

Executive Summary

Purpose

The Government consulted widely in 2002 on its air transport policy and set out its conclusions in the 2003 White Paper *The Future of Air Transport*. This promised further work and consultation on a number of issues relating to Heathrow airport. In the light of that work, we are now seeking your views on how Heathrow could be developed over the next 20 years or more. This summary provides a brief overview of the consultation document *Adding Capacity at Heathrow Airport*.

Background

The White Paper made clear that, given the strong economic benefits, the Government supports the further development of Heathrow, by adding a third runway (in the 2015 to 2020 period) and by exploring the scope for making better use of the existing runways.

This support was conditional on:

- a noise limit – no increase in the size of the area significantly affected by aircraft noise (as measured by the 57dBA L_{eq} noise contour in 2002);
- air quality limits – being confident of meeting European air quality limits around the airport, in particular for nitrogen dioxide (NO₂) which is the critical pollutant around Heathrow; and
- improving public transport access to the airport.

The Department for Transport subsequently set up the Project for the Sustainable Development of Heathrow (PSDH) to consider whether, and how, these conditions might be met. This work has drawn on a wide range of expertise, including – as envisaged in the White Paper – BAA as the airport operator, the Highways Agency, the Civil Aviation Authority and NATS – to review the science, develop options and model their impacts. This consultation document presents the results of this work.

It describes how Heathrow operates today and sets out forecast future demand. It presents a revised proposal for adding a third runway north of the A4 (2,200m operational length compared with the original 2,000m proposal in the White Paper), supported by additional passenger terminal facilities, with access to the road and rail network. This would enable the airport to handle up to around 700,000 air transport movements (ATMs) a year, nearly 50 per cent more than today.

It also describes ‘mixed mode’ operations on Heathrow’s existing runways – in short, using them for a mix of both arrivals and departures. This is the approach adopted at all single runway airports in the UK and most multiple runway airports internationally. This could give more flexibility and allow up to around 540,000 annual movements, up 12 per cent on today’s level, ahead of any new runway capacity. This would be a temporary

measure, as mixed mode operations on the existing runways would cease once a third runway was operating. The new runway would, however, operate with both arrivals and departures.

The consultation document also reviews the impacts of changes to current operational procedures at Heathrow, irrespective of any increase in capacity – including ‘westerly preference’ (preferred direction of operation) and the ‘Cranford agreement’ (which generally prohibits easterly departures off the northern runway) and other operating practices.

What follows is a summary, chapter by chapter, of the issues and findings set out more fully in the main body of the consultation document.

Chapter 1 – The Policy Context

The aviation sector makes an important contribution to the UK economy, bringing significant benefits in terms of employment and business investment. International connectivity – Heathrow is our main gateway to the global economy – supports billions of pounds of British exports, thousands of UK jobs and encourages hundreds of international businesses to locate in the UK. The service sector accounts for some 70 per cent of UK Gross Domestic Product (GDP) and the UK is the world’s second largest exporter of services. This increases the demand

for international connectivity. For example, the financial services sector uses six times more air travel than other businesses. But Heathrow’s runways are now full and its route network is shrinking. Since 1990 the number of destinations served by Heathrow has fallen by over 20 per cent. Capacity constraints will lead to fewer routes, increasingly congested conditions, more delays at the airport and fewer connecting services to the UK regions.

As well as being an important international destination, Heathrow operates as the UK’s major international hub airport. As demand continues to rise, the airport is increasingly vulnerable to foreign competition and major European airports are expanding at Heathrow’s expense. Amsterdam Schiphol, for example, has five runways and serves 21 UK airports compared with only nine served by Heathrow. Not addressing this risks damaging UK interests, not only in aviation but more widely across the economy. Fifty two per cent of companies consider transport links are vital in deciding where to locate their business and 70 per cent of foreign companies’ first location in Britain is within one hour of Heathrow.

The Government’s support for further development of Heathrow has also been set in the context of its wider aviation policies, including: making best use of existing airport capacity; ensuring that, over time, aviation pays the external costs which its activities impose on society at

large; and seeking to reduce and minimise the impacts of airports on those who live nearby and on the natural environment.

The 2006 *Future of Air Transport Progress Report* explained how the Government is addressing the global challenge of climate change. We believe that a well-designed, open, international emissions trading regime for aviation is still the best way of ensuring that the aviation sector plays its part in tackling climate change. We welcome the European Union plans to include aviation in the EU Emissions Trading Scheme. Under current proposals, aviation emissions would effectively be capped at the average level over the period 2004 to 2006. This means that when the trading scheme is established, any additional aviation emissions above that level would lead to no increase in total emissions, since airlines would have to pay for the equivalent emissions reductions in other sectors. This will place the aviation industry on a more sustainable footing for the future. We consulted earlier in 2007 on a proposed methodology for developing a periodic emissions cost assessment, as a way of tracking how far the aviation sector is already meeting its external climate change costs. We continue to explore and promote other measures, including carbon offsetting schemes.

The Government believes that domestic aviation taxes such as Air Passenger Duty (APD) can play a valuable role in encouraging behavioural change, reducing emissions from aviation and ensuring that air travel makes a fair contribution towards the Government's spending priorities, including public transport and the environment. As announced in the 2007 Pre-Budget Report, the Government intends to reform the taxation of aviation to send better environmental signals. From November 2009, we plan to replace APD with a duty payable per plane rather than per passenger. We will consult on ways to make aviation duty better correlated to distance travelled and encourage more planes to fly at full capacity.

All this fits within the wider context of the Department's strategic approach to sustainable transport policy across all transport modes, as set out in our recent discussion document *'Towards a Sustainable Transport System – Supporting Economic Growth in a Low Carbon World'*.

Our approach is entirely consistent with the Stern Review and the Eddington Transport Study. Stern recommended that the best way to tackle the complex pattern of carbon emissions is to ensure that each activity which produces carbon is priced in a way that reflects its true cost to society and the environment. Eddington is equally clear that

seeking artificially to constrain the natural growth of aviation, once carbon pricing is fully in place, would pose a significant cost to the UK economy, with no additional environmental benefit. Referring specifically to Heathrow, Eddington stated that “even once users pay the full environmental costs of their journeys, there will remain a strong economic case for additional runway capacity”.

Our work shows that a third runway at Heathrow would bring net economic benefits of around £5bn in net present value terms (NPV), even after taking account of climate change and air noise costs. If mixed mode operations were introduced in the interim, the net benefits would increase, reflecting the additional benefits of extra capacity and/or reduced delay in the period before a third runway could be available. This confirms that the economic case for expansion at Heathrow remains strong, as was concluded at the time of the White Paper.

The programme of work since the White Paper has focused on the period up to 2030, based on forecasts of air traffic and surface access movements. It has reviewed the key environmental impacts – air quality and noise – and assessed the implications for airspace and access to and from the airport. The work has drawn on technical expertise from a range of stakeholders.

Chapter 2 – Heathrow Operations Today

Options for further development of Heathrow need to be understood in the context of how the airport operates today. It has two main runways and four passenger terminals, with a fifth due to open in March 2008. It handles around 67 million passengers a year and 471,000 aircraft movements a year, against a limit of 480,000 imposed as part of the planning conditions for Terminal 5.

Over 65 per cent of Heathrow’s passengers arrive at or leave the airport by road or rail, and around 40 per cent of these are business travellers, 33 per cent visiting friends or family and the remaining 27 per cent travelling on holiday.

The opening of Terminal 5 will enable the airport potentially to handle up to 95 million passengers a year. Runway capacity will constrain the ability to carry more passengers or serve new routes for example, to the Far East and new economies such as China and India.

Key features of Heathrow’s current operations include:

- westerly preference: operating the airport in a westerly direction even with light easterly winds, to reduce departure noise over the more heavily populated areas east of the airport;

- segregated mode: using one runway to handle arrivals and the other runway departures at any one time;
- runway alternation: alternating runway use so as to share the noise burden and provide periods of relief from noise from arriving aircraft; and
- the Cranford agreement: avoiding easterly departures from the northern runway as far as possible.

The consultation document describes these and other procedures and goes on to explain the extent to which they could be affected by a third runway or mixed mode operations, or might be modified in any event.

Chapter 3 – Heathrow in Future: Meeting the Environmental Tests

Adding a third runway and passenger terminal facilities

The Government acknowledges the case made by BAA in 2003 that a three-runway airport should be supported by additional passenger terminal facilities, with road and rail connections. A new terminal would better serve the mix of airlines at Heathrow; without it, the use of a third runway would be significantly limited by the need for aircraft to taxi across the existing northern runway. Adding a third runway with associated passenger terminal facilities would require additional land, with a loss of around 700 properties, including the

community of Sipson. The details would be subject to planning permission, but the Government accepts that there should be an opportunity for people to comment at this stage on the proposal in principle.

The Government also acknowledges the rationale for a slightly longer runway (2,200m operational length), both for operational reasons and to facilitate a balanced use of the airport (short-haul and long-haul), along with associated passenger terminal facilities. The Government believes that the environmental pre-conditions for policy support, as set out in the White Paper, remain valid and are appropriate for this revised proposal.

The Government believes that, on the basis of improved modelling following the air quality technical panel work reported in July 2006, and with the benefit of substantial reductions in emissions expected over the next decade or so, a short third runway as described above could be added at Heathrow by around 2020 and EU air quality limits for PM₁₀ and NO₂ be met without the need for further mitigation measures. The ability to meet air quality limits in future years largely results from substantial improvements in road vehicle emissions due to further developments in European emissions standards. It also reflects trends in cleaner aircraft engines and moves towards a higher proportion of twin-engined, as opposed to four-engined, aircraft with lower emissions.

The Government believes that a third runway could be added at Heathrow and operate at maximum capacity in 2030 with around 702,000 ATMs whilst complying with the noise test in the White Paper. The 57dBA L_{eq} noise contour would be 112.9 sq km, against a limit of 127 sq km. In 2020, the airport would need to operate at less than full capacity, but could probably sustain at least 605,000 ATMs and remain within the noise contour limit. The size of the contour in 2020 at that level of activity would be around 126.7 sq km. It would be for the airport operator to carry out further work to satisfy the planning authorities that the build-up of air traffic with a third runway would be managed in the 2020-2030 period so as to ensure that the noise limit is adhered to.

Introducing mixed mode on the existing runways

The Government's view is that mixed mode operations are feasible at Heathrow and could be introduced to provide worthwhile additional capacity on the existing runways as an interim measure before any new runway could be available.

Full mixed mode building up from the current movements limit over time could bring total movements to around 540,000 by 2015, providing up to 60,000 extra movements a year subject to further detailed work and formal regulatory approval by the CAA. Planning permission would be needed to relax the current movements limit of 480,000 a year.

Full mixed mode is predicted to meet the noise contour limit in the White Paper, with a 57dBA L_{eq} noise contour at around 125.5 sq km, against a limit of 127 sq km.

Runway alternation would have to cease during mixed mode operations. Noise would be distributed differently around the airport, with some people experiencing less noise, and some more, although if full mixed mode was introduced by 2015 there would be fewer people experiencing noise at 63dBA or above compared with the numbers under segregated mode in 2002.

There would be an option to limit mixed mode to certain hours of the day, allowing some form of runway alternation to remain in place outside the hours of mixed mode operation.

There would also be an option to introduce mixed mode operations without increasing air traffic overall. This would give the airport more flexibility to cater for peak demand and to recover from delays caused by, for example, adverse weather conditions.

An important aim of this consultation is to get a better understanding of the importance attached by local communities to the benefits of runway alternation, and the time of day it is of most value, so that this can be taken into account in the decision-making process; and to understand the wider benefits of the various options.

The Government's view is that the use of full mixed mode on the existing two runways at Heathrow would allow for up to around 540,000 ATMs a year by 2015 and would be compatible with compliance with EU air quality limits for PM₁₀ and NO₂ in the vicinity of the airport without the need for further mitigation measures. There would be some limited NO₂ exceedences north of the M4. These are not mainly due to the airport but would need to be addressed by a variety of traffic management or other measures.

Westerly preference

Westerly preference is an arrangement under which the airport is operated in a westerly direction even with light easterly winds, so as to reduce departure noise over the more heavily populated areas east of the airport. The Government's provisional view is that there are no strong grounds for disturbing the current practice of westerly preference in any future scenario at Heathrow. Ending westerly preference would have some benefit in terms of reducing NO₂ concentrations in the area to the north east of the airport, but the issue is not critical to achieving compliance with air quality limits. In general, more easterly operations would result in a smaller area, but with more people, affected at 57dBA L_{eq} noise levels, because of the higher population density to the east. Noise would be redistributed around the airport, with some communities experiencing less noise, and others more.

The Cranford agreement

The Cranford agreement is an arrangement under which easterly departures from the northern runway are avoided as far as possible, in order to minimise departure noise over the built-up area of Cranford. The Cranford agreement would need to be suspended during any period of mixed mode operations. We believe that ending the Cranford agreement would redistribute noise more fairly around the airport when it is operating on easterlies. Our provisional view is that there would be merit in ending the Cranford agreement, regardless of any other decisions that are taken. However, the main issue is how far it is preferable to benefit large numbers of people by removing them from the 57dBA L_{eq} contour, at the expense of exposing smaller numbers of people to increased noise at higher levels.

Night time rotation of westerly and easterly preference

This is an arrangement under which westerly and easterly preference are alternated during the night period in order to share arrivals noise more fairly around the airport. The Government has carried out a monitoring exercise and believes that, on the basis of the evidence, the practice of rotation at night has been beneficial and should be maintained.

Runway alternation for arrivals in the early morning (0600 to 0700 hours)

This is an arrangement under which alternating the two existing runways for arrivals has been extended to the early morning period on a trial basis since 1999. The Government has carried out a monitoring exercise and believes that, on the basis of the evidence, alternation has been beneficial in sharing the noise burden around the airport. The Government therefore believes that this should be continued on a permanent basis, in so far as it is not precluded by any decisions to introduce mixed mode or by the need for air traffic controllers to authorise the use of both runways for arrivals in the 0600 to 0700 period to reduce delays to arriving aircraft.

Surface access

We have not identified the need for special measures to manage down road traffic or mitigate vehicle emissions in order to comply with the air quality tests in the event of further development. But we have looked at how road traffic conditions and demand on public transport would be expected to change over time in the Heathrow area. We are satisfied that there is potential to meet the likely demand for public transport access to Heathrow with a third runway. Some demand management may be needed in the Central Terminal Area if full mixed mode is introduced with effect from 2015. If development is taken forward, it would be for the airport operator, working with key parties, to develop a surface access strategy as part of preparing for any planning application.

Summary

In view of the significant potential economic benefits, the Government considers that there is a strong case for introducing further capacity at Heathrow. This consultation paper sets out the options for doing this, both within the existing two runways and with the benefit of an additional third runway. It would be for the airport operator to obtain the necessary planning and regulatory approvals.

Heathrow's operations are of key importance to the local and national economy, and to our competitiveness internationally. They also impact on large numbers of people across London. We believe that delivering growth at Heathrow within the noise and air quality limits in the White Paper strikes the right balance between the environmental, social and economic considerations. However, we want to give all interested parties the widest opportunity to respond to this consultation, to register their views on the issues and to provide supporting evidence. Final policy decisions will be taken following consultation.

Chapter 4 – Summary of Questions

This summarises the questions on which we would particularly welcome views.