviation: Sustainability and the Government Response (HC623) issued on 7 June 2004

2.30 As in the 2003 White Paper, the passenger forecasts in this progress report assume that after 2010 aviation passengers will face an additional cost linked to their climate change emissions. Sir Rod Eddington's Transport Study¹⁴ makes clear that, while global connectivity underpins international trade, and infrastructure development needs to keep pace with globalisation, he agrees with the Stern Review that economic development must go hand in hand with meeting the global challenge of climate change. Hence, in line with Eddington's recommendation, we have tested the sensitivity of our forecasts to the Department for the Environment, Food and Rural Affairs (Defra) range of carbon costs. Chapter 4 provides more information on the carbon cost assumptions and forecast results.

A new emissions cost assessment

2.31 *The Future of Air Transport* White Paper set out the Government's support for the sustainable development of aviation capacity in a way that meets both environmental and economic goals.

2.32 This progress report shows how we are already taking action to ensure that the aviation sector meets its external climate change costs. The Government has consistently pressed for inclusion of aviation in the multilateral EU emissions trading scheme as the most efficient and cost-effective way to ensure that the sector contributes to tackling climate change. We will continue to do so, but recognise that other economic instruments also have a part to play.

2.33 We are also clear that major decisions on increases in airport capacity need to take account of not only their local environmental effects, but also the wider context of aviation's climate impact.

2.34 In accordance with a key conclusion of both the Stern Review and Eddington Study, the Government therefore proposes to introduce a new emissions cost assessment to inform its decisions on major increases in aviation capacity. This assessment would consider whether the aviation sector is meeting its external climate change costs.

2.35 We will consult on the development of this emissions cost assessment in the first half of 2007. We will also draw on the recommendations of the Eddington Study, in particular the cost-benefit analysis revisions to further enhance our consideration of climate change costs alongside economic benefits when appraising new airport capacity. We shall also consider how an emissions cost assessment could be applied in the shorter term.

2.36 This approach will reinforce the need to make progress at international and national levels for the aviation sector to meet fully its external climate change costs in areas of operations, technology and economic instruments. The benefits of further gains in fuel efficiency and the use of carbon by the aviation industry will help us to meet our environmental obligations.

Next steps

2.37 In summary, we anticipate work being taken forward in the following areas over coming years:

We will continue to work towards:

- international agreement on a way to bring international aviation emissions within the wider post-2012 framework, following up the Kyoto Protocol;
- the removal of barriers preventing the emergence of international aviation emissions trading schemes, including the modernisation of ICAO and the Chicago Convention;
- inclusion of aviation within the European Emissions Trading Scheme as soon as is practicable. We want to see a scheme that applies to all flights departing from any airport in the EU;
- building on the progress made to date in promoting offsetting to airline passengers;

¹⁴ The Eddington Transport Study, The case for action: Sir Rod Eddington's advice to Government, December 2006, www.dft.gov.uk or www.hm-treasury.gov.uk

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- introducing an emissions cost assessment to inform future decisions on major increases in airport capacity;
- publishing revised emissions forecasts in 2007.

In addition:

- we would recommend that all airports follow the example of Manchester and Luton airports and plan to become carbon neutral;
- we invite airport operators to publish an environmental statement alongside their master plans, setting targets for recycling, reducing carbon emissions and improving the energy efficiency of their business operations, with the aim of achieving carbon neutrality as quickly as possible;
- we ask industry to report annually on the progress it has made on reaching the targets in its Sustainable Aviation Strategy.

Local environmental challenges

Introduction

3.1 While airports offer a way of meeting people's aspirations and businesses' need to travel, they can also have a negative impact on people who live nearest to them. Local communities are also affected by the road traffic generated by airports.

3.2 Environmental impacts such as air pollution, noise, congestion and property blight can all arise from the operation and development of airports. *The Future of Air Transport* White Paper recognised this and set out a clear policy for how these challenges should be addressed.

3.3 Our objective is to strike a fair balance between the local and national benefits that can be gained from airport expansion, and the local costs that might be imposed on the people who live nearest to airports. We continue to work hard to deliver our 2003 aims that:

- the number of people in the UK significantly affected by aircraft noise should be limited and, where possible, reduced;
- air quality and other environmental, health and safety standards should be met;
- loss of landscape and heritage should be avoided where possible and otherwise minimised; and
- surface access to airports should be designed to mitigate local impacts.

3.4 This chapter of the report summarises progress that has been made in meeting these objectives since 2003. Action to do this has fallen to Government, airport operators and the wider aviation industry. Key achievements over this period include:

- strengthening airport operators' powers to control noise at airports and encouraging other measures to reduce noise;
- implementing a new night noise regime for London airports that caps flight numbers at current levels and provides incentives for introducing quieter aircraft;
- tackling air pollution, by introducing powers to charge airlines that continue to use the most polluting aircraft;
- advances in technology and operations that continue to reduce noise and emissions from planes; and
- the preparation of master plans, which provide transparency to local residents and planning authorities on how airports plan to develop over coming years, as well as providing blight schemes to compensate those who are most affected by infrastructure developments.

Strengthening powers to control noise

3.5 The Civil Aviation Act 2006 gives airport operators statutory powers to introduce noise control schemes and fine aircraft that breach noise controls.

3.6 We hope this will encourage larger airports to establish schemes where they do not already exist. These could include penalties for straying from agreed flight paths that minimise the number of people affected by noise. Any income from the penalty scheme would have to be put towards projects that benefit the local community.

3.7 In addition, some airports are doing more to tackle the noise that they generate. The White Paper invited larger airports to offer acoustic insulation to noise-sensitive buildings such as schools and hospitals affected by medium to high levels of noise, as well as assistance with relocation costs to households subject to high noise levels. We are pleased that airports have responded well to this

request. We therefore see no need at present to use statutory powers to require the provision of insulation, but will do so if it later proves necessary.

Airports' action to control and mitigate noise - examples of good practice:

- East Midlands Airport - has introduced an innovative internet tracking system that allows people to see which aircraft have flown over their homes and helps them identify which aircraft caused the disturbance. The airport has also proposed a substantial increase in its sound insulation grant.
- Edinburgh and Glasgow Airports - also have noise and tracking systems, which are used in conjunction with a dedicated noise enquiry line for noise complaints.
- All major airports - in line with EU Directive 2002/49/EC, noise maps will have to be produced for 2007. These airports will then be required to produce an action plan to manage their noise impact.

Night flights

3.8 On 6 June 2006, following consultation, we announced decisions on new night flying restrictions at Heathrow, Gatwick and Stansted airports to apply from October 2006 to October 2012. We consider that for each airport the outcome represents an appropriate balance between the need to protect local communities from excessive noise and the economic benefits that night-time air services can bring.

3.9 The restrictions now in place mean that there has been no increase in the number of flights permitted at night. However, the total night noise limit will reduce over time, so incentivising airlines to introduce quieter aircraft.

3.10 As part of the decision, we set specific night-noise-related criteria to determine which residents should be offered sound insulation to be paid for, or contributed to, by the airport. The criteria are based on the noise generated by a single aircraft, rather than the amount of noise experienced over an average night. BAA is currently finalising the details of its insulation scheme.

Reducing air pollution from aircraft

3.11 The Civil Aviation Act 2006 provides powers for all airports to introduce charges that reflect the pollution generated by each aircraft type, in the way that Heathrow and Gatwick already do. We are also using UK experience to help prepare guidance in ICAO on the introduction and use of such charges to address local air quality concerns.

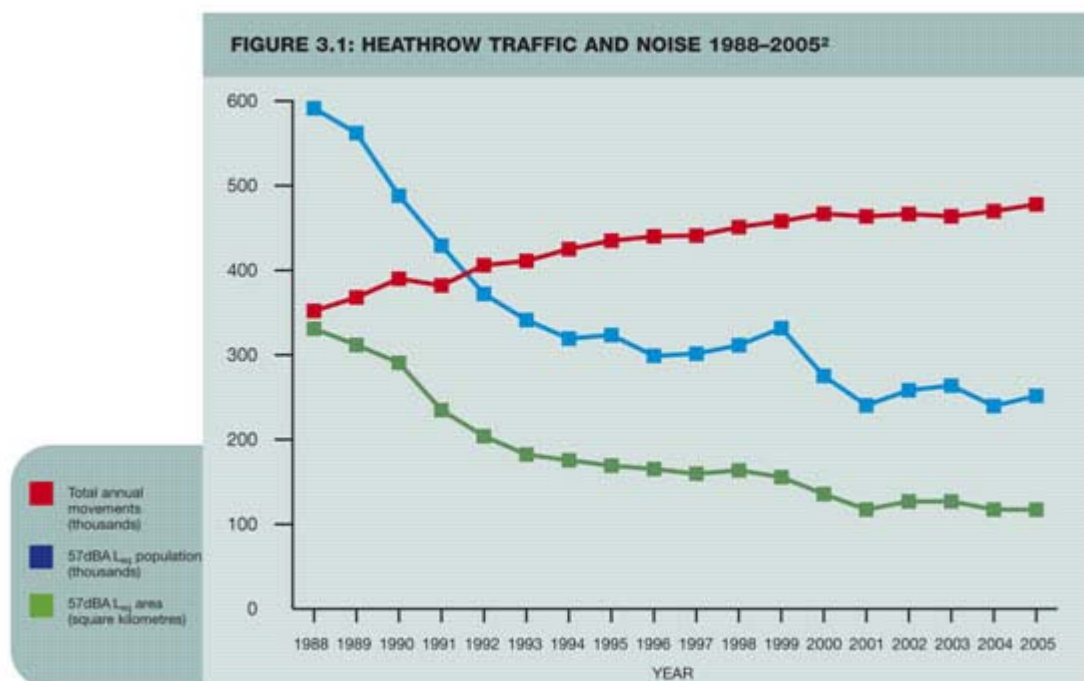
3.12 Action by industry is also playing a key role in making progress to improve aircraft emissions. New engine developments emit lower NO_x levels than previous engines. International standards have tightened on NO_x emissions over the years. Industry has a target by 2020 to reduce NO_x emissions by 80 per cent compared to aircraft in production in 2000.

Technological and operational improvements in performance

3.13 Improvements in technology and operational procedures have reduced noise from aircraft over recent years. Figure 3.1 shows that the number of flights at Heathrow has been increasing but the population and ground area significantly affected by aircraft noise have been falling over time.¹⁵

Figure 3.1: Heathrow Traffic and noise 1988-2005¹⁶

¹⁵ Based on research, the Government has used 57 dBA Leq as the level of daytime noise marking the approximate onset of significant community annoyance (The Future of Air Transport White Paper p34 'Aircraft Noise Measurement and Mapping' box)



3.14 In *The Future of Air Transport White Paper*, the Government highlighted the importance of promoting research and development into quieter aircraft and airframe technology. Although this is a long-term issue, early gains are being made.

3.15 For example, Rolls Royce has developed the Trent 900 engine, which powered the Airbus A380 on its first test flight in 2005, and the Trent 1000 engine which will be used in the new Boeing 787. These engines include innovations to reduce noise and improve fuel efficiency.

3.16 Since 2003 there have also been developments in the material used for aircraft manufacture. Both Boeing and Airbus are increasing the use of composite materials, which are light and strong and enable noise reductions - for example by requiring less thrust at take-off. Further research and development is necessary to ensure that progress continues towards the industry-led target to reduce aircraft noise by 50 per cent by 2020.

3.17 On the operational side, planes departing and landing at UK airports already fly routes that are designed to limit the number of people affected by aircraft noise. The Government, the Civil Aviation Authority (CAA) and the National Air Traffic Control Service (NATS) also encourage, where airspace and safety considerations allow, the use of continuous descent approach (CDA). This seeks to reduce the noise of arriving aircraft by ensuring that aircraft remain as high as possible for as long as possible and that segments of level flight during descent - which increase engine noise - are avoided. Updated guidance on the use of CDA, in partnership with the industry, has recently been issued.¹⁷

¹⁶ Noise contours are produced by the CAA Environmental research and Consultancy Department on behalf of the Department for Transport, and are published at www.dft.gov.uk

¹⁷ Noise from arriving aircraft, an industry code of practice, published November 2006, www.defra.gov.uk

Airport master plans

3.18 *The Future of Air Transport* White Paper invited 30 UK airports to prepare master plans where specific major developments were supported or where the airport is forecast to handle 20,000 or more flights annually by 2030. Although not statutory documents, these plans are intended to inform the planning process and, most importantly, provide a mechanism for local communities to engage with the airport on its future development, ensuring their voices are heard.

3.19 Guidance¹⁸ published in 2004 set out the methodology for developing master plans. This made clear that development proposals should incorporate measures to minimise their effects on the local environment, and should also address social issues, economic impact and surface access. The Department welcomes the thorough and methodical approach that airports have applied to developing master plans and consulting local people on them.¹⁹

3.20 Master plans illustrate a number of areas of good practice at airports across the country. We set out below some examples of best practice that we have identified. We encourage airport operators to learn from one another and continue to improve the way that they run and develop their airports.

Blight

The prospect of airport development can have an impact on property values in the period before statutory protection is available, leading to generalised blight. *The Future of Air Transport* White Paper recognised this and proposed that non-statutory schemes be brought forward locally by airports where necessary.

We welcome the fact that master plans have, in most part, acted as the catalyst for airports to bring forward schemes to address generalised blight. We encourage other airports to follow the examples already set by some airports:

- **Birmingham Airport** - has the second largest blight scheme of all UK airports after Heathrow, with over 500 properties affected. In response to the concern raised during the consultation exercises on both the master plan and blight proposals, the airport has recently announced its intention to revise the blight scheme and implement it following publication of the final master plan in 2007.
- **Stansted** - BAA has introduced voluntary non-statutory schemes to address the blight associated with the proposed development at Stansted. The first scheme enables homeowners within the proposed expanded airport boundary to sell to BAA for the full, unblighted market value of their property. The second aims to stabilise the housing market and provide financial support to homeowners close to the proposed expanded airport boundary where the prospect of increased aircraft noise is greatest.
- **Luton** - the airport operator consulted on draft blight proposals in March 2006 and will further consider its blight mitigation strategy in 2007.

Surface access

The Future of Air Transport White Paper made clear that any proposal for new airport capacity must ensure surface access options that minimise environmental, congestion and local impacts. We

¹⁸ Guidance on the Preparation of Airport Master Plans - Department of Transport, July 2004

¹⁹ 28 airports have produced draft plans. Exeter Airport has yet to publish due to a change in ownership, and Plymouth City Airport is awaiting clarity on its future role before publishing. We also welcome smaller airports, such as Biggin Hill and Southend, publishing and consulting the local community on their plans, even though they were not asked to do so

continue to encourage airport operators to increase the use of public transport to help reduce road congestion and air pollution.

Airport operators have made a positive start by developing **surface access strategies**. A number of airports have also set challenging targets for increasing the use of public transport by passengers and people working at the airport. Although the national picture shows that the private car remains the dominant means of accessing airports, some good progress has been made by individual airports. For example, between 2003 and 2005, Luton achieved an increase of 4 percentage points in the number of people taking public transport to access the airport, mainly as a result of a shift from private car usage to bus and coach services. Many airports have also developed 'green' travel plans for staff, including reduced fares for public transport, bike loans and internet-based car sharing systems.

We look to all airports to follow these examples, producing transport strategies that set and work towards challenging targets for increasing public transport, and sharing best practice.

Specific good examples include:

- **Bristol** - passengers on the airport 'flyer' bus service to Bristol city centre have grown from 60,000 in 1999 to 267,000 in 2004/5.
- **Manchester** - opened a £60m transport interchange ('The Station') in 2002 for rail, coach and bus services - it now handles 300 trains (1.2m passengers per year), 100 coaches and 500 buses a day.
- **Birmingham** - opened a light-rail link to Birmingham International Railway Station in 2003 and a dedicated bus and coach terminus in 2004.

Landscape, biodiversity and heritage

Airports comprise very large areas of land, often with ecological or scientific importance. Most airports have responded to the additional responsibility this brings by producing plans to deal with their impact on landscape, biodiversity and heritage.

- **Birmingham Airport** - developed a compensation plan that would include giving 2 hectares of land for wildlife conservation in the wider region for every 1 hectare lost (130 hectares in total) and the translocation of some habitats and species.
- **Liverpool Airport** - proposing a 2.2 mile extension to the Speke Garston Coastal Reserve, doubling its area and creating a nature conservation, heritage and recreational resource of regional significance.
- **Manchester Airport** - woodland included in the operational area will be subject to environmental work to improve its landscape, nature conservation and recreational value.

Recycling and environmental performance

Master plans have also shown examples of good practice in this area. As major businesses, airports generate large volumes of waste, and there is scope for many airports to recycle more than they currently do, reducing the amount that goes to landfill. One of the more successful airports is East Midlands Airport, which handled 700 tonnes of waste material in 2004, 231 tonnes of which was recycled. Airports have implemented a range of initiatives and targets to recycle waste material, but are encouraged to undertake a waste management audit and set challenging targets where they have not already done so.

- **Glasgow and Edinburgh International Airports** - have increased the proportion of waste recycled to 24 per cent and 27 per cent respectively. Edinburgh has a target to increase recycled waste to 35 per cent by 2011.
- **Birmingham International Airport** - has opened a purpose built waste management facility in May 2006. Since then it has handled 734 tonnes of waste, 10 tonnes of scrap metal, over 4 tonnes of wood and 15 tonnes of paper.

Social responsibility and community engagement

We also welcome the steps taken by many airports to make a positive contribution to their local communities. We would encourage airports to share and learn from best practice.

- **Manchester Airport's** initiatives to support the local community include:
 - A network of 'community champions' responsible for co-ordinating and delivering a wide programme of community activities. In 2005, their staff delivered over 1,800 hours of voluntary activity in a co-ordinated programme.
 - A permanently established outreach centre and mobile outreach programme giving local people the opportunity to meet airport staff and discuss a wide variety of topics.
 - A full-time education unit supporting local schools and an airport tour centre.
 - £1.8m awarded to over 600 local projects by the airport community fund.
- **East Midland Airport's** community fund has awarded grants of more than £128,000 since 2002 to a variety of local community projects. The airport plans to increase its contribution to £50,000 a year from 2006.
- **Birmingham Airport** won an award from Business in the Community, the UK's leading promoter of corporate social responsibility, in recognition of its work in local communities. The airport also invests in local education programmes.

Public health and safety

Protecting those people living or working near airports is vital. It is a long-established Government policy that, where traffic warrants it, public safety zones (PSZs) be established at the end of runways, where the risk is greatest. Within these PSZs development is restricted. In 2006 the Department for Transport supported the Department for Environment and the Department for Regional Development in Northern Ireland in consulting on revised PSZs for Belfast City and Belfast International Airports, bringing them in line with the rest of the UK.

Next steps

Further work on White Paper commitments:

- Producing noise maps (by mid-2007) and action plans (by mid-2008) for airports in line with the European Directive 2002/49/EC requirements;
- Government to consult on draft planning policy statement on planning and noise by summer 2007;
- Airports to publish post-consultative master plans as quickly as possible;
- Airports that have published voluntary blight schemes to implement them; we encourage other airports to bring forward blight schemes where these are necessary.
- In 2007, we will start a review of current PSZs to ensure that the level of risk has not changed. As part of this work, we will also look at whether traffic increases require PSZs to be put in place at other airports.

Additional action:

- We recommend that airport consultative committees monitor how well the new powers in the Civil Aviation Act 2006 are being implemented by airports.
- We invite all airports to produce surface access strategies setting targets for increasing public transport use.

- We encourage the industry to look at how it communicates information about environmental impacts, and to follow best practice, e.g. East Midlands' internet tracking system for aircraft noise.

Economic benefits of air travel

Introduction

4.1 *The Future of Air Transport* White Paper was clear about the significant environmental challenges that the aviation sector faces. However it also recognised the benefits that increased choice and access to air travel bring to the lives of ordinary people, and the sector's importance to modern business and our economy as a whole, in an era of globalisation.

4.2 This chapter of the progress report covers the factors that influence and enable people to fly, together with the economic and social benefits of aviation. It updates the Government's forecasts of the demand for air travel and explains how we are taking account of the climate change cost of air travel in calculating this. It also explains how the aviation industry, and the context in which it operates, have evolved since 2003.

Demand for air travel

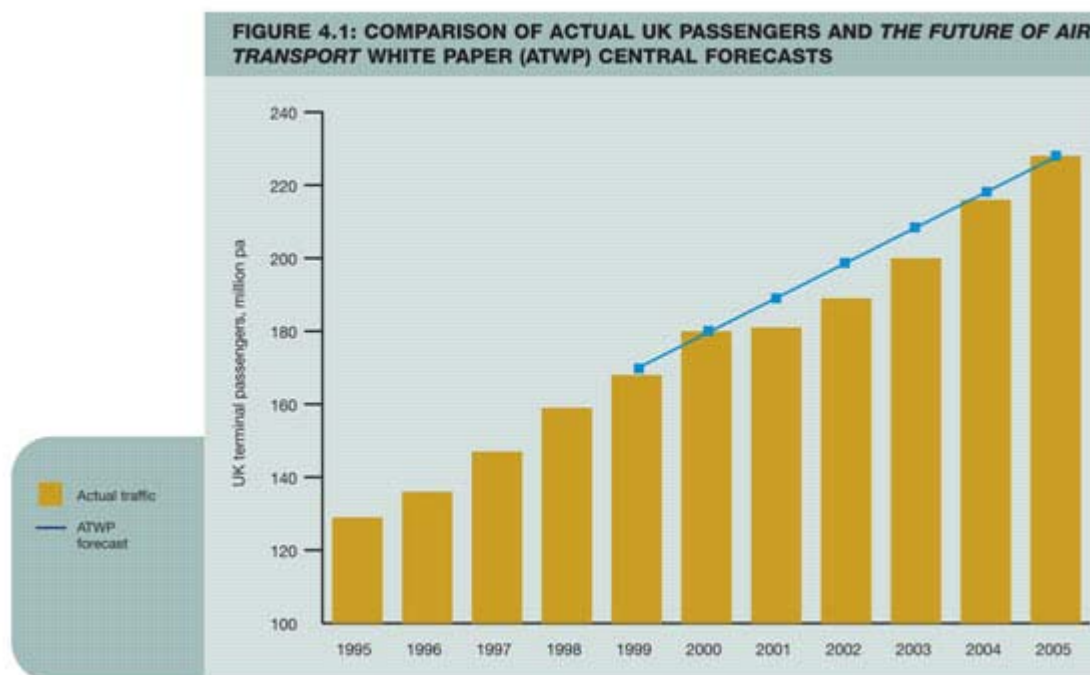
4.3 Demand for air travel has continued to grow strongly. Given the contribution that carbon emissions from air transport make to climate change, it is important to understand how demand is likely to evolve and how it will react to measures to reflect the costs of climate change, as well as other changes to the industry cost base. This section explains:

- how demand has developed since our last forecasts in 2003;
- how the Government incorporates environmental costs into its forecasting approach;
- our latest forecasts for the growth of air passenger demand between now and 2030.

Development of demand since 2003

4.4 The 2003 White Paper forecast air travel demand to reach 228 million passengers per year by 2005, and this proved to be accurate.²⁰

²⁰ CAA Airport Statistics (2005), www.caa.co.uk



How environmental costs are incorporated into forecasts

4.5 As explained in Chapter 2, the Government supports the early adoption of policies that will ensure the cost of aviation fully reflects its environmental cost.

4.6 The air passenger demand forecasts for this progress report assume that after 2010, passengers will face an additional cost linked to their climate change emissions. The central forecast assumes that a charge based on the Defra central value for the cost of carbon is phased in from 2010 to 2020.²¹ The quantity of carbon emissions is uprated to account for the warming effect of non-carbon emissions using a 'radiative forcing factor' of 2.5.

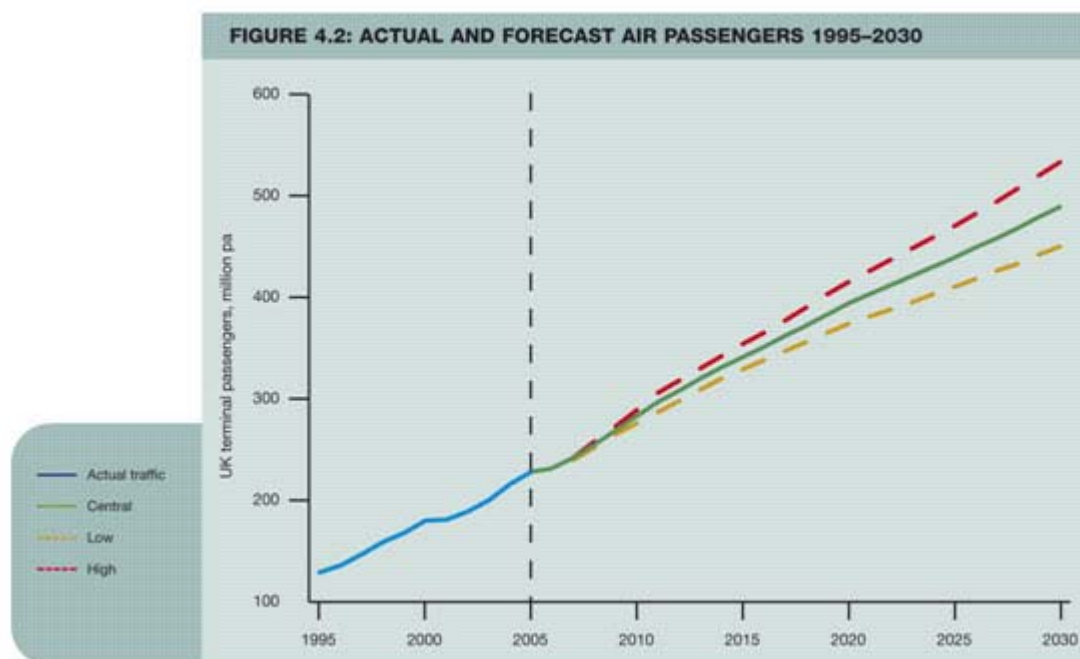
4.7 This is similar to the approach taken in the 2003 White Paper. However, in line with the recommendation from Sir Rod Eddington in his report on the long-term development of transport infrastructure in the UK, we have tested the sensitivity of our forecasts to the Defra range of carbon costs.²²

Our new forecasts

4.8 Our forecasts of air travel demand (if capacity is not constrained) have been updated for this report. The central forecast, and range, are shown in Figure 4.2. The range shows the extent to which the forecast varies in response to alternative assumptions about GDP growth, the cost of oil, the cost of carbon, and the radiative forcing factor. The range shows that even with substantially higher costs or slower economic growth, the trajectory for air travel is still strongly positive.

²¹ The Defra central value for the cost of carbon is assumed to rise from £70/tC in 2000 by £1 per annum in real terms. The extra cost is assumed to be phased in gradually from 2011 to 2021

²² The DEFRA range of values for the cost of carbon in 2000 is £35/tC to £140/tC



4.9 The new forecasts take account of the most recent data on actual passenger numbers and include improvements to key assumptions such as the changing market structure and the impact that economic and social factors have on people's inclination to fly.

4.10 Our new forecasts remain fully in line with what we said in 2003. Assuming passengers pay their climate change costs, but no limit on the supply of flights, we forecast overall demand would grow from 228 million in 2005 to 490 million passengers passing through UK airports per year by 2030.

4.11 However, the additional airport development supported in the White Paper would not be sufficient to support all of this unconstrained demand. After accounting for future UK airport capacity constraints outlined in the White Paper, national air travel demand is forecast to grow under the central case to 465 million in 2030.

4.12 The forecast's sensitivity test and range are described in more detail in Annex C. We will publish a more detailed technical note on our forecast methods and results in 2007.

Why demand is forecast to rise

4.13 The four main factors underlying the forecast rise in demand are:

- international competitiveness;
- trade and freight transport;
- aviation's direct contribution to economic development; and
- people's aspiration to travel.

International competitiveness

4.14 According to the latest research by Oxford Economic Forecasting (OEF), access to air services is an important factor for 25 per cent of companies across the whole economy in influencing where they

locate their operations within the UK.²³ Access to these services also affects the decisions by 10 per cent of companies as to whether to invest in the UK at all. A similar number also feel that access to overnight air freight services is a vital consideration in operating from the UK.

4.15 There is also evidence that aviation is particularly important for service industries and other key growth sectors of the economy. The hi-tech knowledge-based sectors are heavily reliant on aviation to develop and maintain an international client base. In the south-east of England, for example, 90 per cent of companies surveyed by the OEF regard Heathrow as either vital or very important to their organisations.

4.16 Sir Rod Eddington's Transport Study stresses that a healthy economy must have excellent transport systems at its backbone, and that infrastructure investment is needed to deliver global connectivity and drive economic development. He notes that an additional two runways in the South East would deliver net economic benefits of £17 billion.²⁴ He is also clear that, as globalisation accelerates, aviation has a crucial part to play in maintaining the UK's strengths in import and export, trade and service industries.

International trade and travel

4.17 Air freight is an important and growing factor in supporting the UK's international trade, and is invaluable in many markets in which UK firms specialise. About a quarter of UK visible trade by value goes by air²⁵ and in 2005 air freight transported 2.3 million tonnes of cargo.²⁶

4.18 Airports in the UK are increasingly offering a broader range of destinations and services. On average airports have increased the number of overseas routes they offer by 44 per cent between 2003 and 2005²⁷, with new routes and markets being opened up with countries such as India, China, Russia, Brazil and Australia, stimulating further business and travel opportunities. In turn, the UK's inbound tourism industry is now the fifth largest in the world. Around 30 million overseas visitors came to Britain in 2005, over two-thirds of them arriving by air and spending some £14 billion here.²⁸

Aviation's direct contribution to investment and employment

4.19 The aviation industry makes a significant contribution to employment and investment in the UK economy. It is itself a substantial employer, providing around 200,000 jobs directly and many more indirectly. The industry also contributes around £11 billion directly to the economy²⁹ (approximately 1 per cent of UK economic activity).

4.20 The industry's impact goes beyond commercial airports and airlines. The General Aviation (GA) sector (business jets and recreational flyers), for example, makes an important contribution to the economy. It is estimated that over 11,000 people are employed in jobs directly related to GA, and the

²³ Oxford Economic Forecasting, *The Economic Contribution of the Aviation Industry in the UK*, December 2006

²⁴ The Eddington Transport Study *Transport's role in sustaining the UK's productivity and competitiveness*, published 1 December 2006, www.hm-treasury.gov.uk

²⁵ Department for Transport, *Focus on Freight*, 2006 edition (to be published 21 December 2006), www.dft.gov.uk

²⁶ CAA Airport Statistics 2005, www.caa.co.uk

²⁷ CAA Airport Statistics 2005, www.caa.co.uk

²⁸ Office of National Statistics, www.statistics.gov.uk

²⁹ Oxford Economic Forecasting, ***The Economic Contribution of the Aviation Industry in the UK***, December 2006

sector expenditure is estimated to be £1.4 billion, equivalent to about 8 per cent of total aviation expenditure.³⁰

4.21 The aviation industry also invests in the skills and training of its workforce. Since 2003, new Centres of Excellence for aircraft maintenance have opened in Prestwick, South Wales and Newcastle, providing training and employment for a new generation of skilled aircraft engineers and technicians.

People's aspirations and attitudes to flying

4.22 Aviation is becoming a more commonly-used form of transport as the UK economy develops, people become richer, and the choices available to them increase. The Government's most recent *Attitudes to Air Travel* survey (published October 2006) shows that almost half of all UK adults had flown at least once during the previous year, and that 15 per cent had flown at least three times during that period.³¹

4.23 The survey also recorded the very strong aspiration that people have to fly more in future. A quarter expect to fly more often next year than last, because of a desire to travel and rises in their income.

4.24 This increasing desire and propensity to fly can be explained by the growing affordability of air travel. Rising incomes, lower air fares, a greater choice of ticketing options and a greater range of services from UK regional airports are all contributing to making air travel a more realistic option for people across the UK. Within the growing numbers of journeys taken, the proportion of leisure travellers has risen from 2000 to 2005. In the South East, the proportion has risen from 62 per cent to 65 per cent of all flights from Heathrow, and from 77 per cent to 82 per cent³² of flights from Stansted.

4.25 However, the public attitudes survey also showed a marked increase in public awareness of climate change and the environmental implications of air travel. The survey showed that 70 per cent of adults now believe that air travel has an impact on the environment (an increase from 62 per cent in 2002).

Changing shape of the aviation industry since 2003

4.26 Since *The Future of Air Transport* White Paper, the aviation industry has evolved to take account of external factors, commercial activity and changes in its regulatory base. While few of these issues have directly affected the service delivered to passengers, fundamental issues that will continue to shape the sector remain to be resolved over the coming years.

4.27 Changes have taken place to the ownership of several airport operators including BAA plc, the largest airport operator in the UK, and other airports, such as London City and Luton.

4.28 In relation to economic regulation of the UK aviation industry, since Autumn 2006 two significant documents have been published: the Civil Aviation Authority's (CAA's) consultation on the price caps for the next five-year period at Heathrow, Gatwick and Stansted,³³ and the Transport

³⁰ Strategic Review of General Aviation in the UK, published July 2006, www.caa.co.uk. It should be noted that the £1.4 billion figure refers to expenditure rather than the gross value added of General Aviation to the economy

³¹ DfT, Public Attitudes of, and experiences towards, Air Travel (2006), www.dft.gov.uk

³² Data from CAA Passenger surveys 2000 and 2005, www.caa.co.uk

³³ **CAA Airports price control review - initial proposals for Heathrow, Gatwick and Stansted**, December 2006, www.caa.co.uk

Select Committee's (TSC's) report on the operation of the CAA.³⁴ In addition, on 12 December 2006 the Office of Fair Trading (OFT) published its report on the operation of the UK airport market.³⁵

4.29 A common theme that runs through both the CAA and TSC reports is a call for economic regulation to be appropriate and proportionate, in particular reviewing how airports are designated for the purposes of setting a price cap on their charges. We are considering these reports carefully, including specific cases for de-designation of Stansted and Manchester airports, proposed by the CAA and Manchester Airport Group respectively, with a view to consulting on them in 2007 and reaching conclusions based on the criteria referred to above.

4.30 Any future decision to de-designate Stansted and Manchester for the purposes of economic regulation would lead the CAA to end the setting of price caps at these airports.

4.31 In addition to these structural changes within the industry, UK airports have also faced a changing operating environment. Following the 7 July 2005 London bombings and more recently the alleged threats to airline operations in August 2006, enhanced security measures were introduced at UK and European airports. The Government continues to work closely with the aviation industry to consider whether any further practical steps can be taken to lessen the burdens on passengers and operators while not compromising security.

4.32 London airports have also had to adjust to the impact of the Buncefield fuel terminal explosion in December 2005, which severely affected fuel supplies to Heathrow, Luton and Gatwick. Although some fuel rationing was needed at Heathrow because of a temporary shortage of aviation fuel there, all parties have worked together well to restore fuel supplies and minimise disruption for passengers. Government will continue to work closely with the aviation industry and with fuel supply companies in order to ensure a sustainable supply of fuel to UK airports over the medium and longer term.

Access to air travel and protection for passengers

4.33 We have also taken steps to create common standards in Europe so that everyone enjoys the same access to air travel and passengers are protected whilst in the air. Under the UK's presidency of the EU, the Government secured agreement on an EU regulation³⁶ to strengthen the rights of disabled persons travelling by air. We embrace this challenge as an opportunity to ensure that aviation and its benefits are accessible to all. In order to achieve this we have been working closely with the industry. The Civil Aviation Act 2006 introduced a new duty on the Secretary of State to safeguard the health of those on board aircraft. Also during last year's Presidency of the EU, agreement was reached on new procedures for taking joint action on unsafe airlines, including the publication of a list of Europe-wide banned carriers.

Next steps

We will...

- continue to keep data on air travel updated, so that we have a clear picture of trends in the future evolution of the UK aviation industry;

³⁴ House of Commons Transport Committee Report, **The Work of the Civil Aviation Authority**, November 2006

³⁵ Office of Fair Trading, UK airports. Report on the market study and proposed decision to make a market investigation reference. www.offt.gov.uk

³⁶ The Disability Discrimination (Public Authorities) (Statutory Duties) Regulations 2005 (SI 2005/2966) placed specific duties on the Department for Transport to promote disability equality

- continue to keep our air passenger demand forecasts under review to assess whether our forecasts of growing demand remain correct, and publish a technical note on our forecast methods and results in 2007;
- produce a strategy setting out how we will evaluate the impact of the White Paper policies;
- work closely with the aviation industry to manage the implementation of new security measures at airports;
- design and consult on designation and de-designation criteria and consider the specific cases at Stansted and Manchester Airports;
- continue to negotiate bilateral and other international agreements to allow greater choice of routes and services;
- ensure that adequate long-term fuel supply is secured to London airports following the Buncefield fuel depot explosion.

Progress since 2003

Introduction

5.1 In previous chapters, we identified how global and local environmental challenges are being tackled in order to create a sustainable aviation industry. *The Future of Air Transport* White Paper's emphasis was on making better use of the infrastructure that is already in place, although it also supported targeted capacity increases, subject to the normal planning procedures. Making better use of capacity includes airlines increasing the number of passengers on each plane, improving how we use our crowded skies, and encouraging passengers to use local airports in order to direct road and air traffic away from the congested South East.

5.2 Work to implement the policies in the White Paper has been taken forward over the last three years by Government, airport operators, local authorities and other industry and non-governmental organisations. This chapter and Annexes A and B summarise the progress that has been made since 2003.

5.3 The White Paper provided the strategy for the future development of air travel in the UK. But it did not itself authorise or preclude any particular development and recognised that it is for airports to bring forward specific proposals for airport development.

5.4 Since publication of the White Paper, some airport operators have, after detailed analysis, decided that there is not sufficient justification to take forward the proposals in the timescale envisaged in 2003. For instance, the White Paper suggested that at Birmingham and Edinburgh new runways may be needed around 2016 and 2020 respectively. The airports now believe new runways will not be needed before 2020 at the earliest, as a result of making better use of their existing capacity. At Bristol and Leeds-Bradford Airports runway extensions were supported in the White Paper, but the airport operators currently have no plans to take this forward.

Better use of airspace

The current air traffic arrangements for some UK airports are already nearing capacity (especially in the South East), and the related airspace is among the most congested in the world. The White Paper recognised the need for a structured programme for the redesign of UK airspace that would help protect safety standards, relieve current constraints, take account of environmental impacts and accommodate the forecast increase in air transport movements where additional capacity was supported in the White Paper.

In spring 2006, the CAA consulted on its Airspace Change Process which includes new guidance on environmental assessment and is due to be published in spring 2007. In parallel,

NATS has made good progress in developing new airspace designs for existing traffic levels in the South East and is on target to implement these changes in 2009. However, this will only go so far in supporting longer-term capacity, particularly at Stansted and Heathrow. We will therefore consider, with the CAA and NATS, the impact of forecast growth on the South-East airspace as a whole in the period up to 2030.

Developments in the South East

5.5 The White Paper painted a picture of high demand in general and of particular pressures on the existing capacity in the South East. This picture still stands. More than half of current and forecast total UK demand for air travel is for airports in the South East. As this is the most densely populated part of the UK, pressures on land use and the likelihood of development impacts on local communities are high. The White Paper concluded that, while making best use of existing runways in the South East and supporting increased routes and services in other regions could reduce pressure on the major South East airports, this would fall short of a sustainable long-term solution if trends continued. The Government therefore supported the development of two new runways in the South East: at Stansted; and at Heathrow if environmental conditions could be met.³⁷ We report below progress at these two airports; progress at other airports in the South East is summarised in Annex A.

Stansted

5.6 The White Paper noted that Stansted had grown rapidly in recent years and that at current rates of growth its existing runway capacity could be fully used within a few years. It envisaged that a second runway would provide a substantial amount of additional capacity for London and the South East. As there would be little runway capacity available at other major South East airports, it is expected that there would be strong demand for that extra capacity. This would generate substantial net benefits - in the order of £9 billion - to the national economy.³⁸ Growth at Stansted would also complement the Government's regional and sub-regional growth objectives, where strong growth is expected regardless of any decisions on airport capacity at Stansted.

5.7 The White Paper made clear that the first priority at Stansted should be to make best use of the existing runway. However it also anticipated that a second runway (the first full-length new runway in the South East in 50 years) would also be needed early in the next decade.³⁹

Progress to date

5.8 In July 2004, Parliament revoked the statutory limit on the number of passenger flights at Stansted, putting it on the same footing as other UK airports, for which capacity is subject to local planning decisions.

5.9 Demand at Stansted continues to grow, increasing by 18 per cent since 2003, and is expected to increase still further as other airports in the South East face capacity constraints. BAA, the airport operator, predicts that Stansted will reach its current limit of 25 million passengers by early 2008. In 2005, business passengers made up 18 per cent of passengers using Stansted, and 37 per cent of passengers were visiting friends and relatives.⁴⁰

5.10 Stansted Airport's interim master plan, published for consultation in July 2005, set out its proposals for making better use of its existing runway. The master plan anticipated that growth would

³⁷ The Future of Air Transport White Paper, 2003, Chapter 11.

³⁸ **The Future of Air Transport** White Paper, 2003 paragraph 11.27

³⁹ **The Future of Air Transport** White Paper, 2003 paragraphs 11.6 and 11.10

⁴⁰ CAA Passenger Survey 2005, www.caa.co.uk

be accommodated within the existing airport boundary and that local noise and air quality limits would not be exceeded.

5.11 In April 2006 BAA submitted a planning application to make better use of the existing runway, increasing capacity to around 35 million passengers. This was refused by Uttlesford District Council in November 2006. BAA has now appealed against this decision and an inquiry is expected in 2007.

5.12 BAA's consultation on options for a second runway, published in December 2005, proposed a new wide-spaced parallel runway of 3,048 metres in length, operating in mixed mode as its preferred option. By reducing the length of the second runway and the space between the new and existing runways, BAA's preferred option is expected to require significantly less land (627 ha compared to 700 ha) and loss of property (87 compared to 140) than had been envisaged in *The Future of Air Transport* White Paper. In addition, the number of people living within the 57 dBA L_{eq} noise contour⁴¹ by 2030 is expected to be significantly fewer than the White Paper had anticipated (6,845 compared to 14,000).

5.13 BAA has worked closely with the Department for Transport, the Highways Agency and Network Rail to identify improvements that would be needed to the road and rail networks to serve a new runway. This work has also taken account of planned growth within the London-Stansted-Cambridge-Peterborough growth area and the need to ensure that other road and rail users are not adversely affected by the new runway.

Next steps

5.14 The timing and nature of development at Stansted remain a commercial decision for the airport operator. They are subject to the planning process and could be affected by decisions on price capping by the CAA. The CAA's proposal for price caps at Stansted, published on 5 December 2006, recommended that the Government consider removing the requirement for price controls at Stansted. The Government will therefore consider the case for the de-designation of the airport.

5.15 We expect BAA to publish its preferred runway alignment and consult on surface access schemes in early 2007, and submit its planning application for a new runway at Stansted during the second half of 2007. A substantial amount of work remains to be done to prepare for a planning inquiry, which would not be expected to start before spring 2008 and is unlikely to conclude before 2010. The airport operator does not expect a runway to be operational before 2015.

Heathrow

5.16 The White Paper recognised the importance of Heathrow to the national economy and its unique role in the UK as a major hub airport. Heathrow is the world's busiest international airport.⁴² It accounts for almost 30 per cent of all passengers from UK airports and directly or indirectly supports 100,000 jobs.⁴³ In 2005, over 35 per cent of Heathrow's passengers were business travellers,⁴⁴ directly supporting the international competitiveness of London and the wider economy. Fifty-five per cent by volume⁴⁵ of all air freight movements come through Heathrow. London First, a business

⁴¹ Based on research the Government has used 57 dBA L_{eq} as the level of daytime noise measuring the appropriate onset of significant community annoyance (see *The Future of Air Transport* White Paper, page 34, 'Aircraft Noise Measurement and Mapping' box)

⁴² Airports Council International, www.airports.org

⁴³ BAA figures: **Heathrow Airport interim master plan, draft for consultation**, published June 2005

⁴⁴ CAA: Passenger Survey 2005, www.caa.co.uk

⁴⁵ CAA: Airport Statistics 2005, www.caa.co.uk

organisation whose members include many major UK companies, has highlighted Heathrow as 'vital for London's economic competitiveness and attractiveness to international investment'.⁴⁶

5.17 The Government continues to support the development of a third runway at Heathrow, as soon as it is possible to meet the stringent environmental limits set in the White Paper, taking account of the mitigation measures needed to allow this to happen.

5.18 Demand at Heathrow is now far in excess of runway capacity,⁴⁷ and over the last five years passenger growth at Heathrow was just 5 per cent compared to 27 per cent at UK airports overall.⁴⁸ Heathrow is in an increasingly uncompetitive position in relation to other major European airports. Although it handles more passengers per year than any other European airport, it has less runway capacity than competing major European hub airports, such as those shown in Table 5.1.

Table 5.1: Comparison of major European hub airports

European hub airports	Number of runways	Number of passengers per year	Efficiency of runway use - Average number of passengers per flight	Current air traffic movements per hour (and targeted)
London Heathrow	2	67.7 million	146	80
Frankfurt/Main	3	51.9 million	113	80 (120)
Paris Charles de Gaulle	4	53.5 million	113	120
Amsterdam Schiphol	5	44.1 million	112	90 (120)

5.19 As a result, Heathrow's route network is now largely static. Without additional runway capacity, Heathrow's competitive position will diminish to the disadvantage of the UK economy and to the advantage of continental hub airports which are continuing to grow.

5.20 Increasing capacity at Heathrow would have a higher economic value than at any other UK airport, and adding a short third runway would be worth over £5 billion⁴⁹ in net present value terms. But the economic benefits of expansion must be weighed against environmental disadvantages - both climate change emissions and the local impacts on noise and air quality. The Government continues to support the development of a third runway so that the benefits of expansion might be realised, but only if we can be confident of meeting the strict environmental conditions set in the White Paper.

- No net increase in the size of the area of the 57 dBA L_{eq} noise contour beyond its 2002 position (127 km²). The Government is committed to preventing deterioration in the noise climate.
- Compliance of any future development at Heathrow with EU air quality limits, including nitrogen dioxide (NO₂), applicable from 2010. This will require measures to reduce emissions from aviation and other sources, including road traffic, which is a significant contributor.
- Provision of improved public transport access.

⁴⁶ Source: 2006 response to the consultation on Alterations to the London Plan

⁴⁷ Heathrow Summer 2006 Start of Season Report, Airport Co-ordination Ltd, www.acl-uk.org

⁴⁸ CAA: Annual UK Airport Statistics 2005, www.caa.co.uk

⁴⁹ Department for Transport, Passenger Forecasts: Additional Analysis, Table C.1, 2003

Progress since 2003

Environmental assessment

5.21 Following the publication of *The Future of Air Transport* White Paper, a programme of work known as the Project for the Sustainable Development of Heathrow (PSDH) was set up to assess the air quality impacts of a third runway and examine the environmental impacts of using the existing runways more intensively.

5.22 Heathrow is currently the only airport in the UK where both national and European air quality limit values are being exceeded. This situation results from high levels of NO_x emissions from road traffic near the airport, as well as the contribution from aircraft. In 2004, there were two sites near the airport where concentrations of nitrogen dioxide (NO₂) were over the limits set in the Government's national Air Quality Strategy and also those which will become mandatory under the European Air Quality Directive from 2010. We have undertaken extensive work with specialist air quality panels to look into the position at Heathrow, and in July 2006 published a full report, *Project for the Sustainable Development of Heathrow, Report of the Airport Air Quality Technical Panels*. This provides a solid basis for modelling work to inform decisions on whether Heathrow could be expanded while meeting air quality obligations.

5.23 Noise impacts are being tested using the CAA's noise models, taking into account forecasts of air traffic out to 2030. Updated surface access models have also been developed to test a range of possible mitigation measures such as improved coach and rail services, park and ride and higher parking charges, charging for airport access and low-emission measures.

Making better use of existing capacity

5.24 The White Paper stressed the importance of making better use of the current runways and suggested that this could involve the introduction of mixed mode operations.⁵⁰ This would mean using each runway for both arriving and departing aircraft, rather than the current segregated mode where each runway generally has either arriving or departing aircraft. Mixed mode operations would allow increased numbers of flights per hour without an additional runway. BAA is working with NATS and the CAA to develop a safe concept of operations for mixed mode.

5.25 Our provisional environmental assessment for mixed mode operation suggests that the noise contour limit could be met if extra movements were phased in gradually as noisier aircraft were retired. However, it would require ending of the Cranford Agreement (which protects residents to the east of the northern runway) and some loss of runway alternation (which provides periods of relief to people living under the flight paths). In addition, we are committed to reviewing the current practice of 'westerly preference', which favours Heathrow operating in a westerly direction where weather conditions allow. The impacts of all these factors are therefore being assessed and will be the subject of public consultation (see below). These impacts will be set against the benefits of the estimated increase of up to 15 per cent in movements at our most economically important airport.

5.26 Following a policy decision, BAA would need to prepare proposals for mixed mode operation within current traffic levels, helping to reduce delays and improve schedules. But a planning application would be necessary to increase the current 480,000 limit on annual movements as well as provide additional facilities for the extra passengers and aircraft.

Further development at Heathrow

5.27 In 2005, BAA issued its interim master plan, which provided indicative plans for a third runway, including a sixth terminal.

⁵⁰ **The Future of Air Transport** White Paper 2003, paragraph 11.66

5.28 Proposals for a short third runway north of the airport have been further developed by BAA, as envisaged in the White Paper.⁵¹ Work since 2003 has confirmed the view recognised in the White Paper that a new runway would have to be supported by a new passenger terminal, as well as changes to nearby roads. With a third runway the airport could eventually support up to 720,000 movements (around 128 million passengers a year). Even at that level, Heathrow would only be satisfying some 70 per cent of its unconstrained demand forecast in 2030.

5.29 The complete PSDH environmental assessments will not be finalised before spring 2007. Provisional analysis suggests that the noise contour limit is likely to be a significant constraint on traffic growth on a third runway before 2030, although this would subsequently ease as the aircraft fleet serving Heathrow continues to get quieter. Air quality assessments could constrain the situation further. The consultation will address this.

5.30 Meanwhile, there have been a number of further developments:

- BAA has introduced noise and property schemes to assist property owners in the event of a third runway going ahead; to help residents affected by existing noise move to quieter areas; and to provide noise insulation in community buildings.
- Further steps have been taken to improve rail links. BAA has launched Heathrow Connect, a half-hourly stopping rail service from Paddington. BAA has also announced its support for developing AirTrack, which would connect Heathrow Terminal 5 to Staines, providing rail services to Waterloo, Guildford and Reading. Longer-term planned upgrades to the Piccadilly Line by 2014 should improve reliability, increase capacity (up 35 per cent) and reduce journey times (down 19 per cent).
- The Hybrid Bill to authorise the construction of Crossrail, including services to Heathrow Airport, continues its passage through Parliament. Crossrail is planned to replace Heathrow Connect services, doubling the frequency and enhancing the airport's rail connections, including to the City of London.
- Terminal 5 is on target to open in March 2008, served by the Piccadilly Line and Heathrow Express. BAA's £4.3bn investment in Terminal 5 will cater for around 30 million passengers annually and provide much needed additional terminal and airfield capacity to make best use of Heathrow's existing runways within current operations.
- BAA has submitted a planning application to replace the outdated Terminals 1 and 2 with a new terminal called Heathrow East which, if approved, could open in time for the 2012 Olympic Games. This 'like-for-like replacement' development is entirely separate from decisions on increasing runway capacity.

Next steps

5.31 A full public consultation on the future development of Heathrow is planned for 2007, once the environmental assessment work is complete. The consultation will describe the mixed mode and third runway proposals in detail and report on the predicted impacts of development, in particular against the noise and air quality limits. It will also seek views on the appropriateness of current operational practices driven by the Cranford Agreement, runway alternation and westerly preference.

5.32 Policy conclusions on the future development of Heathrow could not be reached until the end of 2007. Following this, any development proposals would need to be subject to further detailed design work and the preparation by BAA of planning applications.

⁵¹ **The Future of Air Transport** White Paper 2003, paragraph 11.65

Developments at regional airports

5.33 A key priority of *The Future of Air Transport* White Paper was to increase the choice of routes and services at airports outside the South East, to promote regional development, relieve pressure on the more overcrowded airports, and cut down on the need for long-distance travel to and from airports, thereby reducing emissions.

5.34 Encouraging people to fly on direct services from their local airport, rather than making a long journey to a hub airport, not only reduces emissions but can also reduce travel time for business and leisure users. For example, Flybe estimate that the 900,000 extra passengers they carried to and from Southampton Airport between 2002 and 2004 saved 17 million car miles per year.⁵²

5.35 Regional airports now serve a wide range of international destinations. Newcastle Airport, for example, served 113 international destinations in 2005, and Manchester Airport served 239 international destinations. The Government issued policy guidelines⁵³ in October 2005 to encourage international airlines to fly direct to, and through, UK regional airports. Regional airport development has significant implications for local economies. Robin Hood Airport estimates that it will create 4000 local jobs before 2008, with a further 3000 by 2014.

Establishing new direct links from regional airports

5.36 In *The Future of Air Transport* White Paper, Government suggested that Route Development Funds (RDFs) similar to those already operating in Scotland and Northern Ireland could play a role in establishing new links from regional airports to generate tourism and business opportunities. These have allowed passengers in Scotland and Northern Ireland to access a wider range of destinations. Since then, the North East RDF is now supporting three routes from the region to EU destinations, while the Welsh Assembly Government has established a fund which currently supports one route. The North West Development Agency has decided not to operate an RDF.

5.37 In line with commitments made to the European Commission, the Government published a UK Protocol in June 2006 setting out strict criteria for funding new routes. New Commission guidelines on state aid mean that the Department for Transport will review RDF policy guidelines and produce a revised RDF Protocol in early 2007.

Protecting regional air service links to London hubs

5.38 Good links to London airports are important to regional economies. The Government made clear in the White Paper that it would be prepared to intervene in well-defined circumstances to protect access from regional airports to London airports by imposing Public Service Obligations (PSOs). The White Paper committed the Government to develop guidelines setting out how it would assess PSO applications.

5.39 These guidelines, published in December 2005, sought to guarantee a minimum frequency of two daily return flights from regions with existing services to London. So far, no such PSO applications have been received. PSOs operate on a number of domestic services within Scotland, including four new PSOs approved in September 2006, and a new PSO route is expected to start soon within Wales.

⁵² Flybe Annual Passenger Survey 2005

⁵³ Department for Transport, **Relaxation of restrictions on international services from UK regional airports**, October 2005, www.dft.gov.uk

Progress at airports across the UK

5.40 Progress at Edinburgh and Birmingham airports, where development of new runways was supported in *The Future of Air Transport White Paper*, is reported on below. Progress at the remaining airports invited to produce master plans is summarised in Annex A.

Edinburgh Airport has concluded that a new runway is unlikely to be needed before 2020, but has nevertheless made progress in the following areas:

- a new control tower and parallel taxiway completed to maximise use of the existing runway;
- land safeguarded that may be required for airport expansion;
- elements of its master plan incorporated into the planning system via the West Edinburgh Planning Framework Consultation Draft. Further discussions remain on changes to permitted development rights for new car parking at the airport;
- schemes introduced to tackle blight and relocate people affected by noise;
- a noise and a flight-path monitoring system launched for all aircraft flying to and from the airport, and has committed to undertaking a noise assessment for each major development at the airport;
- agreement secured with City of Edinburgh Council for the construction of a tram link. In addition, the Edinburgh Airport Rail Link is currently under consideration by the Scottish Parliament.

Birmingham Airport's draft master plan, published in October 2005, included detailed proposals for a new short (2000 metre) runway, which is not now expected to be needed before 2020. The airport intends to publish its final master plan in the summer of 2007. Other progress to date includes:

- development of plans to extend the existing runway to 3000 metres because of the growing demand for long haul charter flights and to enable new direct services to destinations in Asia, the Far East and the USA. The extension would be operational by 2012;
- completion of a joint report with the Highways Agency and the National Exhibition Centre on options for improving access from the M42;
- development of a series of environmental reviews to inform the master plan. This plan shows a 34 per cent decrease in the population within the 57 dBA L_{eq} noise contour for 2030, compared with the original White Paper proposals. This is primarily due to reductions in flight numbers and the use of the second runway for overspill only. Air quality standards are expected to be met in the master plan period;
- publication of the airport's property valuation support scheme to address generalised blight caused by the new runway proposal. Over 500 properties are included in the scheme;
- a planning commitment to increase public transport modal share to 20 per cent by the time passenger numbers increase to 10 million passengers per year.

Next steps

5.41 *The Future of Air Transport White Paper* set out the policy framework for the sustainable development of airports. The challenge now is for airport operators to bring forward proposals that set out clearly how they are going to address the local impacts and how they will contribute to tackling the global impacts of their operations. We will be monitoring closely how they respond to this challenge.

During 2007, we aim to:

- launch a full public consultation on the future development of Heathrow Airport;
- consider the impact of forecast growth on south-east airspace as a whole in the period up to 2030;

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- review our Route Development Fund policy so that it is in line with European Commission competition rules, by June 2007.