



Towards 2030





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Foreword by Managing Director

Section One

The Government's White Paper "The Future of Air Transport", published in December 2003, sets out a clear policy framework for the development of airports in the United Kingdom. The strategic advantages of Birmingham International Airport, with its proximity to motorways and the rail network, are recognised, and it concludes that Birmingham International Airport should continue to be developed as the Midlands' principal international gateway. Birmingham International Airport is already one of the Region's main drivers of employment and economic activity, but, in the future, it will have an increasingly important role in supporting prosperity and providing the international links that are so important to modern business and society.

Following the White Paper, we published a Draft Master Plan for consultation. The Draft Master Plan was published on 31 October 2005, and the consultation process remained open through to 31 March 2006 in order to provide all stakeholders and interested parties with an opportunity to comment on the proposals for Birmingham International Airport's future. We believe that the programme of exhibitions and meetings which were arranged for the Draft Master Plan demonstrated the Airport Company's commitment to the consultation process, and this was reflected in the views and responses we received from a wide range of people and organisations. In terms of the consultation process for the Draft Master Plan, a separate report is available on the Airport Company's website, or upon request from the Airport Company.

We believe this new Master Plan, "Towards 2030 : Planning a Sustainable Future for Air Transport in the Midlands", demonstrates that the Airport Company has listened to the consultation process and sets out a balanced programme of development for the Airport through to 2030. It shows how the Airport Company believes that the scale of proposed

development can be provided in a progressive and sustainable manner at Birmingham International Airport. Some elements of the new plan will not be required for many years, but we are setting out our long-term vision for the Airport through to 2030. In addition, the new infrastructure will need to be provided in a manner which recognises the need to manage and mitigate the environmental impact of air transport and airport development.

This new Master Plan will not have any statutory status, but it will inform the preparation of regional and local planning policies.

In 1980, Birmingham Airport was based at the Elmdon Terminal Site, handling some 1.5 million passengers. At that time, West Midlands County Council, the owners of the Airport, were also engaged in planning for the Airport's future and the move across to the current Passenger Terminal Site adjacent to the railway line and the NEC. That move was, of course, successfully completed in 1984 and what, at the time, may have appeared a dramatic scale of new development, now enables the Airport, together with the developments since, to handle a current throughput of nearly 10 million passengers per annum.

This Master Plan now sets out the next stages of development at the Airport, which we are sure can be delivered in an equally successful, and sustainable, way.



Joe Kelly
Acting Managing Director
Birmingham International Airport

Policies

Introduction



This section sets out the context and reasons for the Airport Master Plan, and provides a review of Birmingham International Airport's prospects for growth in the future.

The Airport Company's Mission Statement:

“To be the Best Regional Airport in Europe”

The Airport Company's Long-Term Vision:

The Airport Company aims to provide for the future air transport needs of the Midlands, with quality facilities and services at Birmingham International Airport and within a programme of sustainable development, which balances the economic importance of the Airport to the Region with the need for environmental controls and mitigation.



1. Introduction

Access to Air Travel

- 1.1** Over the last 50 years, access to air travel has become increasingly important to the UK and its regions. It is important for business, commerce and industry in providing access to markets; it is important for economic development and regeneration by supporting inward investment; it is important for tourism by providing access to UK destinations and attractions; and it is important to the residents of the UK in providing an efficient transport system for social and leisure purposes. The need and desire for access to sustainable air travel is expected to continue to increase in the future, with airports becoming increasingly important for the development of regional economies.
- 1.2** The Midlands is one of the major regions of the UK, with a catchment area of some 8 million people living within one hour travel time of Birmingham International Airport. In addition, in the West Midlands alone, there are over 188,000 businesses. Currently, less than 40% of the region's demand for air travel is served within the region, with 34% (in 2006) relying on airports in the south east. This is an unsustainable situation that creates large numbers of unnecessary surface access trips and contributes to congestion in other regions.
- 1.3** Birmingham International Airport is located in the Metropolitan Borough of Solihull, adjacent to the National Exhibition Centre (NEC) and 8 miles south east of Birmingham's city centre. The Airport was opened in 1939, but its role as a modern international airport really began in 1984, when new passenger terminal facilities were opened. Since 1984, the Airport has benefited from a high quality of passenger terminal facilities and excellent surface access by road and public transport to deliver strong growth over the last twenty years. The Airport is now the sixth largest airport in the UK, in terms of passenger throughput.

Passenger Activity of Busiest UK Airports in 2006, 1996 and 1986¹

	Terminal Passengers (Millions) 2006	Terminal Passengers (Millions) 1996	Terminal Passengers (Millions) 1986
Heathrow	67.339	55.727	31.310
Gatwick	34.080	24.099	16.309
Stansted	23.680	4.808	0.546
Manchester	22.124	14.467	7.508
Luton	9.415	2.406	1.962
Birmingham	9.056	5.351	2.091
Glasgow	8.820	5.470	3.101
Edinburgh	8.607	3.808	1.649
Bristol	5.710	1.394	0.469
Newcastle	5.407	2.425	1.248



Planning for the Future

- 1.4** In 2003, the Government published a White Paper on Air Transport. The White Paper, "The Future of Air Transport", sets out a long term, strategic framework for the development of the air transport industry in the UK, with a Plan Period to 2030². The White Paper endorses the important role of air transport in supporting the national economy and acknowledges the social importance of access to air travel. It also recognises the environmental impacts of air transport and proposes stringent environmental control and mitigation measures.

Footnote 1 www.caa.co.uk

Footnote 2 www.dft.gov.uk

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- 1.5** The White Paper endorses the important role of regional airports in supporting sustainable regional economic development and regeneration; in increasing regional choice for air travel; and in relieving congestion in the south east by the ‘clawing back’ of traffic which currently travels to the south east for access to air travel. In the Midlands, the White Paper supports further development at Birmingham International Airport, including an extension of the existing runway, and proposes a new second runway, but it also emphasises the need for continuing environmental controls and mitigation measures. The White Paper does not itself authorise any specific proposals, but it sets a strategic framework to guide future decisions on airport development.
- 1.6** The White Paper expects airport operators to produce new airport master plans (or update existing ones). Therefore, the Airport Company welcomed the White Paper, and its support for long term, sustainable development at Birmingham International Airport, and published a Draft Master Plan, for consultation, in 2005.
- 1.7** In 2006, the Government published a Progress Report on the White Paper. The Progress Report, “The Future of Air Transport Progress Report”³, maintains the long term, strategic framework for the development of the air transport industry in the UK. The Progress Report also maintains the important role of air transport in supporting the national economy and meeting the social needs for access to air travel. However, the Progress Report recognises the increasing importance being placed on the environmental impacts of air transport and maintains the need for stringent environmental control and mitigation measures.

Balanced Approach

- 1.8** The Airport Company recognises the need for a balanced approach to development. In its strategy for sustainable development, “A Better Quality of Life”⁴, the Government identifies the following objectives:
- > Social progress which recognises the needs of everyone.
 - > Effective protection of the environment.
 - > Prudent use of natural resources.
 - > Maintenance of high and stable levels of economic growth and employment.

These principles underpin the future development plans for Birmingham International Airport.

- 1.9** The Airport Company has developed this Master Plan to provide a detailed statement of the future land use requirements and sustainable development strategies which will be necessary to accommodate the forecast growth in air transport activity, mitigate environmental impacts and avoid conflicts which could compromise the Airport’s long term future.

Consultation

- 1.10** The Airport Company first published a Master Plan in 1995 (“Vision 2005”)⁵, which had a Plan Period to 2005. This new Master Plan (“Towards 2030 : Planning a Sustainable Future for Air Transport in the Midlands”) replaces Vision 2005, and sets out a long-term strategy to 2030.
- 1.11** A Draft Master Plan was published in 2005, which was the subject of an extensive consultation process lasting from 1 November 2005 through to 31 March 2006. Therefore, this Master Plan has been the subject of an extensive programme of public consultation with local communities, the wider public, national and local government, the business community and local interest groups, as part of a process of community involvement. The results of this consultation process have been carefully considered by the Airport Company, before being adopted in this new Master Plan.

Footnote 3 www.dft.gov.uk

Footnote 4 www.sustainable-development.gov.uk

Footnote 5 www.bhx.co.uk



2. Aims & Objectives

2.1 The specific aims and objectives of this Master Plan are to:

- i. Illustrate how the further development of Birmingham International Airport is consistent with national, regional and local policies.
- ii. Provide a framework for the sustainable development of Birmingham International Airport:
 - > setting out the prospects for growth in air traffic to 2030.
 - > identifying the new airfield, passenger terminal and associated ancillary facilities which can best accommodate the forecast growth in air traffic to 2030.
 - > identifying the areas of land outside the Airport's current boundaries which will be required for the future development of the Airport.
- iii. Assess the surface access implications of the further development of Birmingham International Airport and facilitate the development of a sustainable, multi-modal surface access strategy for the Airport, in conjunction with other agencies, stakeholders and surface access providers.
- iv. Outline the Airport Company's overall approach to sustainability and its proposals for environmental mitigation measures.
- v. Inform, and provide, a basis to address the needs of Birmingham International Airport, and its proposed further development, within the statutory Development Plan process.





Section One

3. Location & History

Airport Location

- 3.1 Birmingham International Airport is located in the Metropolitan Borough of Solihull, adjacent to the City of Birmingham and in the West Midlands conurbation.
- 3.2 Geographically, the Airport is located north of Solihull Town Centre and south of Chelmsley Wood, close to the communities of Bickenhill, Elmdon, Hampton-in-Arden and Marston Green. To the immediate east of the Airport is the National Exhibition Centre (NEC), and beyond is the 'Meriden Gap', an area of Green Belt extending towards the City of Coventry. To the north east is the Birmingham Business Park. To the west of the Airport is Birmingham and the suburbs of Garretts Green, Kitts Green, Sheldon and Yardley, which are largely residential in character, but also contain significant commercial and industrial development, together with a 'green wedge' comprising the Sheldon Country Park and the Hatchford Brook Golf Course.
- 3.3 There are a number of large, single, land uses close to the Airport. These include the NEC, the Birmingham Business Park (a high technology industrial and business park), the Elmdon Trading Estate (and its extension called Birmingham International Park), Birmingham International Railway Station, and Trinity Park (an office and business park).
- 3.4 Birmingham International Airport is located at the centre of the national motorway system and has first class access to national and local road networks. The Airport is also located at the centre of the national rail network and is linked directly to Birmingham International Station.
- 3.5 In the West Midlands, there are other 'secondary' airports and airfields, including Coventry Airport, Wolverhampton Airport (formerly known as Halfpenny Green Airfield) and Wellesbourne Mountford Aerodrome.
- 3.6 Elsewhere, in the Midlands, is East Midlands Airport, which provides passenger services and is also the third largest freight airport in the UK.

Origins

- 3.7 The origins of Birmingham International Airport date back over 65 years, when the City of Birmingham embarked on the construction of a municipal airport on a green field site. Birmingham 'Elmdon' Airport was opened for business on 1 May 1939. The Airport was requisitioned during the war years, and was not returned to the City of Birmingham until 1960. Post-war scheduled services started in 1949 and, by 1961, 300,000 passengers were using the Airport. By the early 1970's, after passenger terminal and airfield extensions, the passenger throughput had increased to over a million passengers p.a



Ownership

- 3.8** In 1974, ownership of the Airport transferred to the newly created West Midlands County Council, which undertook studies into the expansion of the Airport. The Government's 1978 White Paper on Airports Policy defined the Airport as a second tier major regional airport ('Category B' airport). After a Public Inquiry in 1979, approval was given for a new Passenger Terminal (now Terminal 1) and associated infrastructure. Construction of the new passenger terminal facilities began in 1981, and operations were transferred to the 'new' Passenger Terminal Site from 4 April 1984.
- 3.9** After the abolition of the West Midlands County Council, on 31st March 1986, the Airport's ownership passed to the West Midlands Districts Joint Airport Committee, composed of the seven District Councils in the former West Midlands County Council area.
- 3.10** The Airports Act 1986 introduced legislation that required airports with a turnover in excess of £1 million to become Public Limited Companies. Birmingham International Airport was one of those airports and, on the 1st April 1987, it became Birmingham International Airport plc, with shares wholly owned by the seven District Councils of the West Midlands County area (i.e. Birmingham City Council, Coventry City Council, Dudley Metropolitan Borough Council, Sandwell Metropolitan Borough Council, Solihull Metropolitan Borough Council, Walsall Metropolitan Borough Council and Wolverhampton City Council), distributed in proportion to the District populations.
- 3.11** In 1997, the Airport Company was restructured and a holding company was introduced in the form of Birmingham Airport Holdings Limited, with the shareholding of the seven District Councils being reduced to 49% of the new structure, 48.25% of the shareholding being sold to the private sector and 2.75% of the shareholding being held by employees through an Employee Trust Fund. Since 1997, there have been changes in the private sector shareholding, which has resulted in 48.25% of the shares now being owned by Airport Group Investments Limited (a limited company owned by the Ontario Teachers' Pension Plan and Victoria Funds Management Corporation).

Airport Role

- 3.12** Birmingham International Airport serves a key role as a major contributor to economic activity and regeneration in the West Midlands and the wider Midlands region. The Airport provides access to air travel for a catchment area of some 8 million people living within 1 hour travel time (and 36 million people living within 2 hours travel time). For business, commerce and industry, the Airport provides access to new and wider markets. Economic development and regeneration is encouraged by facilitating inward investment. Inbound tourism is supported by providing access to UK destinations and attractions. For the local population, access to Europe and worldwide destinations is provided for social and leisure purposes.
- 3.13** In fulfilling the role of supporting the regional economy, the Airport itself is a major centre of economic activity and employment. Currently, there are some 7,500 jobs supported on-site (with further jobs off-site) and the Airport is estimated to contribute some £272 million to the regional economy.
- 3.14** Birmingham International Airport uniquely provides for access to air travel in a truly integrated way, performing as a regional and local transport hub with a wide range of interchange facilities across all modes.





Section One

4. Policy Context

National Airports Policy

- 4.1 In 2003, the Government published a White Paper on Airports and Air Transport - The Future of Air Transport ('The White Paper'). The White Paper, published after an earlier period of public consultation organised by the Department for Transport (including consultation on "The Future Development of Air Transport in the United Kingdom : Midlands" or "RASCO", published by the Department for Transport in 2002)⁶, sets out a long-term, strategic framework for the development of the air transport industry in the UK, with a Plan Period to 2030. The White Paper endorses the important role of air transport in supporting the national economy and acknowledges the social importance of access to air travel. It also recognises the environmental impacts of air transport, with stringent environmental control and mitigation measures proposed.
- 4.2 A balanced approach to the future of air transport is recommended which:
- > *"recognises the importance of air travel to our national and regional economic prosperity, and that not providing additional capacity would significantly damage the economy and national prosperity;*
 - > *reflects people's desire to travel further and more often by air, and to take advantage of the affordability of air travel and the opportunities this brings;*
 - > *seeks to reduce and minimise the impacts of airports on those who live nearby, and on the natural environment;*
 - > *ensures that, over time, aviation pays the external costs its activities impose on society at large – in other words, that the price of air travel reflects its environmental and social impacts;*
 - > *minimises the need for airport development in new locations by making best use of existing airports where possible;*
 - > *respects the rights and interests of those affected by airport development;*
 - > *provides greater certainty for all concerned in the planning of future airport capacity, but at the same time is sufficiently flexible to recognise and adapt to the uncertainties inherent in long-term planning."*
- 4.3 The White Paper endorses the important role of regional airports in supporting regional economic development and regeneration; in increasing regional choice for air travel; and in relieving congestion in the south east by the 'clawing back' of traffic which currently travels to the south east for access to air travel. In the Midlands, the White Paper supports further development at Birmingham International Airport, including an extension of the existing main runway, and proposes a new second runway. In its earlier consultation process, a range of options for a new runway in the Midlands were considered by the Department for Transport. However, the White Paper proposes a short, wide-spaced second runway at Birmingham, as the best option to reduce environmental impacts.
- 4.4 The White Paper forecasts that traffic levels will increase to between 32 million passengers p.a. and 40 million passengers p.a. by 2030 (dependent, in part, on the level of growth at airports in the south east). Although the White Paper forecasts suggest that a new second runway at Birmingham may be needed around 2016, the White Paper leaves it for the airport operator to judge when the project would be commercially viable.



- 4.5** The preferred option, in the White Paper, for a new second runway at Birmingham is identified as having significantly less environmental impact compared to the options proposed by the Department for Transport in its earlier consultation process. Even so, stringent environmental controls and mitigation are recommended, including a restriction of the use of the proposed second runway to aircraft with a Noise Quota of 0.5, or less, and a Night Time closure.
- 4.6** The White Paper also emphasises that the Airport Company will need to work closely with the transport authorities, transport providers and regional stakeholders to develop a robust multi-modal surface access strategy, with a long-term target for a 25% Public Transport Mode Share.
- 4.7** The White Paper does not itself authorise any specific development, but it sets a strategic framework to guide future decisions on airport development. The White Paper expects airport operators to produce new airport master plans, or update existing airport master plans, taking account of the White Paper.
- 4.8** The Airport Company welcomed the White Paper, recognising the benefits of a strategic approach to airport development. The Airport Company believes that Birmingham International Airport can be developed in a sustainable way, continuing to serve the Midlands' needs for access to air travel and air transport and supporting regional economic development and regeneration. This would enable best use to be made of the existing airport site and avoid the need for development of a new airport in a new location. However, a balanced approach will be needed that seeks to reduce the impacts of the Airport on those that live nearby, and on the natural environment.
- 4.9** In 2004, the Airport Company formally committed to produce a new Master Plan for Birmingham International Airport, and, in 2005, the Airport Company published a new Draft Airport Master Plan, for public consultation.
- 4.10** In 2006, the Government published a Progress Report on the White Paper - The Future of Air Transport Progress Report ('The Progress Report')⁷. The Progress Report maintains the long term, strategic framework for the development of the air transport industry in the UK. The Progress Report also maintains the important role of air transport in supporting the national economy and meeting the social needs for access to air travel. However, the Progress Report recognises the increasing importance being placed on the environmental impacts of air transport and maintains the need for stringent environmental control and mitigation measures.

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Regional Planning Policy

- 4.11 Birmingham International Airport is a key part of the West Midlands' regional economy and transport infrastructure, and is recognised as being of fundamental importance to the economic well-being and competitiveness of the West Midlands Region. The development of Birmingham International Airport is also identified as one of the five transport priorities for the West Midlands Regional Assembly.
- 4.12 In 2004, the Government Office for the West Midlands published the West Midlands Regional Spatial Strategy⁸ (formerly Regional Planning Guidance for the West Midlands) with a Plan Period to 2021.
- 4.13 Four major challenges are identified in the West Midlands Regional Spatial Strategy, these are:
- > *“Urban Renaissance – developing the Major Urban Areas in such a way that they can increasingly meet their own economic and social needs in order to counter the unsustainable outward movement of people and jobs facilitated by previous strategies”;*
 - > *“Rural Renaissance – addressing more effectively the major changes which are challenging the traditional roles of rural areas and the countryside”;*
 - > *“Diversifying and Modernising the Region’s Economy – ensuring that opportunities for growth are linked to meeting needs and that they help reduce social exclusion”;*
 - > *“Modernising the Transport Infrastructure of the West Midlands – supporting the sustainable development of the Region”.*
- 4.14 The West Midlands Regional Spatial Strategy states, in Section 7 Prosperity for All, that:
- “Critical to the success of the Spatial Strategy will be the future performance of the Region’s economy.”*
- 4.15 There are policies in Section 7 Prosperity for All concerning economic development and business, commerce, industry and tourism, where access to air travel will be important. In addition, there are policies concerning employment and regeneration, where Birmingham International Airport, as a major employment centre in the West Midlands Region, will be critical. In Section 7 Prosperity for All, there is also Policy PA 12 Birmingham’s Role as a World City, which identifies the further development opportunities and supporting infrastructure which will be necessary to develop Birmingham as a ‘world city’, including:
- “maintaining the accessibility of the City within the Region and strengthening its international links by air and rail”;*
- “significantly improving major transport interchange facilities”*
- 4.16 Policy PA 12 is also supported with an additional paragraph which states:
- “The City Council should work closely with immediate neighbours, particularly Solihull MBC, in relation to Birmingham International Airport and the National Exhibition Centre. Wider regional partnerships will be significant, for example in relation to the delivery of transport improvements, to ensure that benefits are shared as widely as possible.”*



- 4.17 In Section 9 Transport and Accessibility, the West Midlands Regional Spatial Strategy includes a specific policy on air transport and airports. Policy T11 Airports states:

“Birmingham International Airport will continue to be developed as the West Midlands’ principal international airport with appropriate facilities in order to increase the extent to which it serves a wider range of global destinations to meet the Region’s needs.”

- 4.18 The West Midlands Regional Spatial Strategy is, currently, the subject of a partial review, including Policy T11 Airports following the publication of the White Paper.

Local Planning Policy

- 4.19 Being located entirely within the Metropolitan Borough of Solihull, Birmingham International Airport is subject to the local planning policies of Solihull Metropolitan Borough Council. These policies are more locally focused than those of the West Midlands Regional Spatial Strategy. The policies of other neighbouring local authorities are also relevant, and in particular those of Birmingham City Council.

- 4.20 The existing format for the West Midlands County area, which replaced the former Structure Plan and Local Plan process, is the ‘Unitary Development Plan’ process. The Unitary Development Plan process assesses future land use needs and makes provision for them by the designation of land and policies against which subsequent proposals for development can be considered. However, following the Planning and Compulsory Purchase Act 2004, the Unitary Development Plan process has been replaced by a Local Development Framework process, with new Local Development Frameworks (LDFs) to be produced by local authorities to replace Unitary Development Plans (UDPs).

Solihull

- 4.21 The Solihull Unitary Development Plan⁹ (with a Plan Period to 2011, and subject to its replacement by a Solihull Local Development Framework) was adopted by Solihull Metropolitan Borough Council in 2006, and states, for Birmingham International Airport:

“Policy E4 Birmingham International Airport

The Council will support further proposals to develop the Airport for passenger and freight services within the Airport boundary indicated on the Proposals Map. Such proposals could include terminal facilities, public transport facilities, and other developments needed for Airport operational purposes.

Reasoned proposals for ancillary or complementary facilities, such as hotels or administrative offices may be supported provided they are justified, appropriately located and do not prejudice its prime purpose as an Airport or conflict with other policies of the Plan. Development proposals should seek to minimise any adverse environmental impacts, including air pollution, and should achieve a high standard of design and appearance reflective of the importance and prestige of the Airport. Significant proposals for growth will be expected to reduce dependence on the private car”.

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“Policy T15 Future Development at Birmingham International Airport

The Council will support further development at Birmingham International Airport providing that the following criteria are satisfied:-

- (i) The proposed development does not cause an unacceptable level of environmental impact to the surrounding area and that everything reasonably possible is done to mitigate harmful effects;*
- (ii) The Airport must use its best endeavours to ensure that as much traffic as possible is accommodated on public transport or other sustainable forms of travel in accordance with an agreed travel plan;*
- (iii) The traffic impact on the surrounding highway network is acceptable; and*
- (iv) The development is consistent with Policy E4 of the Plan.*

Any proposal to extend the main runway will need to be assessed against the following criteria

- (i) The proposal can be clearly justified in terms of reducing the need for passengers originating from the Region to travel outside it to undertake long distance air travel;*
- (ii) Clear and important economic benefits to the Region can be demonstrated;*
- (iii) The environmental impact is minimised including impacts on noise, air and water quality, landscape, ecology, archaeology, cultural heritage, local communities and facilities that serve them;*
- (iv) The noise impact is acceptable, or can be made acceptable by implementing appropriate noise mitigation measures;*
- (v) Impacts on existing land uses affected can be minimised;*
- (vi) There is clear, measurable, and significant progress both at time of application and within the plan period to secure increased use of public transport for passengers and staff; and*
- (vii) Exceptional circumstances can be clearly demonstrated that would override the normal presumption against development in the Green Belt.”*

4.22 The Solihull Unitary Development Plan is to be replaced with a Solihull Local Development Framework, with a potential Plan Period to 2021. The Airport Company considers this Master Plan to be appropriate to inform the preparation of the new Solihull Local Development Framework.

Birmingham

4.23 The Birmingham Unitary Development Plan¹⁰ (with a Plan Period to 2011, and subject to its replacement by a Birmingham Local Development Framework), also referred to as “The Birmingham Plan”, was adopted by Birmingham City Council in 2006. The Birmingham Unitary Development Plan emphasises the importance of the City of Birmingham and its ambitions to be recognised as a ‘world city’. In this context, Birmingham International Airport has a most important role to play, and the Birmingham Unitary Development Plan states, for Birmingham International Airport:



“6.53. The City Council will seek to:

- (a) Encourage the sustained and balanced growth of Birmingham International Airport leading to an increased range of direct long and short haul services.
- (b) Secure appropriate and complementary improvements in public transport links to the City and to the motorway/trunk road network and in terms of interchange at the rail station.
- (c) Ensure that the expansion is achieved with protection of the local environment.
- (d) Ensure that any new parking facilities provided in Birmingham specifically to serve Airport users will not undermine the Airport’s published targets for public transport usage.”

- 4.24 The Birmingham Unitary Development Plan is to be replaced with a Birmingham Local Development Framework, with a potential Plan Period to 2021. The Airport Company considers this Master Plan to be appropriate to inform the preparation of the new Birmingham Local Development Framework.

Development Control

- 4.25 Development at Birmingham International Airport is subject to the normal planning and ‘Development Control’ processes, as set out in the Town and Country Planning Act 1990¹¹ (as amended) and relevant circulars, directions and guidance. However, under the terms of The Town and Country Planning (General Permitted Development) Order 1995 (as amended)¹², the Airport Company has ‘permitted development’ rights for certain types of ‘aviation development’, subject to submission of details (rather than a Planning Application) of the proposed development to Solihull Metropolitan Borough Council, as the Local Planning Authority.
- 4.26 In cases where development would not be ‘permitted development’, the Airport Company applies for Planning Permission, by way of a Planning Application.

Aerodrome Safeguarding

- 4.27 Birmingham International Airport, in common with other major airports, is situated at the centre of a series of ‘obstacle limitation surfaces’ which define, relative to the runway, maximum acceptable heights for buildings and other structures. The protection of these surfaces is undertaken as part of the ‘Aerodrome Safeguarding’ process.
- 4.28 Aerodrome Safeguarding is a process of statutory consultation between local planning authorities and airport operators, which is set out in Safeguarding Aerodromes, Technical Sites and Military Explosives Storage Areas: The Town and Country Planning (Safeguarded Aerodromes, Technical Sites and Military Explosives Storage Areas) Direction 2002¹³ (issued jointly by the Office for the Deputy Prime Minister and the Department for Transport).
- 4.29 The process is intended to ensure that an airport’s operation is not inhibited by development which might infringe the aerodrome’s obstacle limitation surfaces and approach lighting; compromise the accuracy of radar and electronic aids to air navigation; or create a bird strike hazard to aircraft (i.e. from land uses such as waste disposal and sewage treatment, areas of open water and large landscaping schemes). Local planning authorities are issued with Safeguarding Maps for airports, which enable them to identify planning applications, and proposed development, on which the airport operators should be consulted.

Footnote 11 www.communities.gov.uk

Footnote 12 www.communities.gov.uk

Footnote 13 www.dft.gov.uk

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Public Safety Zones

- 4.30** The Main Runway at Birmingham International Airport, again in common with other major airports, is subject to the definition of 'Public Safety Zones' (PSZs), which are areas that extend out from a runway's landing threshold. Public Safety Zones are the means of identifying the area where the risk of an aircraft accident, whilst extremely low, may be such as to merit restrictions on the use of land. Therefore, Public Safety Zones are important in the overall Development Control process with respect to airports.
- 4.31** The current Public Safety Zones for Birmingham International Airport were defined by the Control of Development in Airport Public Safety Zones¹⁴ (a circular issued by the Department for Transport in 2002). The basic policy objective is that there should be no increase in the number of people living, working or congregating in the Public Safety Zones, based on the 1 in 100,000 individual risk contour of death or injury to people, on the ground, in the event of an aircraft accident on take-off or landing. In addition, the Secretary of State wishes to see the emptying of all occupied residential properties, and of all commercial and industrial properties occupied as normal all-day workplaces, based on the 1 in 10,000 individual risk contour. There are, currently, no such properties applicable to Birmingham International Airport.
- 4.32** Local planning authorities are issued with the Public Safety Zones for airports, which enable them to identify planning applications, and proposed development, on which the Department for Transport should be consulted.



5. Forecasts

Introduction

- 5.1 The Department for Transport produced high level air traffic forecasts for Birmingham International Airport as part of the White Paper, and these forecasts have been reviewed within the Progress Report. Government forecasts provide the best available framework to take account of national and international policies on economic growth, taxation and environmental constraints, and they have been reviewed by the Airport Company and used as the basis for the forecasts in this Master Plan.

Historical Growth

- 5.2 Birmingham International Airport has experienced strong growth in passenger activity over the last two decades, averaging at 7.8% growth p.a. This growth rate has significantly exceeded that of many other UK airports, with Birmingham's share of the UK market increasing from 2.9% in 1986 to 3.9% in 2006.
- 5.3 The opening of the new Passenger Terminal ('Main Terminal', now 'Terminal 1'), in 1984, and the 'Eurohub' Passenger Terminal (now 'Terminal 2'), in 1991, have been a major stimulus for scheduled route development. Birmingham International Airport now has a comprehensive range of short-haul Domestic and European scheduled services, together with long-haul scheduled services to the Asian Sub-Continent, the Middle East and North America.
- 5.4 Since 1984, there has also been substantial growth in the charter market sector at Birmingham International Airport, reflecting the growing demand for overseas leisure travel. However, the traditional short-haul charter market has, more recently, been challenged by the 'no frills' operators, providing services to many of the traditional 'sun routes'.
- 5.5 The growth in the 'no-frills' market sector has been a more recent trend at Birmingham International Airport. There has been increasing demand for these type of services and there is now a range of 'no-frills' airlines operating at Birmingham International Airport, with routes to both Domestic and short-haul European destinations, serving both leisure and business needs.

Current Activity

- 5.6 In the year ending 31 December 2006, Birmingham International Airport handled 9.147 million Passengers and 108,658 Air Transport Movements (ATMs). Birmingham International Airport is currently the sixth largest in the UK (the second largest outside London) and, by virtue of its location, has the largest potential catchment of all of the UK regional airports.
- 5.7 Currently, the breakdown, by market sector, of the traffic at Birmingham International Airport is:
- > 'No Frills' : 36%.
 - > Short-Haul Scheduled : 28%.
 - > Long-Haul Scheduled : 8%.
 - > Charter : 28%.

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Future Growth

- 5.8** Future growth in activity will arise by both an increase in demand from the Airport's regional catchment area and a greater retention, or 'claw back', of traffic currently travelling outside the region to start air transport journeys at other airports. Birmingham International Airport's share of the Midlands' regional market is currently estimated to be 36%. By satisfying an increasing proportion of this demand in the region where it arises, this is forecast to grow to 57% by 2030.
- 5.9** One of the significant areas of forecast growth is the long-haul sector. The existing length of the Main Runway precludes the commercial operation of flights to the east (beyond the Gulf, the Middle East and the Asian Sub-Continent), and to the west (beyond the East Coast of Canada, the East Coast of the USA and the Midwest of the USA). With an extension to the current runway, existing, new and emerging markets in the Asian Sub-Continent, South East Asia, China, the Far East, the Pacific Rim and South Africa could be served, together with the Canadian Mid West and the West Coast of Canada, and West USA and the West Coast of the USA. An extension to the Main Runway would also allow currently constrained demand for long-haul charter traffic to be satisfied.
- 5.10** Short-haul international scheduled traffic has, in previous years, been the fastest growing market sector at Birmingham International Airport, and the growth in activity forecast in this Master Plan assumes that this market sector will continue to grow in the future. The growth will result from further additions to the route network, as well as growth on existing routes due to increases in frequency and aircraft size. The additional short-haul destinations, which are considered to be viable, will include European capitals and regional cities and towns.
- 5.11** Further significant growth is also forecast to continue in the 'no frills' sector, with the differences between short-haul international scheduled traffic and 'no frills' traffic being increasingly challenged. Potential routes are anticipated to include the traditional short-haul European 'sun routes' and European cities and towns, for both business and leisure purposes, with Central and Eastern Europe presenting new opportunities.
- 5.12** In previous years, the charter sector has seen substantial growth at Birmingham International Airport. However, more recently, this market sector has been challenged by 'no-frills' operators and, therefore, the Airport Company anticipates that future growth will be in the long-haul charter market, with a range of new long-haul leisure destinations following an extension to the Main Runway.
- 5.13** The domestic sector at Birmingham International Airport is relatively mature, and domestic traffic is forecast to be the slowest growing market sector. There are unlikely to be many new opportunities for new domestic routes in the future.



5.14 In summary, the Airport Company's forecasts in this Master Plan are based around the following market sectors:

- > Short-haul International Scheduled Destinations and Routes.
- > Long-haul International Scheduled Destinations and Routes (including those that require an extension to the Main Runway).
- > 'No frills' Destinations and Routes.
- > Domestic Destinations and Routes.
- > Short-haul Charter Destinations and Routes.
- > Long-haul Charter Destinations and Routes (including those that require an extension to the Main Runway).

Methodology

5.15 The forecasting methodology used in this Master Plan is similar to that used by the Department for Transport in developing the forecasts in the White Paper. However, it updates the forecasts with more recent survey data; it considers recent changes in the aviation industry; and it assesses the potential impacts of issues concerning environmental impacts and climate change. In summary, the forecasts have been derived as follows:

- > determine the existing underlying market for all routes from the Midlands catchment area;
- > apply selected growth rates to the underlying market for different destinations and routes, as appropriate;
- > assess the proportion of market capture that Birmingham International Airport could expect to attract and any appropriate changes in the proportion over time;
- > introduce new destinations and routes (including long-haul) when the growth of the underlying market, and market capture, is viable;
- > consider the potential impacts of new airport and surface transport infrastructure elsewhere in the UK;

Passenger Forecasts

5.16 The overall Passenger forecasts are summarised and set out in the table below.

Passenger Related Air Transport Movement Forecasts

Year	Passenger Traffic Forecast
2006	9.2 million passengers p.a.
2010	11.5 million passengers p.a.
2015	15.3 million passengers p.a.
2020	19.6 million passengers p.a.
2030	27.2 million passengers p.a.




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Air Transport Movements (ATMs) Forecasts

5.17 To accompany the Passenger forecasts, associated Air Transport Movements (ATMs) have also been forecast for the Plan Period to 2030. A gradual increase in average aircraft size is anticipated over the Plan Period. In 2006, the average number of passengers per ATM was 84 (compared with an average of 48 in 1986). By 2030, the average number of passengers per ATM is forecast to increase to 132. The overall Air Transport Movement forecasts are summarised and set out in the table below.

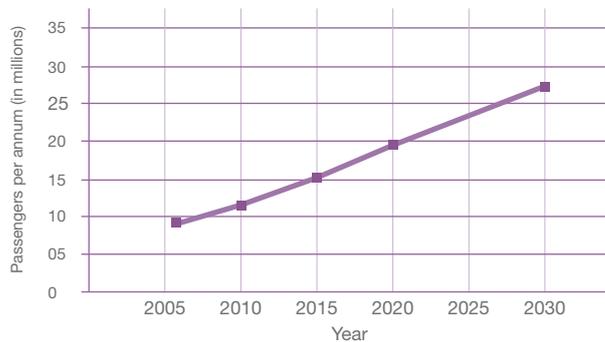
Passenger Related Air Transport Movement Forecasts

Year	Passenger Related Air Transport Forecasts
2006	109,000 p.a.
2010	132,000 p.a.
2015	156,000 p.a.
2020	176,000 p.a.
2030	205,000 p.a.

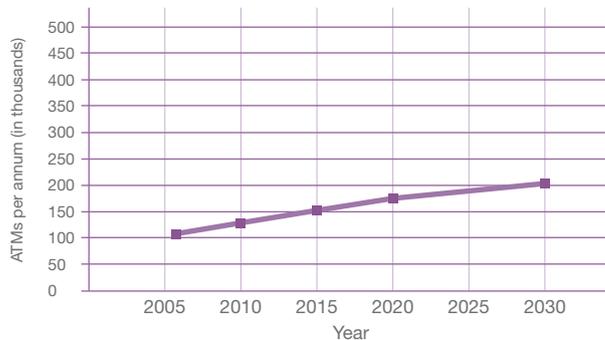


Activity Forecasts

Passengers 2005 – 2030



ATMs 2005 – 2030



Note: CAGR = Compound Average Growth Rate



Comparison with the White Paper

- 5.18** Continuing and strong growth in passenger activity is predicted, which is not inconsistent with the Department for Transport's scale of passenger forecasts for Birmingham International Airport in the White Paper. However, the aggregate forecasts for Passengers in this Master Plan are lower than those for Birmingham International Airport in the White Paper. The 2030 forecast for Passengers is 27.2 million passengers p.a., compared with 31.7 million passengers p.a. as forecast by the Department for Transport in the White Paper.
- 5.19** Continuing growth in Air Transport Movements is predicted, but there is a significant variance in the Air Transport Movement forecasts in this Master Plan compared with those for Birmingham International Airport in the White Paper. The 2030 forecast for Air Transport Movements is 205,000 ATMs p.a., compared with 350,000 ATMs p.a. as forecast by the Department for Transport in the White Paper. The difference is accounted for by lower passenger forecasts and an increased proportion of 'no-frills' traffic in the forecasts for this Master Plan. The 'no-frills' traffic tends to utilise larger aircraft with high load factors, which enables more efficient use to be made of Air Transport Movements.

Freight Activity

- 5.20** In the Government's Consultation Document - The Future Development of Air Transport in the United Kingdom: The Midlands (published in 2002, prior to the White Paper), future levels of freight activity for Birmingham International Airport were forecast to be 200,000 tonnes p.a. by 2030 (compared with 14,681 tonnes in 2006). This forecast was based on the majority of such freight activity being carried in the 'belly-holds' of scheduled passenger services, as is currently the case, with the significant increase resulting from the increase in scheduled services, particularly in the long-haul sector.
- 5.21** Since the early 1990s, Birmingham International Airport has not been particularly active in the air freight market sector, other than freight handled as 'belly-hold' on passenger aircraft. Although there had been significant growth up to 1991, the volume of freight handled since has been relatively small, largely as a result of changes in the UK air freight market. In the Express Freight market sector, operators have concentrated on other airports. However, the volumes of freight handled as 'belly-hold' on passenger aircraft, and in particular on scheduled passenger routes, has grown. This reflects the significant growth in the scheduled route network at Birmingham International Airport, and the introduction of larger aircraft which have a much greater 'belly-hold' freight capacity.
- 5.22** Future growth in the volumes of freight handled at Birmingham International Airport is anticipated to be as 'belly-hold' freight, on passenger aircraft. The Airport Company does not anticipate any return to the dedicated freight market sector.



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Forecasts for Master Plan

- 5.23** The forecasts for Birmingham International Airport in the White Paper have been reviewed and updated. Continuing and strong growth in passenger activity is predicted, which is not inconsistent with the Department for Transport's scale of forecasts for Birmingham International Airport in the White Paper. However, the aggregate forecasts for Passengers and Air Transport Movements in this Master Plan are lower than those for Birmingham International Airport in the White Paper.
- 5.24** Over time, the forecasts in this Master Plan will need to be kept under review and updated to reflect changing circumstances, or constraints, imposed by the Master Plan proposals, changes in market trends or changes in environmental controls.
- 5.25** Looking further ahead, as with all long term forecasts, it is inevitable that they will vary at times from actual activity levels. However, over the long term, they would be expected to reflect the general pattern of overall growth, and any variances would be reflected in future updates of the forecasts and reviews of the Master Plan.
- 5.26** The forecasts for Birmingham International Airport, and its continuing development, indicate a strong market for growth, which if it is to be satisfied would need investment in:
- > an Extension to the existing Main Runway;
 - > additional Airfield Capacity;
 - > additional Passenger Terminal Capacity;
 - > additional Airside Facilities to support activities at the Airport;
 - > additional Landside Facilities to support activities at the Airport;
 - > improvements to Surface Access for the Airport, by all modes;
 - > development of the Elmdon Terminal Site.



6. Sustainability

Policy

- 6.1** Air transport is critical to the UK in maintaining international ‘connectivity’ and economic growth. Air transport is also important in social terms, in meeting people’s needs for access to air travel, for leisure and family purposes, and in providing employment. However, there are environmental impacts associated with air transport, which need to be managed and mitigated effectively. The Government has promoted a sustainable approach to airport development in the White Paper, through its proposals for a ‘balanced approach’.
- 6.2** Critical to Birmingham International Airport’s continuing success will be a sustainable approach to the Airport’s development and operations. This will mean development and operation in such a way as to encourage economic growth and social inclusion, whilst minimising the environmental impact of the Airport and its operations - a ‘balanced approach’.
- 6.3** In 1999, the Government published “A Better Quality of Life”¹⁵, where it set out its strategy for sustainability, with the following objectives:
- > Social progress which recognises the needs of everyone.
 - > Effective protection of the environment.
 - > Prudent use of natural resources.
 - > Maintenance of high and stable levels of economic growth and employment.
- 6.4** More recently, in 2005, the Government published “Securing the Future”¹⁶, which progresses the objectives for sustainability by providing five guiding principles to form the basis of sustainability in the UK:
- > Living within environmental limits.
 - > Ensuring a strong, healthy and just society.
 - > Achieving a sustainable economy.
 - > Promoting good governance.
 - > Using sound science responsibly.
- The new strategy also specifies four priority areas for action:
- > Sustainable consumption and production.
 - > Climate change and energy.
 - > Natural resource protection and environmental enhancement.
 - > Sustainable communities.
- 6.5** The Government’s objectives for sustainability, as set out in “A Better Quality of Life”, are the principles which will underpin future development plans for Birmingham International Airport.

Footnote 15 www.sustainable-development.gov.uk

Footnote 16 www.sustainable-development.gov.uk



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6.6 The Airport Company's approach to sustainability is set out in the Airport Company's Sustainability Policy Framework¹⁷ and reported, annually, in the Airport Company's Community and Environment Report. The Airport Company's vision for sustainability is:

"Bringing direct economic and social benefits to the Central England Region, and playing our part as a responsible and proactive citizen whilst minimising the impact of our operations and activities on the environment."

Sustainable Aviation

6.7 In 2005, the UK air transport industry, including airports, airlines, air traffic control service providers and aerospace manufacturers, launched "Sustainable Aviation"¹⁸, a strategy for air transport, in the UK, to identify and deliver a sustainable approach for its future development. The strategy balances the needs of the environment with economic growth and social responsibilities. Birmingham International Airport Limited was one of the original signatories to "Sustainable Aviation" and the air transport industry's commitments to issues concerning:

- > Good Governance.
- > Air Quality.
- > Climate Change.
- > Economic Impact and the Value of Air Transport.
- > Employment.
- > Integrated Transport and Surface Access.
- > Natural Resources.
- > Noise.
- > Social Responsibilities.
- > Stakeholder Engagement.

"Sustainable Aviation" includes a series of indicators, based around these issues, on which the air transport industry's progress towards sustainability will be monitored. The Airport Company considers "Sustainable Aviation" to be important to the air transport sector as a whole, and locally in terms of Birmingham International Airport.

Economic Impact

6.8 The White Paper recognises the important role that airports have to play in the future growth and prosperity of the regions they serve, and offers clear support for the proposals included in this Master Plan.

6.9 The consultation process on "Smart Growth - The Midlands Way"¹⁹ (produced jointly by Advantage West Midlands and the East Midlands Development Agency) outlines an economic development strategy for the Midlands as a whole. It recognises the importance of access to air travel for the Midlands and supports the complementary development of Birmingham International Airport and East Midlands Airport, as set out in the White Paper.

Footnote 17 www.bhx.co.uk

Footnote 18 www.sustainableaviation.co.uk

Footnote 19 www.advantagewm.co.uk



- 6.10** The West Midlands Regional Economic Strategy, “Delivering Advantage – The West Midlands Economic Strategy and Action Plan”²⁰, identifies a central role for Birmingham International Airport. The availability of an international airport, to facilitate economic growth, existing business, commerce and industry, tourism, new business opportunities and inward investment in the West Midlands Region, is considered fundamental to achieving the objectives and delivery of the West Midlands Economic Strategy. In Pillar 3 – Creating the Conditions for Growth, the Regional Economic Strategy states that:

“Airport development is a specific part of the transport agenda within the wider Regional Transport Strategy. The delivery of the Vision in this strategy requires an international airport supporting the regional economy and its business.”

and includes, as part of Action Plan No 42, a clear statement of intent to:

“Promote Birmingham International Airport as a gateway to the region.”

The West Midlands Regional Economic Strategy is, currently, the subject of a review.

- 6.11** The continued development of Birmingham International Airport is of critical importance to the achievement of Birmingham’s aspirations to be a ‘world city’, through the access to air travel it provides and the role it can play in attracting inward investment, fostering international trade, stimulating inbound tourism and enhancing cultural links. The Economic Strategy for Birmingham, “Developing Birmingham – An Economic Strategy for the City”²¹, states that

“The further expansion of Birmingham International Airport is critical to attracting foreign inward investment and promoting the City as a centre for professional services, manufacturing and tourism.”

and includes a specific Strategic Objective of:

“To deliver the long term future and expansion of Birmingham International Airport, adding routes to increase the City’s number of international connections and improving surface access to the Airport.”

- 6.12** The Economic Development Strategy for Solihull, “Building a Diversified Economy with Equal Opportunities for All – An Economic Development Strategy for Solihull”²², recognises that Birmingham International Airport is ‘a major economic asset base in Solihull’, supporting the local economy and providing job opportunities. In particular it:

“Supports the Airport and NEC, and associated tourism and supply infrastructure, in realising their potential for Solihull and the region within the context of the Community Strategy.”

Employment and Income Impacts

- 6.13** Birmingham International Airport is one of the largest employment centres in the West Midlands Region. In 2006, Airport employment, on-site and in activities directly related to the operation of the Airport, was 7,500 full-time equivalent jobs or 8,310 job opportunities (job opportunities takes into account full and part time employment).
- 6.14** Taking account of additional indirect and induced impacts, in 2006, it is estimated that the Airport supported around 10,490 full time equivalent jobs (or 11,620 job opportunities) and generated £272 million of income in the West Midlands Region.

Footnote 20 www.advantagewm.co.uk

Footnote 21 www.birmingham.co.uk

Footnote 22 www.solihull.co.uk

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6.15 With the proposals set out in this Master Plan, it is estimated that the growth of Birmingham International Airport would result in the Airport supporting the following employment opportunities and income generation:

Year	Job Opportunities	Full Time Equivalent Jobs	Income £million*
2006	11,620	10,490	272
2011	16,660	15,050	477
2021	19,340	17,460	623
2030	21,140	19,090	8024



*Note (at 2006 prices)

6.16 In addition, it is estimated that the capital investment programme with the proposals identified in this Master Plan (not including the capital cost of the schemes themselves) will support some 2,770 full-time equivalent jobs and generate some £60 million of income (at 2006 prices) in the West Midlands Region over the period to 2030.

6.17 With such employment opportunities, there will be a need for the Airport Company and the Learning and Skills Council, together with other agencies, to complement employment and skills training initiatives, in order that the growth of Birmingham International Airport is not constrained by a shortage of employees and that residents of priority areas for regeneration, such as East Birmingham and North Solihull, are able to access the employment opportunities created.

Wider Economic and Social Benefits

6.18 Many studies and surveys have demonstrated that international airports can exert a significant impact on the level of economic activity in the areas which they serve, and on the location decisions of businesses and companies.

6.19 The West Midlands Region's tradition in manufacturing has seen dramatic change in the last thirty years, yet manufacturing continues to be an integral part of the regional economy. For companies engaged in manufacturing in the West Midlands Region, access to air travel, and the range of passenger services provided by Birmingham International Airport, will be important in maintaining their competitive positions.

6.20 Access to air travel is also critical for companies engaged in the high technology sectors, which are now becoming well established in the West Midlands Region. In this context, Advantage West Midlands has identified the development of 'high technology corridors' as one of its main delivery mechanisms for the West Midlands Regional Economic Strategy. Birmingham International Airport will have a key role in providing 'connectivity' to these corridors, particularly the Coventry, Solihull and Warwickshire corridor, but also the Birmingham – Worcestershire corridor (based around the A38 and also known as the 'Central Technology Belt') and the Wolverhampton – Telford corridor (based around the M54).

6.21 The growth of universities in the West Midlands Region, with their extensive research links to the high technology sector, will also be facilitated by the continued development of Birmingham International Airport. The growth of this sector, and its future importance to business success, has been confirmed by Birmingham's recent designation as a 'science city'. It is envisioned that science cities will combine world class research with successful knowledge-based industries, in an environment with the physical infrastructure and the supply of higher level skills to support significant further investment.



- 6.22** The range of scheduled services will also aid the continuing success of the conference and exhibition sector, together with business tourism, based around the National Exhibition Centre (NEC), the International Conference Centre (ICC) and the National Indoor Arena (NIA). The NEC benefits enormously from its location adjacent to Birmingham International Airport (and has a dedicated link to the Airport). The ICC and NIA, in Birmingham City Centre, are also linked by rail to Birmingham International Station.
- 6.23** A wider range of scheduled passenger services at Birmingham International Airport, to include more long haul routes, is one of the key elements required in the West Midlands Region, if the West Midlands is to continue to compete effectively for inward investment.
- 6.24** Birmingham is an emerging 'world city' and Birmingham International Airport is a key factor in providing the international 'connectivity' that would support this status, with consequential benefits for the 'City-Region' as a whole. If Birmingham is to achieve its aspirations, it needs to improve its 'connectivity' to other major world business centres. This can only be achieved through the continuing development of Birmingham International Airport and by enhancing the range of routes and destinations that it serves.
- 6.25** An analysis of the contribution which Birmingham International Airport makes to the overall 'connectivity' of Birmingham, relative to the 'connectivity' of other comparable cities, indicates that Birmingham is behind Manchester, currently being disadvantaged, in terms of air travel, by runway capability. In terms of 'connectivity', Birmingham is also behind aspirational targets elsewhere in Europe, including Barcelona, Frankfurt and Milan. All have significantly higher 'connectivity' indices than Birmingham. If Birmingham is to achieve its ambition of becoming a 'world city', there needs to be a significant improvement in the level of 'connectivity' available, including 'connectivity' in terms of air travel.
- 6.26** The proposals in this Master Plan would support the development of greater 'connectivity'. An extension of the Main Runway would allow services to be developed to high value long-haul destinations.
- 6.27** In 2006, some 2.7 million overseas visitors came to the Midlands, spending some £910 million. The continuing development of Birmingham International Airport, as a key international gateway providing access to major visitor attractions, is vital to the continued growth of tourism in the Midlands. The tourism sector in the Midlands has a wide range of attractions to offer to both business and leisure visitors, including:
- > Stratford upon Avon, Shakespeare's birthplace and the theatres of the Royal Shakespeare Company.
 - > historic cities and towns, such as Hereford, Lichfield, Nottingham, Oxford, Shrewsbury and Worcester.
 - > stately homes, castles and cathedrals, such as Blenheim Palace, Chatsworth House, Coventry Cathedral, Kenilworth Castle, Shugborough Hall and Warwick Castle.
 - > international sporting, leisure and cultural facilities, such as the NEC, NIA, Premiership and Championship Football Clubs (Aston Villa FC, Birmingham City FC, Coventry City FC, West Bromwich Albion FC and Wolverhampton Wanderers FC) and Edgbaston Cricket Ground (a Test Match venue and home of Warwickshire County Cricket Club) and the Birmingham Symphony Hall, the International Convention Centre, the Handsworth Carnival in Birmingham and the Divali Festival in Leicester.
 - > heritage attractions, such as the Black Country Museum, Ironbridge Gorge Museum, the National Tramway Museum and the Heritage Motor Centre.



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- > visitor attractions, such as Alton Towers, Cadbury World and the Severn Valley Railway.
- > the countryside of the Cotswolds, the English Marches, the Malvern Hills, the Staffordshire Moorlands, the Peak District and Sherwood Forest.
- > a range of quality shopping facilities, such as the Birmingham Bull Ring Shopping Centre, the Merry Hill Shopping Centre in Dudley, Touchwood in Solihull and Royal Leamington Spa.
- > the shops and attractions of the Potteries, including the Gladstone Pottery Museum and the Gladstone Art Gallery and Museum and the Wedgwood Visitor Centre.

6.28 Milton Keynes and the South Midlands have been identified as one of the potential areas of growth for the future. The focus of this growth will be in the high technology sectors which have extensive international business and research links and, therefore, the need for access to high quality air travel to destinations around the world. Milton Keynes and the South Midlands are in Birmingham International Airport's catchment area, with excellent access provided by road (via the M1/M6 and the M40/42) and rail (via the West Coast Mainline). Therefore, the continuing development of Birmingham International Airport, with an extended Main Runway and services to the Far East and the West Coast of the USA, would support the proposed growth in Milton Keynes and the South Midlands.

Raising the Profile

6.29 Therefore, Birmingham International Airport, and its continuing development, is important in putting the Midlands as a whole, the West Midlands Region, the City of Birmingham and Solihull 'on the map', in a way that no other facility can. This will be reflected by:

- > counteracting the perceived peripheral nature of the region from the major centres of economic power within Europe.
- > assisting the region in maintaining its already impressive performance in the attraction of inward investment, in what is otherwise an increasingly competitive environment.
- > assisting regional and local companies to be more outward looking and in penetrating new markets in Europe and the rest of the world.
- > supporting the retention, expansion and commercial success of regional and local companies already present.
- > stimulating growth in inbound tourism and business tourism.
- > 'adding value' to the wide range of existing international facilities.

Journey Time Savings

6.30 The proposals in this Master Plan would satisfy an increased proportion of the regional demand for air travel within the West Midlands. This would, in terms of environmental benefits, reduce the need for a significant number of the current surface journeys being made to other airports outside the West Midlands. The annual economic benefits, in terms of the surface journey time savings, would also be substantial.



- 6.31 Estimates of the time and cost savings from reduced surface journeys are summarised below:

	2021	2030
Estimated Journey Time Savings in hours	2 Million	4 Million
Estimated Cost Savings at 2006 Prices	£50 Million	£93 Million



- 6.32 Between 2006 and 2030, the discounted total value of journey time savings is estimated to be in excess of £520 million (at 2006 prices).

Social Issues

- 6.33 The Airport Company is committed to promoting social inclusion through partnership with the various communities it serves; this includes communities around the Airport, those living under the flight paths, the local and regional business community which needs access to air travel, local people who are seeking employment and passengers who need access to air travel.
- 6.34 The Airport Company has a positive relationship with “Business in the Community”, the UK’s leading promoter of corporate social responsibility in the business sector. Each year, Business in the Community promotes its “Awards for Excellence”, which recognise responsible business practice²³. The awards are vigorously assessed and independently judged. In 2004, the Airport Company took part in the process and received a ‘Big Tick’ award for its work in the neighbouring communities of Kitts Green and Shard End. The ‘Big Tick’ award acts as a symbol of success in developing programmes which not only recognise the social challenges which some areas face, but also the positive steps taken to address them.
- 6.35 The Airport Company plays its part in the local community, enhancing quality of life through targeted investment from a Community Trust Fund. Established by the Airport Company, the Community Trust Fund supports local projects in areas affected by the Airport’s activities and operations. The Community Trust Fund has been very successful and is now embedded in the local community as an important source of investment for projects aimed at improving the quality of life of local people. By the end of 2006, the Community Trust Fund had invested over £800,000 in 378 local community projects. The Airport Company will maintain its commitment to the Community Trust Fund.
- 6.36 In addition to the Community Trust Fund, the Airport Company also has a programme of support for other local community projects and schemes, which has included The Radleys Community Project and “The Pump” - Shard End Community Building Project.
- 6.37 The Airport Company has an active and innovative programme of investment in local education programmes. The investment is used to create dedicated ‘quieter’ areas within school buildings. In the White Paper, the Government recognised the Airport Company’s programme of investment in local schools and commended it to other airport operators as an example of a successful scheme in terms of mitigation and compensation. The Airport Company also supports local education projects such as the Kitts Green/ Shard End Education Action Zone, where it is represented on the Partnership Group.

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- 6.38** The Airport Company's Education Support Programme is geared to meeting curriculum and social priorities in local and regional schools and colleges. Successful projects have included resource packs for Key Stages 1 and 2, Advanced Level and Special Needs. These resources have been provided free of charge by the Airport Company to local and regional schools and colleges. The Airport Company is involved in a 'reading volunteers' scheme, where Airport Company volunteers assist pupils with their reading skills. The Airport Company also provides for an extensive programme of educational visits, each year, by schools and colleges (with over 125 visits in 2006).
- 6.39** The Airport Company will continue to maintain a programme of investment in local education programmes.
- 6.40** In terms of staff and employee issues, as set out in the Sustainability Policy Framework, the Airport Company will:
- > maintain a culture in which our employees act in a responsible and ethical manner.
 - > strive for equality of opportunity in all employment practices, policies and procedures.
 - > seek to achieve and maintain a workforce that broadly reflects the diversity of our local area.
 - > provide practical support to safeguard the health and welfare of employees.
 - > strive to create and maintain a working environment free from harassment, intimidation and victimisation.
 - > strive to retain our 'Investor in People' status.
 - > encourage our employees to develop and enhance their skills to meet the future needs of the business.
 - > recognise the role of well-motivated and trained staff in providing high standards of customer service.
- 6.41** The Airport Company has developed a Site Employment Strategy for the Airport, recognising its importance as a major employment site. The Site Employment Strategy reflects the importance of working with key partners, including the Learning and Skills Council, the NEC, Pertemps and Solihull College, together with other employers across the Airport site. Emphasis is placed on ensuring that local communities have access to jobs and employment at the Airport. Two key features of the Site Employment Strategy are 'Job Centre Plus', an on-site Job Centre handling Airport specific jobs and vacancies, and the establishment of 'Job Junction', which enables candidate referencing and criminal records checks and training for Airport jobs and vacancies to be co-ordinated. In addition, the Airport Company, and other Airport employers, holds Jobs Fairs to highlight the job opportunities available at the Airport. Linked to the Site Employment Strategy, and the Government's 'Skills for Life' initiative, the Airport Company also promotes participation in on-site skills development programmes, to develop the knowledge, skills and confidence of staff employed at the Airport.
- 6.42** The Airport Company will pay high regard to the health and safety of staff, passengers and visitors, through effective and appropriate health and safety practices.



Environmental Issues

- 6.43** The Airport Company will continue to seek and promote environmental improvement through the continuous development of an Environment Management System, including:
- > minimising noise disturbance by operating a comprehensive Noise Management Programme that reflects industry good practice, including the operation of a strict Night Flying Policy and the minimisation of ground noise through continued restrictions on Engine Ground Running.
 - > replying to complaints on Airport environmental and operational issues.
 - > providing a Sound Insulation Scheme that benefits local residents.
 - > providing a Vortex Protection Scheme (concerning aircraft wake vortices).
 - > minimising the environmental impact of construction projects.
 - > measuring, monitoring and reporting on ambient air quality levels and sharing this data with local authorities and other interested parties.
 - > imposing operational measures to improve local air quality.
 - > improving energy efficiency by introducing new technology, promoting energy awareness among staff, setting improvement targets and reporting on progress.
 - > providing an attractive landscape consistent with airport safety requirements and defining the effects of airport activity on local ecology, conserving plants and wildlife and avoiding ecological disturbance during normal airport operations and any development works.
 - > encouraging an understanding of, and support for, environmental issues, amongst airlines and other stakeholders.
 - > managing surface water quality on-site to ensure compliance with agreed consent limits and maintaining improvements to surface and foul water drainage systems.
 - > imposing operational controls to assure surface water quality.
 - > maintaining a policy of water and solid waste minimisation by continuing with the maximum recycling of waste as an Airport wide target.
 - > carrying out environmental appraisal of items procured.
 - > reporting publicly on environmental performance.
- 6.44** An environmental assessment of the proposals set out in this Master Plan is provided in Chapter 9 - Environmental Impacts & Mitigation (in Section 2 – Policies), together with the Airport Company’s programme of mitigation policies and measures to address the environmental impact.

Resources

- 6.45** The Airport Company, in operating the Airport, uses resources prudently and, where practicable, uses products which are renewable and have the least environmental impact. This policy will continue.



Section Two



Policies



This section describes the policies and development considered necessary by the Airport Company to meet the anticipated growth in air transport activity at Birmingham International Airport to 2030. For clarity, the formal policies in Section 2 are set out at the end of each chapter, but they should be read in conjunction with the background information in both Sections 1 and 2 and elsewhere in this document.



Section Two

7. Development Proposals

7.1 Airport Operational Area

Existing Airport Operational Area

7.1.1 The 'Airport Operational Area' is the area of land in which Birmingham International Airport operates, i.e.:

The area of land providing facilities for the landing and departing of aircraft; the airside and landside operational, commercial and airport-related activities which support air transport movements, passenger and freight activity and aircraft maintenance; and the various modes of surface transport providing airport access, together with all associated land within the perimeter of the airport.

The existing Airport Operational Area is set out in Section 3 - Proposals Maps, Airport Layout 2006.

7.1.2 The Airport Operational Area is influenced by the aerodrome and navigational aid safeguarding constraints (the influence of these matters also extends beyond the boundary of the Airport Operational Area in some locations). The Airport Operational Area is also currently constrained by adjoining land uses, including the local highway and rail networks.

Airport-Related Development

7.1.3 The Airport Company intends to concentrate the Airport's activities, and its development, to the Airport Operational Area, confining them to those which are 'airport' or 'airport-related'. These activities and development need to cover the full range of facilities and infrastructure required to sustain and support an international airport such as Birmingham International Airport. They should include ancillary facilities which will bring benefits to the operation and development of Birmingham International Airport, improve its amenity and play a part in Birmingham International Airport's role as a major contributor and stimulus to the economic activity and regeneration of the West Midlands.

Future Airport Operational Area

7.1.4 The extent of the Airport Operational Area is restricted by the land in the Airport Company's ownership. In the future, this will be determined by the prospects for growth at Birmingham International Airport and the forms of development required to meet, and support, the forecast growth in air transport activity. Additional land has already been acquired by the Airport Company to facilitate growth and development. Where appropriate, further land will be acquired to allow for, or safeguard, the Airport's future growth and long term development and to accommodate 'airport' and 'airport-related' development.



7.1.5 The Airport Company will maximise the development of land within the existing Airport Operational Area, but, within the plan period for this Master Plan, it will be necessary to develop Birmingham International Airport beyond the existing Airport Operational Area. Therefore, in the period up to 2030, the Airport Company proposes to extend the Airport Operational Area:

- > to include land to the south of the A45 Coventry Road for the proposed extension to the Main Runway and related infrastructure.
- > to include the NEC Western Car Park for the proposed expansion of the Passenger Terminal facilities and related infrastructure.

The proposed Airport Operational Area in 2010, 2015, 2020, and 2030 is illustrated on the relevant Proposals Maps in Section 3.

7.1.6 It is important that the land to the south of the A45 Coventry Road, for the proposed runway extension, and the NEC Western Car Park, for the proposed expansion of the passenger terminal facilities, is safeguarded for future 'airport' and 'airport-related' use (and within the future Airport Operational Area), and that they are not developed, in the meantime, in such a way as to prejudice 'airport' development or 'airport-related' development.



Section Two

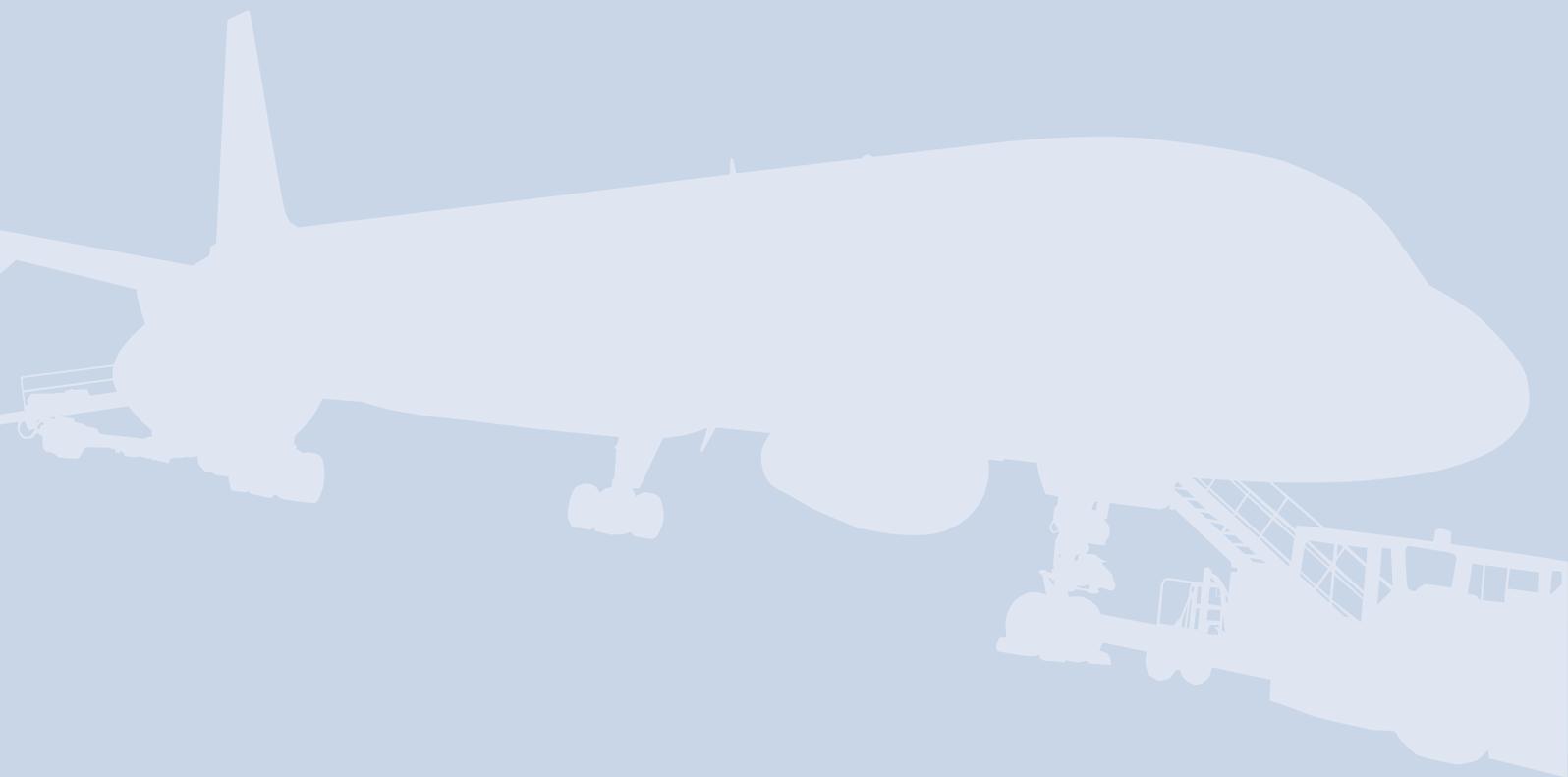
Airport Operational Area Policies

Airport Operational Area

- OPA1** The Airport Company proposes to extend the Airport Operational Area as set out in the Proposals Maps in Section 3.
- OPA2** The Airport Operational Area, the definition of 'airport' and 'airport-related' activities and the boundaries of the Airport Operational Area will be subject to regular review by the Airport Company.

Airport and Airport-Related Development

- OPA3** The Airport Company will support new development within the Airport Operational Area which is required for the operation, development or amenity of the Airport, or which supports the Airport's role as a major contributor and stimulus to the economic activity and regeneration of the West Midlands.
- OPA4** The Airport Company, in considering all potential development at the Airport, will take into account the level of existing facilities, customer needs, the desirability of an airport location and the relationship of the proposed development to the Airport.





7.2 Airfield Infrastructure

Role of the Airfield

7.2.1 The airfield is the system of components on which aircraft operate and is core to the functioning of an airport. The key elements to the airfield are:

- > runways
- > taxiways
- > navigational aids

The apron areas and aircraft stands also form part of the overall airfield facilities, but they are considered in the context of their respective airport activity types (i.e. passenger, freight, business aviation and aircraft maintenance) in the chapters on Passenger Terminal Facilities and Elmdon Terminal Site.

7.2.2 The sustained growth in air transport activity at Birmingham International Airport, in recent years, has been a key element in the need for the Airport's development. The existing airfield layout, and its characteristics, will form the basis for the future airfield layout, but further development of the airfield will be required to meet the forecast growth in air transport activity.

Existing Airfield Layout

7.2.3 The existing airfield layout is dominated by the configuration of the two runways, i.e.:

- > Main Runway 15/33
True Bearing 146 degrees/326 degrees
Length 2,599 metres (i.e. paved length)
Width 46 metres
- > Secondary Runway 06/24
True Bearing 057 degrees/237 degrees
Length 1,315 metres
Width 30 metres

and the network of taxiways which link the apron areas with the runways. In 2006, the Secondary Runway was not available as a runway. In 2005, 99.97% of total aircraft movements and 99.94% of the Air Transport Movements (excluding helicopters) used the Main Runway (15/33).

7.2.4 The Airport's Main Runway (15/33) is not directly aligned with the prevailing wind direction and, as with any runway, its use in strong cross winds is limited to certain aircraft types. The International Civil Aviation Organisation (ICAO) requires runways to be usable for 95% of the time in the maximum cross-wind conditions. This requirement is more than adequately met for Air Transport Movements on the Main Runway.

7.2.5 The layout of the taxiways, in relation to the airfield, will be most strongly influenced by the future configuration of the runways and by the further development of the Passenger Terminal Site and the Elmdon Terminal Site. Taxiways provide the essential links for aircraft between runways and apron areas. There will be taxiway links between the runways and the Passenger Terminal Site, and the runways and the Elmdon Terminal Site, sufficient to provide full and adequate aircraft access and bypass arrangements for all existing aircraft types and to improve runway capacity.



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Runway Capacity

- 7.2.6** The White Paper defines demand as the total number of annual passengers, and then relates this to runway requirements. This tends to disguise the fact that the real measure of airport capacity is the number of runway movements available at peak times. Although individual aircraft size can grow to accommodate more passengers, more aircraft cannot be accommodated, unless there is sufficient runway capacity available.
- 7.2.7** A number of factors influence runway capacity, including aircraft mix, taxiway and airfield layout and Air Traffic Control procedures. The capacity of a runway is assessed in movements per hour. The last detailed assessment of runway capacity at Birmingham International Airport (by National Air Traffic Services' Department of Analysis and Research) concluded that the peak hourly capacity of the Main Runway is 40 movements per hour. Higher rates could be achieved with further improvements to the airfield layout, to include additional taxiway links, fast turn-off taxiways and rapid exit taxiways. It has been estimated that, with such further improvements to the airfield, the capacity of the Main Runway could be increased to 48 movements per hour. Therefore, it is proposed that such additional taxiway links, fast turn-off taxiways and rapid exit taxiways are provided to increase the overall capacity of the Main Runway. This would be consistent with the White Paper policy of making the best use of existing airport capacity.
- 7.2.8** The proposed extension of the existing Main Runway would improve the runway capability, by increasing the range of destinations and routes which can be served, but it does not increase runway capacity.

Runways

- 7.2.9** Currently, the Airport's regular mode of runway operation is that commercial aircraft use the Main Runway (15/33), except in the case of strong cross-winds when a very small number of commercial aircraft could still use the Secondary Runway (06/24). A Preferential Runway Use policy is also used, in low wind speeds, to reduce the potential for Aircraft Wake Vortex Strikes, with arriving aircraft approaching from the south, rather than from the north over the densely populated residential areas in Birmingham. In 2006, the mode of operation for the Main Runway, in terms of Air Transport Movements, was:

- > Runway 33 North West Departures
(Out Over Birmingham) 26.8%
- > Runway 33 South East Arrivals
(In Over Solihull) 27.0%
- > Runway 15 North West Arrivals
(In Over Birmingham) 23%
- > Runway 15 South East Departures
(Out Over Solihull) 23.2%

The mode of operation for the Main Runway is also subject to local flying restrictions and Air Traffic Control operating conditions, Noise Preferential Routes and the need to operate in compliance with all appropriate procedures.



Closure of Secondary Runway

- 7.2.10** Recently, the Secondary Runway (06/24) has been used primarily by smaller General Aviation aircraft, but, in 2006, it was not available as a runway. In recent years, the Secondary Runway has been progressively downgraded as a runway, and, in 2005, there were only 29 aircraft movements, of which only 12 were Air Transport Movements. In addition, since 1996, the Section 106 Agreement and Planning Conditions with the Outline Planning Approval for the Expansion of the Passenger Terminal Facilities and Related Infrastructure have resulted in the closure of the Secondary Runway during the Night Period.
- 7.2.11** In order to optimise the capacity of the Main Runway and to further improve the general operating and environmental conditions, the Airport Company's intends to close the Secondary Runway as soon as practicable. The eastern end of the runway would then be used as a taxiway serving the Passenger Terminal Site. Closure of the Secondary Runway would also remove the current constraints on the future development of the Elmdon Terminal Site.

Extention to Main Runway

- 7.2.12** An extension to the Main Runway (15/33) is considered to be a significant element of Birmingham International Airport's future development. Currently, the length of the Main Runway restricts the range of markets, destinations and routes which can be served directly from Birmingham International Airport. The growing demand for a wider range of directly served destinations and routes, to support the regional and local economy, means that, without an extension, the current length of the Main Runway would be an increasing constraint.
- 7.2.13** Based on current and future aircraft performance, an extension to the Main Runway would be required to remove the existing operational restrictions which prevent the operation of a full network of direct long-haul services. Market assessments indicate that a number of long-haul services, requiring a longer Main Runway, are now viable. Subject to continuing market and financial appraisal, it is proposed that the Main Runway, together with the associated taxiways and airfield systems, would be extended for operational use as soon as practicable. Given the extensive planning, consultation, design and construction process involved, it is estimated that a runway extension could be operational by 2012.
- 7.2.14** Subject to detailed design, operational assessments conclude that the Main Runway should be extended by 400 metres to a length of 3,000 metres, together with a 150 metres Starter Extension. The proximity of existing residential and industrial development at the north west end of the Main Runway (in Birmingham) means that an extension to the Main Runway could only, practically, be achieved at the south east end of the Main Runway (in Solihull). However, the A45 Coventry Road represents a significant constraint to an extension of the Main Runway at its south east end, in that it currently crosses the extended centreline of the Main Runway. Therefore, the Airport Company proposes that the A45 Coventry Road should be placed in a tunnel, on a new, locally diverted, alignment. The addition of a 150 metres Starter Extension would provide greater operational flexibility and better environmental conditions in terms of noise on Runway 33 for northbound take-offs.

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- 7.2.15** An extension to the Main Runway would also enable the current Runway End Safety Areas (RESA) to be extended to provide the Civil Aviation Authority's (CAA) recommended full length of 240 metres. A RESA is an area provided at each end of the runway strip to minimise the risk, should an aircraft overrun on take-off or undershoot on landing. The proposed layout provides a RESA of 240 metres at each end of the Main Runway. The proposed Starter Extension has been included within the boundary of the proposed RESAs and, therefore, the envelope of the airfield is contained within the boundary identified in the White Paper.
- 7.2.16** An extension to the Main Runway at its south east end would also require the treatment of infringements to the 'Obstacle Limitation Surfaces', in order to comply with the CAA's licensing requirements and to maximise the performance characteristics of an extended Main Runway. Subject to detailed design, it may be necessary to carry out some treatment of the high obstacles, including trees, to the south of the proposed extension to the Main Runway.
- 7.2.17** The Public Safety Zone (PSZ) at the south east end of the Main Runway would also have to be relocated with an extension of the Main Runway. Therefore, a new PSZ would be defined for the south east end of an extension to the Main Runway, in accordance with Department for Transport requirements.
- 7.2.18** An extension to the Main Runway would also require improvements to the Visual Control Room of the Air Traffic Control facilities, in order to provide a satisfactory unobstructed view of the extended Main Runway ends and their approaches. The CAA Safety Regulation Group has stated that this will require a new Air Traffic Control Tower to be constructed. Therefore, the Airport Company will safeguard a site, at the Elmdon Terminal Site, for a new Air Traffic Control Tower.

Second Runway

- 7.2.19** The White Paper proposes that a new second runway may be needed at Birmingham International Airport around 2016, with the layout proposed based upon the "Birmingham Alternative"²⁴ (the Airport Company's response to the Government's earlier Consultation Document - The Future Development of Air Transport in the United Kingdom : The Midlands, published in 2002).
- 7.2.20** The Government's earlier Consultation Document set out three main options for Birmingham:
- > Maximise use of the existing Main Runway, together with an extension to the Main Runway.
 - > A close spaced second runway, with a minimum length of 2,600 metres, together with an extension to the Main Runway.
 - > A wide spaced second runway, with a minimum length of 2,600 metres, together with an extension to the Main Runway.
- 7.2.21** As part of the consultation process, the Government also consulted on options for an additional runway at East Midlands Airport and the option of building a major new airport at a site between Coventry and Rugby, which would have led to the closure of Birmingham International Airport.
- 7.2.22** The Airport Company responded to the Government Consultation Document by proposing the "Birmingham Alternative", which included an extension to the Main Runway, but proposed a wide-spaced short second runway of 2,000 metres (as opposed to 2,600 metres). The proposal encompassed the principle that the proposed second runway would only be constructed when the demand arose and would be supported by a package of environmental mitigation measures.



- 7.2.23** The previous draft to this Master Plan, which was the subject of an extensive consultation process, proposed a new second runway of 2,000 metres in length, but not before 2020.
- 7.2.24** Following the “Birmingham Alternative” and the earlier draft to this Master Plan, more recent work, by the Airport Company, has included a detailed review of the traffic forecasts and runway capacity. This work now indicates that a second runway should not be needed before 2030. Consequently, a new second runway has not been included in this Master Plan, but, as the forecasts are reviewed, over future periods, runway capacity and the need for a second runway could be reconsidered.

Taxiways

- 7.2.25** Taxiways provide the essential links between runways and apron hardstanding. The key elements to Birmingham International Airport’s future network of taxiways will be determined by the future layout of the Airfield, Passenger Terminal Site and the Elmdon Terminal Site, together with the optimal plan for aircraft movements.
- 7.2.26** The future network of taxiways at Birmingham International Airport will include:
- > Fast Turn-Off Taxiways, Rapid Exit Taxiways and Taxiway Links for the Main Runway (with the proposed extension to the Main Runway).
 - > Dedicated Parallel Taxiways, providing full access to both ends of the Main Runway (with the proposed extension to the Main Runway).
 - > Holding Bays for the Main Runway.
 - > A taxiway system for the Passenger Terminal Site, providing appropriate dedicated access to the Passenger Terminals.
 - > A taxiway system for the Elmdon Terminal Site, providing appropriate dedicated access to the facilities for aircraft hangarage and maintenance, business aviation and freight.
- 7.2.27** There is, currently, a restriction on the use of the Parallel Taxiway (Taxiway A). This is a Planning Condition resulting from the Secretary of State for the Environment’s decision to approve the Planning Application (following a Public Inquiry in 1979) submitted by West Midlands County Council for the new passenger terminal facilities opened in 1984²⁵. The Planning Condition restricts the use of the Parallel Taxiway between 2300 and 0700, except in emergency and for safety reasons. The Airport Company considers the Planning Condition for the Parallel Taxiway to no longer be appropriate. The Airport has a 24-hour operating licence and, during the hours of 2300 - 0700, the restriction on the use of the Parallel Taxiway can cause operational problems for early morning scheduled arrivals. The Airport Company will examine the environmental impacts of the use of aircraft engines (to turn aircraft on the Main Runway, which would then taxi back down the Main Runway), compared with the use of the Parallel Taxiway adjacent to the Noise Bund. Following this, the Airport Company proposes to submit a Planning Application to have the Planning Condition removed and to achieve better environmental conditions and enhanced operational efficiency.
- 7.2.28** The network of future taxiways will be designed to ensure adherence with the safety and design standards in Civil Aviation Publication 168 Licensing of Aerodromes (published by the Civil Aviation Authority)²⁶.

Footnote 25 Secretary of State for the Environment Decision Letter, 1981

Footnote 26 www.caa.co.uk

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- 7.2.29** Birmingham International Airport is equipped with the necessary navigational and technical aids to assist in all weather operations and provide a safe operating environment.
- 7.2.30** An extension to the Main Runway would affect the majority of the current Instrument Landing System (ILS) facilities. Therefore, the relocation of the ILS 'Glidepath' and 'Localisers', together with the provision of appropriate 'critical areas' and 'sensitive areas', would be required with the proposed extension to the Main Runway. In addition, the 'far field' ILS environment, and its suitability to CAT III Standards, will be reviewed to ensure an obstacle free operating environment. The other navigational aids should not be directly affected by the proposed extension to the Main Runway.
- 7.2.31** The Airport Company will also provide for a regular re-equipment and replacement programme in relation to the navigational aid and telecommunication equipment. In addition, longer term plans to replace Instrument Landing Systems with Microwave Landing Systems (MLS) and/or Ground Positioning by Satellite (GPS) will be considered by the Airport Company.

Airspace

- 7.2.32** The White Paper recognises the need to provide airspace capacity to support airport expansion and states :
- "If the additional airport capacity which would result from the proposals in this White Paper is to be effectively utilised, it must be matched by a corresponding increase in air space capacity....."*
- "This must be done without compromising the existing standards of safety and must take account of any environmental impacts." ²⁷*
- 7.2.33** As a result, the White Paper tasks the CAA, with the involvement of National Air Traffic Services (NATS) and other major providers of air traffic services, to work up future proposals for the UK's airspace :
- "..... with a view to the phased implementation of changes to eliminate constraints and permit the integration of the forecast increases in aircraft movements....." ²⁸*
- 7.2.34** Whilst airspace planning and regulation is formally the CAA's responsibility, the potential local airspace issues and impacts have been considered by the Airport Company in developing this Master Plan.
- 7.2.35** In the UK, the CAA regulates a complex airspace structure to support an extensive network of arrival and departure routes, with the interaction of various airports having an impact on capacity in the surrounding airspace.
- 7.2.36** The regulated airspace around Birmingham International Airport is designated as Class D Controlled Airspace. Aviation legislation requires all aircraft wishing to enter, or fly, within this Controlled Airspace to make radio contact with NATS (as the Air Traffic Control service provider at Birmingham International Airport) and obtain clearance to operate. NATS control the airspace using a combination of radio instructions and radar surveillance to manage the prevailing air traffic situation.
- 7.2.37** Coventry Airport is located approximately 11 miles east south east of Birmingham International Airport and lies beneath, but within, the lateral limits of the Birmingham Controlled Airspace. Such close proximity, combined with the alignment of the respective runways, creates an interface between the traffic patterns of the two airports. All activity at Coventry Airport has to be safely integrated with traffic for Birmingham International Airport and this can cause conflicts in demand for access to the same airspace, with delays to some traffic at Birmingham International Airport (and Coventry Airport) at peak periods.



7.2.38 In due course, Birmingham International Airport will need to move to a 'fully co-ordinated' runway movement scheduling status and need to increase the peak hour capacity of the Main Runway from the current 40 movements per hour to 48 movements per hour. It will also be necessary to operate at this peak hour capacity for significant periods during the day. The development of runway capacity is required to maximise the utilisation of the existing Main Runway, in accordance with the White Paper. The White Paper also identifies Birmingham International Airport as the principal international passenger airport for the Midlands and, therefore, it is essential that adequate airspace capacity is safeguarded for the development proposals set out in this Master Plan, with planning bodies needing to take into account the need to provide the necessary airspace.



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Airfield Infrastructure Policies

- ARF1** The Airport Company will provide the highest possible safety requirements for the landing and taking off of aircraft and the ground movement of aircraft, in accordance with Civil Aviation Authority requirements and standards.
- ARF2** The Airport Company will provide and operate a runway and taxiway system in accordance with Civil Aviation Authority standards, and sufficient to meet demand and be operated to maximum efficiency.
- ARF3** The Airport Company will design its airfield facilities in accordance with Civil Aviation Authority requirements and standards.
- ARF4** The Airport Company proposes to extend the Main Runway (15/33) to a length of 3,000 metres, in order for Birmingham International Airport to serve a wider range of direct world-wide destinations and routes. It is proposed, subject to continuing market and financial appraisal, that the extension to the Main Runway should be available for operational use by 2012.
- ARF5** The Airport Company proposes to close the Secondary Runway (06/24) to improve operating arrangements and environmental conditions and to allow for the further development of the Airport.
- ARF6** The Airport Company proposes to provide an appropriate network of taxiways to provide for safe aircraft ground movement between the Runways and the Passenger Terminal and Elmdon Terminal Sites, and also within the Passenger Terminal and Elmdon Terminal Sites.
- ARF7** The Airport Company proposes to submit a Planning Application to have the existing Planning Condition concerning the Parallel Taxiway (Taxiway A), restricting its use between 2300 and 0700, removed.
- ARF8** Public Safety Zones will be provided at the ends of the Main Runway, in accordance with Department for Transport requirements.
- ARF9** The Airport Company will ensure the provision of a comprehensive range of appropriate air navigation aids.
- ARF10** The Airport Company will ensure the highest possible safety requirements concerning Air Traffic Control and Airspace for Birmingham International Airport, in accordance with Civil Aviation Authority requirements and standards.
- ARF11** The Airport Company will seek to safeguard and develop the necessary airspace capacity required to make maximum use of the Main Runway, and its proposed extension, and also to support the further development of Birmingham International Airport.





7.3 Passenger Terminal Facilities

Role of the Passenger Terminal Facilities

7.3.1 Passenger terminals, and the associated passenger terminal facilities, must provide the necessary passenger terminal capacity to safely meet the anticipated demand and the required standards of customer service. Key elements in meeting this objective are:

- > apron areas and aircraft hardstanding.
- > airside vehicle circulatory roads.
- > passenger terminal buildings.
- > landside vehicle set-down and pick-up facilities.
- > landside vehicle circulation roads and surface access.
- > public transport facilities.
- > car parking facilities.
- > commercial and concessionaire support facilities.
- > operational support facilities.

Principles of Passenger Terminal Design

7.3.2 The factors which influence passenger terminal design are:

- > passenger forecasts and Busy Hour Rates.
- > safety considerations.
- > customer needs.
- > regulatory and control authority requirements.
- > service standards.
- > traffic mix and traffic type.
- > commercial considerations.

In accordance with the Airport Company's sustainability objectives, an additional, and important, requirement for Birmingham International Airport and this Master Plan is the need to facilitate and optimise the modal shift of surface access by public transport.

Site Assessment

7.3.3 The Passenger Terminal facilities at Birmingham International Airport were transferred to the existing Passenger Terminal Site in 1984, to take advantage of the excellent links to the national road and rail networks and because of the greater space available for long term development.

7.3.4 Looking to the future, the Airport Company considers that the current Passenger Terminal Site, to the east of the Main Runway, will continue to provide the optimum site for the development of further Passenger Terminal facilities. The key advantage remains the proximity of excellent surface access by road and rail. The scale of new facilities required, to accommodate the forecast growth in demand to 2030, is considered to need the expansion of the Passenger Terminal facilities into the Airport's current Long Stay Car Park 1 and area of the NEC Western Car Park.

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7.3.5 The Airport Company has analysed potential sites for the further development of Passenger Terminal facilities at the Elmdon Terminal Site. It was concluded that a 'stand alone' Passenger Terminal facility at the Elmdon Terminal Site was not the preferred option, as it would involve a split site operation; it would be undesirable in terms of both customer service and surface access by public transport; and economies of scale and operational efficiencies would be lost. However, the development of Passenger Terminal facilities at the Elmdon Terminal Site can not be eliminated, should it not be possible, during the plan period for this Master Plan, to meet all of the capacity required at the existing Passenger Terminal Site.

Passenger Terminals Development

7.3.6 For master planning purposes, the location, shape, footprint and operating concept of future passenger terminal capacity is required, together with an understanding of how the future passenger terminals will interface with the airside facilities and the landside access infrastructure. However, at this stage, it is not possible to include a detailed, architectural design of any future passenger terminals or any detailed revisions to the existing passenger terminals.

Demand

7.3.7 As set out in Chapter 5, Birmingham International Airport is forecast to grow to 27.2 million passengers per annum by 2030, with growth expected in all of the key market sectors. The forecasts (in million passengers p.a.) are presented in the table below, by market sector.

Passenger Forecasts for Birmingham International Airport by Market Sector

	2004	2010	2015	2020	2030
Domestic	1.5	1.7	2.0	2.2	2.7
Short-haul International Scheduled	4.2	5.8	7.4	9.9	14.3
Long-haul Scheduled & Charter	0.9	1.6	3.4	5.1	8.0
Tour Operator Leisure (Charter)	2.6	2.4	2.5	2.4	2.2
Total	9.2	11.5	15.3	19.6	27.2



7.3.8 From these forecasts of passenger traffic, future busy week schedules for aircraft and passenger movements have been derived to calculate hourly passenger flows, which are the key parameters for passenger terminal capacity. The design philosophy regarding future passenger terminal capacity is to maximise the use of the existing passenger terminals, i.e. Terminal 1 and Terminal 2, and expand these Passenger Terminals within the current envelope for the Passenger Terminal Site.



7.3.9 In response to growth, the Airport Company already had a number of schemes to expand and enhance passenger terminal capacity. These schemes had previously been published as part of the extension to the Outline Planning Approval for the Expansion of the Passenger Terminal Facilities and Related Infrastructure, approved in 2003²⁹. The schemes, taken into account in the present analysis (some of which have now been provided), are:

- > Expansion of Terminal 1 Airside Departure Lounge Capacity.
- > Improvements to Terminal 1 Outbound Security Controls.
- > Expansion of Terminal 1 Inbound Immigration Controls and Baggage Reclaim Capacity.
- > Expansion of Terminal 1 Check-In Area.
- > Modification of Terminal 2 Frontage.
- > Expansion of Terminal 2 Check-In Area.
- > Improvements to Terminal 2 Outbound Security Controls.
- > Improvements to Terminal 2 Airside Departure Lounge.
- > Expansion of Terminal 2 to increase Departures and Arrivals capacity.

Other significant planned schemes included the replacement of the International Pier for Terminal 1, the 'Satellite Pier' for Terminal 1 and a Pier for Terminal 2.

7.3.10 Based on these incremental development programmes, it is forecast that the current Passenger Terminals can be expanded to accommodate the following passenger throughput:

Terminal 1	11 - 12 million passengers p.a.
Terminal 2	6 - 7 million passengers p.a.

7.3.11 Once the maximum capacity of the current Passenger Terminals has been exhausted, it would be necessary to develop a Third Passenger Terminal. On an incremental basis, this new facility would need to be developed to accommodate a throughput of 9 million passengers p.a. by 2030.

Landside Access

7.3.12 The provision of appropriate landside vehicle set-down and pick-up capacity, convenient to the Passenger Terminals, is a key element in passenger terminal design. It is essential that adequate capacity and space is provided for vehicle set-down and pick-up, (within the Traffic Regulation Orders and subject to the relevant security requirements). The Department for Transport lays down stringent security requirements in relation to unattended vehicles and the minimum distance from buildings where vehicle set-down and pick-up can be provided. In the future, specific locations for vehicle set-down and pick-up may be required, rather than the traditional extensive kerbside vehicle set-down and pick-up which has been provided immediately outside passenger terminals.

7.3.13 The Airport Company proposes to revise the internal landside circulatory road network within the Passenger Terminal Site, in order to facilitate access for the proposed further development of Terminal 1 and Terminal 2, and also the proposed Terminal 3, and to meet Department for Transport security requirements and standards. It is proposed that the gyratory system for the Passenger Terminal Site will be extended to reflect the expansion of the Passenger Terminal facilities and to provide full access to all the landside facilities, including car parking. Some of the internal landside circulatory road network may be provided as 'grade separated', in order to improve circulation and provide further capacity in what is otherwise a constrained site.

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7.3.14 The Passenger Terminals will need to be linked to the public transport facilities (to be concentrated at the Birmingham International Interchange). Therefore, in addition to the existing Air-Rail Link (linking Terminal 1 with the Birmingham International Interchange), upgrades are proposed to provide additional capacity. It is also proposed that a new link should be provided from Terminal 3 to the Birmingham International Interchange. The exact form of the link (i.e. people mover, moving walkway or other system) would be assessed in the future, as technologies develop.

Car Parking

7.3.15 The balanced provision of appropriate car parking capacity to serve the Passenger Terminal Site will be important in terms of customer service. The Airport Company will provide further car parking capacity for passengers, visitors and employees, in order to serve the Passenger Terminal Site. It is proposed to maximise the car parking capacity provided at the Passenger Terminal Site, and this will be achieved by providing additional multi storey car parking. However, some car parking capacity, and in particular long stay car parking, will be provided as remote car parking away from the Passenger Terminal Site. The future requirements for car parking are set out in Chapter 8 on Surface Access, with future proposals for car parking shown in the Proposals Maps in Section 3.

Aprons and Aircraft Stands

7.3.16 The key element with apron hardstanding is to ensure that there are sufficient aircraft stands to meet the peak demand. Some aircraft stands are 'airbridge served', and some are 'remote stands' which can only be reached by passengers walking to/from aircraft or by passengers being bussed to/from aircraft.

7.3.17 The apron areas are connected to the runways by taxiways. It is important in the case of a multiple passenger terminal operation, such as Birmingham International Airport, that a flexible taxiway system is provided to allow access to the Passenger Terminals and to rationalise the use of the runway, particularly at peak times.

7.3.18 The aircraft stands which make up the apron areas need to be sized in relation to the type and mix of aircraft that use Birmingham International Airport now, and that are forecast to use the Airport in the future. The aircraft stands need to be able to accommodate a variety of aircraft, from small regional aircraft to large wide-bodied aircraft. In addition, aircraft stands need to be designed for maximum flexibility, so that stands for wide-bodied aircraft could also be used by two smaller aircraft. The layout and size of the apron areas also have to comply with the safety and design standards in Civil Aviation Publication 168 Licensing of Aerodromes (published by the Civil Aviation Authority)³⁰.

7.3.19 The forecasts of stand demand assume that the largest aircraft to be accommodated at Birmingham International Airport should be Airbus A330-300, Boeing 777-300 and Boeing 747-400. However, larger aircraft, such as the Airbus A380, have been ordered by existing operators at Birmingham International Airport, with the potential that they could seek to operate them at the Airport in the future.

7.3.20 The existing layout of the Passenger Terminal Site, and planned commitments, will effectively constrain the future development of apron areas and aircraft stands. The future arrangements for apron hard standing should include dual taxilanes for the proposed new apron areas, together with the provision of expanded areas for ground services equipment. In addition, a significant proportion of aircraft stands will be remote and, therefore, adequate provision will need to be made for bussing gates, airside bus parking and airside access roads.



Passenger Terminal Facilities Policies

- PAT1** The Airport Company proposes to provide further Passenger Terminal capacity to meet the forecast growth in demand. The Passenger Terminal facilities will be designed to meet customer service standards and security requirements and to maintain operational efficiency.
- PAT2** The Airport Company proposes to provide further airside and landside Passenger Terminal capacity necessary to meet the forecast growth in demand up to 2030, based on the existing Passenger Terminals (Terminal 1 and Terminal 2) and a proposed new Passenger Terminal (Terminal 3).
- PAT3** The Airport Company proposes to extend Terminal 1, necessary to meet the forecast growth in demand, by completing airside extensions towards the Secondary Runway (06/24) and the Main Runway (15/33), and landside extensions with in-filling. The Airport Company proposes to extend Terminal 2, necessary to meet the forecast growth in demand, by extensions towards the Main Runway (15/33) and into the existing Long Stay Surface Car Park 1.
- PAT4** The Airport Company proposes that the NEC Western Car Park should be safeguarded to cater for continuing growth and demand, and for the expansion of the Passenger Terminal Site and Passenger Terminal facilities up to 2030.
- PAT5** The Airport Company proposes that the proposed new Terminal 3, necessary to meet the forecast growth in demand, should be accommodated within a site based on the NEC Western Car Park and the existing Long Stay Car Park 1 and Staff Car Park.
- PAT6** The Airport Company will provide and operate an apron and taxiway system for the Passenger Terminal Site in accordance with Civil Aviation Authority standards, and sufficient to meet demand and be operated to maximum efficiency.
- PAT7** The Airport Company will design the expansions of Passenger Terminal Facilities in accordance with Civil Aviation Authority and Department for Transport standards.
- PAT8** The Airport Company will provide airside equipment parking areas to meet operational and safety requirements.





Section Two

7.4 Elmdon Terminal Site Facilities

Role of the Elmdon Terminal Site

7.4.1 The current activities at the Elmdon Terminal Site are dominated by six basic functions:

- > Air Traffic Control.
- > Aircraft Hangarage and Maintenance.
- > Business Aviation and General Aviation.
- > Freight.
- > In-flight Catering.
- > Airport and Aviation Support Services.

The Holiday Inn Hotel and the Gateway Estate are also at the Elmdon Terminal Site, but are located outside the Airport boundary.

7.4.2 Prior to 1984, the Elmdon Terminal Site was the location for passenger terminal facilities at the Airport and the current layout of the site is still influenced by that former use. It is proposed that the Elmdon Terminal Site will continue its role as an area for aviation support and ancillary airport services.

7.4.3 With the exception of the Air Traffic Control facilities and core airside infrastructure, the scale, mix and detail of the proposals for aviation support and airport ancillary services will depend on the commercial demand from airlines and the aviation support industry and the constraints for airport ancillary development at the Passenger Terminal Site. Whilst general usage and zoning of the area is proposed in this Master Plan, it is not practical to develop any detailed layouts.

Air Traffic Control

7.4.4 Air Traffic Control is currently provided, on behalf of the Airport Company, by National Air Traffic Services (NATS). The existing Air Traffic Control Tower (ATC Tower) and Visual Control Room (VCR) are housed in the Elmdon Building. Whilst this location is acceptable for the current airfield layout, it is unable to provide a fully unobstructed view to all areas. This requirement would be further compromised with an extension to the Main Runway. Therefore, the Airport Company is planning for a new ATC Tower as part of this Master Plan.

7.4.5 Potential locations for a new ATC Tower have been assessed, based on the following criteria:

- > the visibility of the runways, taxiways and apron areas.
- > the visibility of the visual circuit and runway approaches.
- > the required height for an ATC Tower, relative to the Obstacle Limitation Surfaces.
- > electromagnetic compatibility factors.
- > access to services, vehicle access and parking.
- > security.

and two areas for the location of a new ATC Tower were identified:

- > the Passenger Terminal Site.
- > the Elmdon Terminal Site.



- 7.4.6** Locations at the Passenger Terminal Site would not allow unobstructed lines of sight to all aircraft manoeuvring areas. Therefore, the Airport Company proposes a new ATC Tower at the Elmdon Terminal Site. The proposed site for a new ATC Tower is identified on the Master Plan Proposals Map for 2015 in Section 3.
- 7.4.7** The height of the new ATC Tower is primarily dependent on meeting the required visibility criteria. This would necessitate a higher ATC Tower than the existing ATC facility in the Elmdon Building. However, the proposed location, which is the highest point of the Airport Site, would enable the proposed ATC Tower height to be limited to 37 metres above ground level. The final location and height for the proposed new ATC Tower would have to be agreed with the CAA.

Aircraft Hangarage and Maintenance

- 7.4.8** All aircraft are subjected to regular inspections and maintenance, ranging from a manual inspection prior to every flight to a major overhaul where an aircraft is stripped down and re-assembled. Some aircraft maintenance is undertaken in dedicated facilities provided for airlines, whilst other aircraft maintenance is undertaken as ‘third party’ maintenance in dedicated facilities provided for aircraft maintenance specialists. Aircraft maintenance requires the provision of aircraft apron hardstanding (and taxiway links) and aircraft hangarage where maintenance can be undertaken under cover.
- 7.4.9** The aircraft hangarage and maintenance facilities at Birmingham International Airport are now nearing the end of their operational lives and will need replacement. The Airport Company will plan for an increase in aircraft hangarage and maintenance capacity and the development of new aircraft hangarage and maintenance facilities at the Elmdon Terminal Site, including the replacement of the two current hangars, as necessary to meet demand. In addition, the Airport Company will also consider the need, and capacity, for ‘third party’ aircraft hangarage and maintenance. The area to the west of the existing Secondary Runway (06/24) is considered to offer favourable opportunities for the further development of dedicated aircraft hangarage and maintenance facilities, which in turn would be enhanced by the closure of the Secondary Runway (06/24). The Airport Company proposes that such development would be supported by appropriate environmental mitigation measures.
- 7.4.10** Aircraft engine ground running is an essential part of aircraft maintenance. The Airport Company has developed a stringent set of procedures to enable aircraft engine ground running to be undertaken in a limited number of locations at the Airport, and these are governed by local operating issues and environmental considerations. However, the Airport Company is very much aware of local residents’ concerns about aircraft engine ground running and, therefore, undertook a study to examine the technical options to provide for aircraft engine ground running in the future.
- 7.4.11** The study concluded that a dedicated, purpose built Engine Ground Running Facility was technically feasible and the best long term option for aircraft engine ground running. A number of sites at the Airport were considered, taking into account aircraft access, Aerodrome Safeguarding and environmental impact issues (particularly noise), with a dedicated Engine Ground Running Facility at the Elmdon Terminal Site considered to be the best technical and environmental solution. The proposed site for a dedicated Engine Ground Running Facility is identified on the Master Plan Proposals Map for 2015 in Section 3.



Section Two

Business and General Aviation

- 7.4.12** General Aviation is made up of public service aviation activities, certain commercial aviation activities and private aviation (for business and leisure). A key element of General Aviation is Business Aviation, which is made up of air taxi and corporate aircraft operations, often related to commerce and industry in the Midlands.
- 7.4.13** Overall, the Airport has limited space and runway capacity available for General Aviation and does not generally encourage the development of private aviation (which is not considered compatible with the core commercial passenger operations). It is the Airport Company's policy that licences for home-based recreational and training operations will not be replaced in the future, as they expire.
- 7.4.14** However, Business Aviation is an important part of the Airport's role in supporting the Region. The development of Business Aviation facilities, based on the Elmdon Building and the Western Apron, will be encouraged. Dedicated hangarage and maintenance facilities for Business Aviation can also be incorporated into the overall proposals for the future development of aircraft hangarage and maintenance facilities at the Elmdon Terminal Site, subject to need and demand.

Freight

- 7.4.15** Freight facilities for Birmingham International Airport are currently located at the Elmdon Terminal Site, using purpose-built facilities, such as the Argosy Building, British Airways Cargo Centre, Express Freight Transit Shed and Servisair Cargo Centre. In the future, the Airport Company does not consider the development of purpose-built facilities for dedicated air freight services to be a priority for the Airport.
- 7.4.16** In the Government's Consultation Document - The Future Development of Air Transport in the United Kingdom: The Midlands³¹, published in 2002 prior to the White Paper, future levels of freight activity for Birmingham International Airport were forecast to be 200,000 tonnes p.a. by 2030 (compared with 14,681 tonnes in 2006). This forecast was based on the majority of such freight activity being carried in the 'belly-holds' of scheduled passenger services, as is currently the case with freight activity at Birmingham International Airport, with the significant increase resulting from the forecast growth in scheduled passenger services, particularly in the long-haul sector. Therefore, the Airport Company will support the development of facilities for freight carried in the 'belly-holds' of scheduled passenger services.
- 7.4.17** However, such 'belly-hold' freight activity on scheduled passenger services, and its future growth, would be greatly enhanced by using dedicated processing facilities, based on existing, or new, facilities similar to those which were proposed with the former 'Freight West' scheme (granted Outline Planning Approval in 1991). In the future, the Airport Company anticipates that the Elmdon Building will not be used to process freight, and the Express Transit Shed, the International Building and the Link Block will be removed, and not necessarily be replaced by buildings to process freight. However, the Argosy Building will be retained, and it is anticipated that the British Airways Cargo Centre and the Servisair Cargo Centre will be retained to support freight activities at the Elmdon Terminal Site.



Apron and Taxiway Issues

- 7.4.18** Separate and dedicated apron hardstanding, appropriate to the size of aircraft, will need to be provided and developed at the Elmdon Terminal Site for Aircraft Hangarage and Maintenance, Business Aviation and Freight, with taxiway links to the Main Runway. The apron hardstanding and network of taxiways will be designed in accordance with the safety and design standards in Civil Aviation Publication 168 Licensing of Aerodromes (published by the Civil Aviation Authority)³².

In-flight Catering

- 7.4.19** The Airport's in-flight catering facilities are based at the Elmdon Terminal Site, with additional support facilities at the Gateway Estate and off-site. The forecast growth in passenger activity at Birmingham International Airport is anticipated to increase the demand for in-flight catering, but the growth in the 'no frills' market sector, where in-flight catering is not necessarily a priority, will also affect the overall demand for in-flight catering. The Airport Company proposes to safeguard land at the Elmdon Terminal Site, both for the expansion of existing in-flight catering facilities and also the provision of additional new in-flight catering units.

Elmdon Terminal Building

- 7.4.20** The Elmdon Building previously provided the Airport's passenger terminal facilities. The Elmdon Building still reflects its former use as a passenger terminal, although its internal layout has changed substantially. Whilst the Airport Company does not propose to develop new passenger terminal facilities at the Elmdon Terminal Site, should market conditions change, consideration may be given to re-establishing the Elmdon Building for passenger operations.

Commercial and Operational Accommodation

- 7.4.21** In addition to the specific facilities already discussed, there is a range of further, typically small-scale, general support and commercial facilities at a range of locations across the Elmdon Terminal Site. These include support facilities for West Midlands Police, other Control Authorities and special security arrangements, as well as facilities for airlines, handling agents and other Airport tenants.
- 7.4.22** In the future, the Airport Company will prioritise activities at the Elmdon Terminal Site that are 'airport' or 'airport related', including hotel development.



Section Two

Elmdon Terminal Site Facilities Policies

- ELM1** The Airport Company proposes to provide an efficient level of facilities at the Elmdon Terminal Site to meet customer needs for Aircraft Hangarage and Maintenance, Business Aviation, Freight Handling and Processing, In-Flight Catering and other support facilities and infrastructure related to the activities at the Elmdon Terminal Site.
- ELM2** The Airport Company proposes to provide for aviation support and airport ancillary services and airport ancillary development at the Elmdon Terminal Site.
- ELM3** The Airport Company will provide and operate an apron and taxiway system for the Elmdon Terminal Site in accordance with Civil Aviation Authority standards, and sufficient to meet demand and be operated to maximum efficiency.
- ELM4** The Airport Company will design the further development of the Elmdon Terminal Site in accordance with Civil Aviation Authority and Department for Transport standards.
- ELM5** The Airport Company proposes to provide a new Air Traffic Control Tower at the Elmdon Terminal Site.
- ELM6** The Airport Company proposes to provide procedures and dedicated facilities for Aircraft Engine Ground Running at the Airport, in order to mitigate the environmental impact of aircraft engine ground running at the Airport.
- ELM7** The Airport Company does not intend to encourage growth in general aviation activity at the Airport, but proposes to continue to provide dedicated facilities for Business Aviation based on the Elmdon Building.





7.5 Airside Support & Landside Ancillary Facilities

Role of Airside Support & Landside Ancillary Facilities

- 7.5.1** A wide range of essential commercial and operational facilities need to be provided at an airport, in order to support its activities.
- 7.5.2** With the further development of commercial facilities at the Passenger Terminal Site and the Elmdon Terminal Site, it is important that the Airport Company concentrates such development on activities which are ‘airport’ or ‘airport-related’, or ‘ancillary’ to the Airport. The Airport Company will be sensitive to local planning policies in terms of such development, particularly in relation to the type and scale of activity and the quantity of land to be safeguarded.
- 7.5.3** Many of the operational issues associated with the Passenger Terminal Site and the Elmdon Terminal Site are mandatory and strictly controlled by either the Government and its agencies (the Control Authorities, including Customs, Immigration and the Police) or the Civil Aviation Authority (CAA). They are outside the direct control of the Airport Company. However, there are also other essential operational issues for which the Airport Company is directly responsible. The Airport Company proposes to provide appropriate accommodation and facilities at both the Passenger Terminal Site and the Elmdon Terminal Site to meet these mandatory operational requirements and other operational needs.

Car Hire

- 7.5.4** The Airport Company provides facilities for hire cars, the majority of which are used by inbound passengers. In addition to the accommodation provided for car hire companies within the Passenger Terminals (as desks and offices), the Airport Company provides the car hire companies with on-site car parking facilities, close to the Passenger Terminals, where passengers can collect and return hire cars. Separate maintenance and valeting facilities are also located at the Passenger Terminal Site. In the future, the Airport Company proposes to provide sufficient car parking capacity, conveniently located to the Passenger Terminals, to meet the anticipated demand for car hire. Car hire companies may continue with on-site valeting and maintenance, but an alternative site to the existing facilities may be required, to avoid conflicts with the further development of the Passenger Terminal Site. Such car hire valeting and maintenance facilities could be provided at the Elmdon Terminal Site.

Hotels

- 7.5.5** The Novotel Hotel, at the Passenger Terminal Site, was opened in 1991. In addition, an Etap and Ibis Budget Hotel is currently under construction, at the Passenger Terminal Site, in part of the current Short Stay Car Park to the rear of the Novotel Hotel. The new Etap and Ibis Budget Hotel is due to open in 2008.
- 7.5.6** Reflecting the forecast increase in passenger throughput to 2030, the Airport Company expects demand for further hotels (both budget and premium hotels) to rise. It is not possible to identify specific sites at this early stage, but further hotel development would be expected to be at the Passenger Terminal Site, with good access.

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Petrol Station

- 7.5.7** At many UK airports, petrol filling stations and convenience stores are now provided, to serve the needs of passengers and employees. The Airport Company will examine the opportunities to provide for a petrol filling station and convenience store at the Passenger Terminal Site.

Aviation Fuel Facilities and Fuel Farm

- 7.5.8** Aviation fuel is provided at the Airport by a consortium of fuel companies. The fuel is stored and distributed to aircraft from the existing 'Fuel Farm', which is located at the Passenger Terminal Site, adjacent to Terminal 2. The aviation fuel is delivered to the Fuel Farm by two methods; an underground pipeline (running between terminal port facilities at Fawley, Hampshire and a terminus at Kingsbury, Warwickshire) and vehicle fuel tankers.
- 7.5.9** Ideally, a Fuel Farm should be located close to the main aircraft apron areas and stands, with good landside access. However, the planned apron expansion at the Passenger Terminal Site imposes constraints, particularly in terms of the availability of land. It is proposed to retain the existing Fuel Farm in its current location, but, in the long term, an alternative new site for the Fuel Farm, at the Elmdon Terminal Site, will have to be considered.
- 7.5.10** The number and size of tanks required for the Fuel Farm will need to be sufficient to provide adequate working capacity, taking into account peak period requirements, replenishment arrangements and emergency reserve requirements.
- 7.5.11** At present, only stands at Terminal 2 can be served by a fuel hydrant delivery system, with the majority of stands at the Passenger Terminal Site served by vehicle fuel bowsers. With the proposed expansion of the Passenger Terminal Site, it is proposed that the proportion of aircraft stands which are served by fuel hydrant delivery should increase, which, in turn, should reduce the overall number of vehicle movements around aircraft stands. Nevertheless, a significant number of aircraft stands will continue to be served by vehicle fuel bowsers, which will generate movements between the Fuel Farm and the aircraft stands not served by fuel hydrant delivery.

Fire and Rescue

- 7.5.12** There is an operational requirement on the Airport Company, set by the Civil Aviation Authority in Civil Aviation Publication 168 Licensing of Aerodromes, to provide fire fighting and rescue services, in order to achieve a response time of two minutes and not exceed three minutes in responding to any potential incident on the airfield. A comprehensive set of Emergency Procedures also exist to complement the Airport's fire fighting and rescue services, including utilising local authority fire fighting and rescue services, depending on the scale of any accident or incident.
- 7.5.13** The existing Airport Fire Station is located at the Passenger Terminal Site, adjacent to the Engineering Base. This site is, approximately, at the mid point of the existing Main Runway (15/33). With the proposed expansion of the Passenger Terminal Site and the proposed extension to the Main Runway, the required response times can still be achieved from the existing Airport Fire Station.



- 7.5.14** To support the Airport Fire Station, it is a requirement to provide training facilities for fire fighting and rescue. Such facilities are currently provided at the Fire Training Ground, which is located at the Elmdon Terminal Site, adjacent to the Hatchford Brook Golf Course. It is proposed to retain the existing Fire Training Ground in its current location.

Office Accommodation

- 7.5.15** Office accommodation is required at the Airport for a variety of purposes, including:

- > Airport Company Offices.
- > Airline, Handling Agents and Aviation related offices.
- > Control Authority offices.
- > Airport-related offices.
- > Commercial/Concession related offices.

- 7.5.16** The Airport Company will need to develop further office accommodation to support the increasing activities at both the Passenger Terminal Site and the Elmdon Terminal Site. At this stage, it is not possible to forecast specific office requirements and developments, but, as a general principle, it is proposed that these should be developed by the Airport Company on a modular, multi-user basis to ensure the most efficient use of the limited land available. In addition, it will be essential to safeguard appropriate office accommodation for specific types of development and activities within the Passenger Terminal buildings and specific types of development at the Elmdon Terminal Site.

Operational Accommodation

- 7.5.17** Operational accommodation for the Airport, at both the Passenger Terminal Site and the Elmdon Terminal Site, covers a wide range of airport activities, which require locations with immediate or direct access to the airside areas, i.e.:

- > Aircraft Cleaning and Washing Facilities.
- > Airport Engineering Base and Stores.
- > Parking Areas for Apron Equipment.
- > 'Ramp' Accommodation for Airport Company Operational Staff, Airlines and Handling Agents.

- 7.5.18** 'Ramp' accommodation is located at apron level, with immediate access to the airside areas and, in particular, the aircraft apron areas. The future development of additional 'ramp' accommodation for Airport Company operational staff, airlines and handling agents will be accommodated within the further development of the Passenger Terminal facilities.

- 7.5.19** Parking and storage areas are required for apron equipment and 'ramp' vehicles, with immediate access to the airside areas and, in particular, aircraft apron areas. The future development of such additional airside parking and storage areas will be accommodated within the further development of the Passenger Terminal facilities, including a new dedicated parking area for apron equipment and a Forward Freight Area adjacent to the Engineering Base. In this location, Marston Green would be shielded from such facilities by the existing Noise Bunds.



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- 7.5.20** The future development of additional airside parking and storage areas at the Elmdon Terminal Site will be accommodated within the further development of the Elmdon Terminal Site.
- 7.5.21** The Engineering Base is proposed to continue as the site for the Airport Company's engineering and stores facilities. The same area currently accommodates handling agent and airline vehicle maintenance facilities, but, in the longer term, it is considered that these facilities could be better located at the Elmdon Terminal Site. A similar relocation, to the Elmdon Terminal Site, is proposed for the Airport's snow clearance and other seasonal airfield vehicles and equipment.

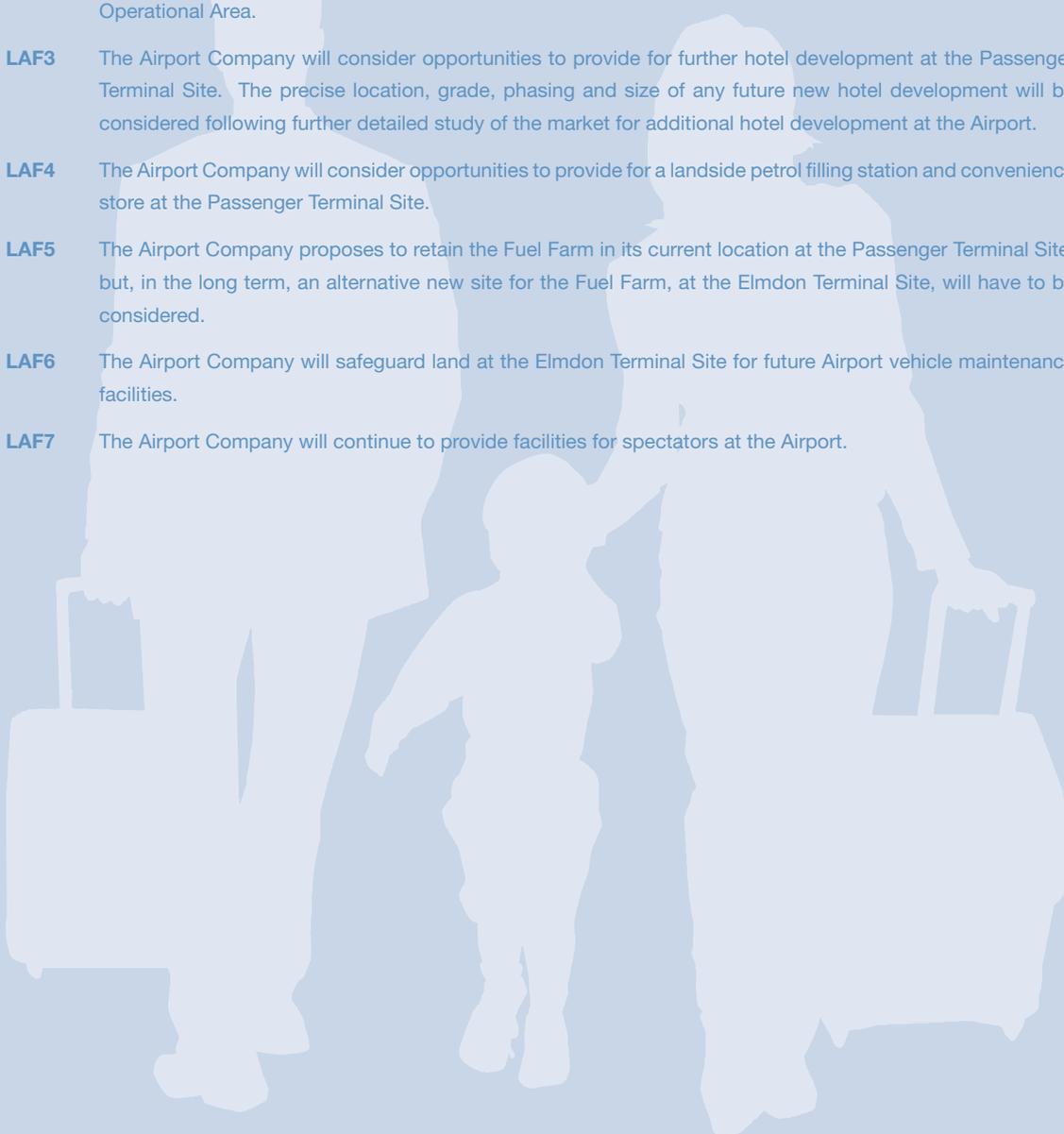
Visitor Facilities

- 7.5.22** Airports attract a significant number of visitors, in addition to 'meeters and greeters', with enthusiasts viewing aircraft. There is a dedicated Visitors Centre in Terminal 1, the 'Aviation Experience', and the Airport Company supports the provision of such visitor facilities within the Passenger Terminals.
- 7.5.23** An external viewing site was previously located adjacent to the Fuel Farm opposite Terminal 2. This has been removed, to accommodate apron expansion.
- 7.5.24** The Airport Company recognises the recreational value and interest in providing aircraft viewing facilities at the Airport, but there are also security and safety implications. The Sheldon Country Park is located immediately to the north of the Airfield and already has parking and pedestrian facilities, and is well served by public transport. The Airport Company proposes to explore opportunities with Birmingham City Council for an aircraft viewing area within Sheldon Country Park. Such a facility, by nature of its location, would benefit the wider community.



Landside Support & Airside Ancillary Facilities Policies

- LAF1** The Airport Company proposes to provide for the further development of Commercial Facilities and Operational Facilities at the Passenger Terminal Site and the Elmdon Terminal Site, in order to meet the forecast growth in air transport activity at the Airport.
- LAF2** The Airport Company will safeguard sufficient space to meet the demand for car hire pick-up and return, conveniently located to the Passenger Terminals. In addition, the Airport Company will support the development of essential valeting and maintenance facilities for the car hire companies within the Airport Operational Area.
- LAF3** The Airport Company will consider opportunities to provide for further hotel development at the Passenger Terminal Site. The precise location, grade, phasing and size of any future new hotel development will be considered following further detailed study of the market for additional hotel development at the Airport.
- LAF4** The Airport Company will consider opportunities to provide for a landside petrol filling station and convenience store at the Passenger Terminal Site.
- LAF5** The Airport Company proposes to retain the Fuel Farm in its current location at the Passenger Terminal Site, but, in the long term, an alternative new site for the Fuel Farm, at the Elmdon Terminal Site, will have to be considered.
- LAF6** The Airport Company will safeguard land at the Elmdon Terminal Site for future Airport vehicle maintenance facilities.
- LAF7** The Airport Company will continue to provide facilities for spectators at the Airport.





Section Two

7.6 Services and Utilities

7.6.1 In order to support the proposed development of Birmingham International Airport, a network of services and utility supplies will be developed, including:

- > electricity.
- > gas.
- > telecommunications.
- > water.
- > drainage.

7.6.2 A major overhaul of the Airport's services and utilities was undertaken as part of the development of the 'new' Passenger Terminal facilities opened in 1984. Since then, the Airport Company has continued to improve the quality and arrangements for the supply of services and utilities to the Airport. In addition, the Airport Company also works with other companies developing facilities at the Airport, in order to ensure that the quality and supply of services and utilities is improved and maintained at a high standard.

7.6.3 The Airport Company will continue to ensure that there is adequate capacity in its existing services and utilities, and that there is the development of additional capacity, where appropriate, in line with the proposed development of the Airport. Appropriate facilities will also be safeguarded for key operational functions, such as stand-by electricity generation and water supply and storage for fire fighting.

7.6.4 The Airport Company aims to develop a network of service corridors, where practical, to provide an efficient service and utility distribution system throughout the Airport Site.

7.6.5 In recent years, the Airport Company has undertaken an extensive programme of continuous improvements to the existing surface water and foul water drainage systems. Major pollution control projects have also been completed on the Airfield to ensure that surface water run-off from the southern end of the Main Runway, aprons and taxiways, that may be contaminated by de-icing or other pollutants, is captured and discharged to the foul drainage system, rather than local watercourses. Early within the plan period for this Master Plan, in line with discussions with the Environment Agency, proposals will be brought forward to develop a pollution control system for the northern end of the Main Runway. This principle will be continued with all new airfield projects.



Service and Utilities Policies

- SAU1** The Airport Company will liaise and work with external service and utility providers to ensure that adequate strategic supplies are available for the Airport.
- SAU2** The Airport Company will provide a comprehensive, efficient, reliable and safe service and utility supply and distribution network, where appropriate and feasible and incorporating service and utility corridors, in line with the growth and development of the Airport.
- SAU3** The Airport Company will maintain a comprehensive surface water and foul water drainage system, to meet statutory requirements, and will develop the existing system, in line with the further growth and development of the Airport.
- SAU4** All new developments at the Airport will be required to discharge via the Airport's surface water and foul water drainage systems.





Section Two

7.7 Phasing

7.7.1 The phasing of the proposals set out in this Master Plan will be critical in assessing the commercial viability and 'business case' of future programmes for implementation.

7.7.2 The philosophy, in terms of phasing, used throughout this Master Plan is that the proposals should be:

- > demand led, i.e. future facilities will only be provided if it can be demonstrated that they are required and they will not be built speculatively.
- > efficient, in terms of maximising the use of existing resources.
- > incremental, in terms of construction, i.e. only provide future facilities when they are required.
- > effective, in mitigating environmental impact, i.e. to reduce the land take and to preserve key areas of ecological importance.

7.7.3 The Airport Company believes that it has achieved this philosophy in this Master Plan, not only in a way that is consistent with the White Paper, but also in a way that is sustainable.

7.7.4 The proposed phasing of the developments outlined in this Master Plan is set out, in more detail, in Section 3 – Proposals Maps, based on the following Plan Periods:

- > Airport Layout 2006.
- > Airport Master Plan Proposals Map 2010.
- > Airport Master Plan Proposals Map 2015.
- > Airport Master Plan Proposals Map 2020.
- > Airport Master Plan Proposals Map 2030.

These Proposals Maps demonstrate the phasing philosophy.

Key Phasing Dates

7.7.5 In order to assist in the understanding of the Proposals Maps and the phasing, estimated dates for the completion of key proposals are listed below:

Date	Project/Scheme	Notes
Airfield		
2011	Relocate Taxiway E	To facilitate Apron Expansion.
2012	Extension to Main Runway	To meet demand for Long-haul Destinations and Larger Aircraft.
2014	Extend Taxiway A	To improve existing Runway Capacity.



Date	Project/Scheme	Notes
Passenger Terminals		
2009	New International Pier	To replace existing International Pier.
2012 - 2025	Additions to T1 and T2, plus T1 Satellite Pier and T2 Pier	Phased from 2012 onwards, to maximise capacity of existing Passenger Terminals and dependent on forecast of passengers.
2011 - 2030	Apron Development	Phased from 2011 onwards, dependent on forecasts of ATMs.
2018	Phase 1 of T3	To provide for passenger growth.
2025	Phase 2 of T3	To provide for passenger growth.
Elmdon Terminal Site		
2011	New Air Traffic Control Tower	Required for extension to Main Runway.
2012	Engine Ground Running Area	To minimise Ground Noise impacts.
2020 - 2030	New Fuel Farm	Exact timing dependent on future apron development.
Surface Access		
2012	A45 Diversion	Required for Main Runway Extension.
2015 - 2020	Improvements to M42	To improve surface access by car.
2015 - 2020	Improvements to Local Roads	To improve surface access by car.
2008 - 2030	Improvements to Bus and Coach Services	Phased improvements in surface access by bus and coach.
2008 - 2030	Improvements to Rail Services	Phased improvements in surface access by rail.
2015	Midland Metro	New Birmingham – Airport/NEC Midland Metro Route to improve surface access by public transport.
2018	Extend Birmingham International Interchange	To improve surface access by public transport. (with development of T3).
2005 - 2030	Additional Car Parking Capacity	Phased expansion of car parking capacity for Passenger Terminal Site.

7.7.6 The phasing proposals are directly related to the long term passenger forecasts set out in Section 1. In practice, as with any long term forecasts, there are likely to be periods when activity growth varies from the forecasts. In such cases, the proposed phasing is likely to be adjusted to match revised activity levels.

7.7.7 In addition, the phasing proposals will be subject to the necessary Planning Approvals being obtained and the commercial viability of particular projects being confirmed.



Section Two

8. Surface Access

Introduction

- 8.1 The development of a more extensive network of destinations and routes at Birmingham International Airport, to serve an increasing proportion of the regional demand for air travel in the Midlands, will reduce the overall mileage and volume of surface journeys in the UK. This is a key element of the White Paper, i.e. to ‘clawback’ aviation activity from the south-east and to reduce the overall congestion and environmental impacts of unnecessary surface journeys.
- 8.2 However, local to the Airport, and within the West Midlands, the growth of Birmingham International Airport will place additional demands on the surface transport network and systems.
- 8.3 One of the strategic strengths of Birmingham International Airport is its proximity to the national road and rail networks and its ability to offer a truly integrated transport interchange. In recent years, the Airport Company has been able to take full advantage of this location and has made significant investments in sustainable surface access improvements, including the ‘Air-Rail Link’ and the ‘Birmingham International Interchange’, to provide a ‘seamless’ link between the Passenger Terminals and Birmingham International Station, and the new dedicated ‘Bus and Coach Terminus’ at the Passenger Terminal Site. The Airport Company has also invested in new road links to the A45 and M42.
- 8.4 The further implementation of an integrated, multi-modal Airport Surface Access Strategy will be essential to support and sustain the forecast growth in activity at Birmingham International Airport. It will need to address the needs of passengers, visitors and employees alike, and also ensure that the access needs of other organisations and facilities in the area, together with the local communities, are addressed. A new, sustainable Airport Surface Access Strategy is central to the Airport Company’s sustainability agenda.
- 8.5 Whilst the Airport Company can directly influence the immediate access arrangements and infrastructure at the Airport, the development of off-site road and public transport networks is the responsibility of other parties. Therefore, a successful Airport Surface Access Strategy can only be developed by working in partnership with all the other transport agencies. The need for a coordinated approach, in terms of surface access, was highlighted in the White Paper, including working with the Highways Agency, Network Rail (and previously the Strategic Rail Authority) and other regional stakeholders. The White Paper also sets a long term target of 25% for the Public Transport Modal Share.
- 8.6 The Airport Company continues to have the support of regional stakeholders in developing and improving the surface access arrangements for Birmingham International Airport. The West Midlands Regional Assembly Transport Delivery Plan acknowledges “Improve Access to Birmingham International Airport and the National Exhibition Centre”³³ as one of its five transport priorities for the region. The West Midlands Business Transport Group (led by the Birmingham Chamber of Commerce and Industry) has also placed a high priority on improving surface access links to the Airport. This broad support will continue to play an important part in prioritising regional investment.



Current Surface Access Arrangements

8.7 In 1996, as part of a Section 106 Agreement with the Outline Planning Approval for the Expansion of the Passenger Terminal Facilities, a Public Transport Modal Share target of 20% was set for surface access to the Airport³⁴.

“The Airport Company shall use all reasonable endeavours to achieve a Public Transport Modal Share of 20% by 31 December 2005 or when the number of passengers is at the rate of 10 million passengers per annum whichever occurs later.....”

8.8 In 2006 (when the Airport handled 9.147 million passengers), surveys, as part of the Airport Company’s annual programme of surveys, identified the following modes of surface access for all users of the Airport (i.e. passengers, employees and visitors):



Private Car	65.0%
Taxi/Mini Cab	14.8%
Train	11.3%
Bus/Coach	})
Charter Coach	} 7.0%) Total 20.2% Public Transport
Courtesy Bus	})
Other	1.9%)

8.9 For 2006, the modes of surface access for each category of user were:

	Passengers	Employees	Visitors*
Private Car	53.2%	71.8%	38.9%
Taxi/Mini Cab	21.2%	3.4%	0.4%
Train	11.7%	5.8%	38.7%
Self Drive Hire Car	3.9%	n/a	n/a
Public Bus/Coach	1.0%	15.4%	18.7%
Charter Coach	0.6%	n/a	n/a
Courtesy Bus	7.5%	n/a	n/a
Other	0.9%	3.6%	3.3%

N.B. For Passengers, Courtesy Bus includes access by Courtesy Bus from Off-Site Car Parks.

* Visitors Data for 2005 only, Visitors no longer surveyed after 2005.

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Airport Surface Access Strategy

- 8.10** The 1998 Transport White Paper, entitled “A New Deal for Transport : Better for Everyone”, followed by the 1999 Guidance on Airport Transport Forums and Airport Surface Access Strategies, explicitly required airports to prepare surface access strategies³⁵. In 2000, the Airport Company, together with the National Exhibition Centre (NEC), published a Surface Access Strategy³⁶. The primary objective of the Surface Access Strategy was to set a strategy to maintain a continuing high quality of surface access, by all modes and for all users, for Birmingham International Airport and the NEC over a plan period from 2000 to 2005.
- 8.11** A new Surface Access Strategy for the Airport has been prepared, with a plan period of 2006 - 2012. The new Airport Surface Access Strategy sets out new policies and programmes to maintain a continuing high quality of surface access, by all modes and for all users, through to 2012. Beyond 2012, the Airport Company will keep the Airport Surface Access Strategy under review and update it, in consultation with key stakeholders.

Motorway & Roads

- 8.12** Birmingham International Airport is located at the centre of the national motorway system, with first class access to the national motorway and road network. The M1, M5, M6, M40, M42, M54 and M69, together with the A45, are all close to the Airport, providing a network of high quality roads serving the catchment of some 8 million people living within one hour travel time and some 36 million people living within two hours travel time. The excellent accessibility by road has been a significant factor in the Airport’s success to date, and it is important that this is maintained and developed for the future.
- 8.13** Immediate access by motorway is via the M42 at Junction 6, and then via the A45 Coventry Road or the B4438 Bickenhill Lane. In 2002, the Airport Company provided new dedicated A45 Inbound/Outbound Access Roads for the Passenger Terminal Site, in order to improve road access.
- 8.14** The Elmdon Terminal Site is connected to the local highway network via a separate junction on the A45 Coventry Road, at the Damson Parkway traffic signalled junction, some 2 kilometres west of the Passenger Terminal Site.
- 8.15** The Airport’s internal landside circulatory roads, at both the Passenger Terminal Site and the Elmdon Terminal Site, are ‘Private Roads’, but operated as ‘Public Highway’ for the purposes of the Road Traffic Act. Therefore, they are subject to the same road traffic legislation and enforcement, by the Police, as the ‘Public Highway’.
- 8.16** The internal landside circulatory roads at the Passenger Terminal Site were revised in 1991, as part of the ‘Eurohub’ (now Terminal 2) development and the West Midlands Renaissance Area Scheme of highway improvements. Subsequently, further improvements have been carried out, in phases, as part of further development arising out of the Outline Planning Approval for the Expansion of the Passenger Terminal Facilities and Related Infrastructure³⁷.
- 8.17** Airport Way, the access road for the Passenger Terminal Site, is a Dual Carriageway which leads to/from the new A45 Inbound/Outbound Access Roads at ‘Bird Island’. Within the Passenger Terminal Site, Airport Way links into a gyratory system, providing access to the Passenger Terminals and other facilities.

Footnote 35 www.dft.gov.uk

Footnote 36 www.bhx.co.uk

Footnote 37 www.bhx.co.uk



- 8.18** As already highlighted, good quality road access for the Passenger Terminal Site will be critical for the continuing success of Birmingham International Airport. Given the strategic importance of the M42 and the A45, there will need to be adequate link and junction capacity, in the future, to accommodate the forecast growth in background traffic, as well as the forecast growth in Airport traffic. The Passenger Terminal facilities will need to be properly linked to the M42 and A45 by road, which is likely to necessitate some local diversions and improvements of the A45, B4438 and Clock Junction, as well as the dedicated road links into the Passenger Terminal Site.
- 8.19** Currently, the M42 and Junction 6 (Jnc 6) incur congestion at peak times (particularly when the NEC is busy), which affects access for the Airport. The Airport Company recognises the potential which the Active Traffic Management system has provided to add link capacity on the M42. However, there are further improvements to Jnc 6 being considered, by the Highways Agency, to increase capacity and improve the junction's performance.
- 8.20** In the longer term, the M42 and Jnc 6 are not expected to have sufficient capacity and are unlikely to be able to accommodate the forecast growth in road traffic for the M42 corridor, unless some form of road pricing, or other traffic restraint measures, is introduced. Therefore, significant improvements to Jnc 6, and additional link capacity on the M42, are expected to be required in the future, together with new or improved link roads to the Passenger Terminal Site.
- 8.21** The proposed extension of the Main Runway would necessitate the local realignment of the A45 in a tunnel, for a short length, under the Runway End Safety Area (RESA).
- 8.22** In the longer term, the Clock Junction is not expected to have sufficient capacity without further improvement or some form of restraint in the growth of background traffic. The Clock Junction would need improving to provide further capacity and to include potential new and improved access roads for the Passenger Terminal Site and the realigned A45. The B4438 would need to be realigned to allow for the expansion of the Passenger Terminal facilities across the NEC Western Car Park. However, the route of the B4438 will be maintained to provide access between North and South Solihull and access to Birmingham International Station and Trinity Park. In the longer term, it may also be necessary to consider improvements to the A45/Damson Parkway Junction.
- 8.23** The Airport Company proposes to revise the internal landside circulatory road network within the Passenger Terminal Site, in order to facilitate access for the proposed further development of Terminal 1 and Terminal 2, together with the proposed new Terminal 3. It is proposed that the gyratory system for the Passenger Terminal Site will be maintained, but extended to reflect the expansion of the Passenger Terminal facilities and to provide full access to all the landside facilities.



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Car and Vehicle Parking

- 8.24** Parking at Birmingham International Airport includes facilities for passengers, employees (staff), and visitors, together with areas for car hire 'pick-up and return' and coaches. The on-site car parking is managed by National Car Parks (NCP), as a concession, on behalf of the Airport Company. There are also 'off-site' car parks, which are independently owned and operated by Airparks, at Garretts Green in Birmingham, and Airport Parking & Hotels (APH), at Hams Hall in Coleshill.
- 8.25** Demand for parking is directly influenced by the method of surface access and, in particular, the level of public transport utilisation, together with the mix between the different types of air passenger, i.e. business/leisure, inbound/outbound and short stay/long stay. Over the longer term, the demand will also be impacted by socio-economic changes and economic issues, such as the price of fuel and the relative costs of private car usage compared with public transport.
- 8.26** Indicative forecasts of parking demand have been prepared for this Master Plan, in order to give an indication of the potential requirements for car parking. However, the actual demand, over the plan period of this Master Plan, will continue to be monitored and reviewed, as appropriate.
- 8.27** Based on the passenger forecasts and the Public Transport Modal Share targets set in this Master Plan, the following parking demand is forecast for 2030:

Short Stay	9,650 spaces
Long Stay	16,300 spaces
Employees/Staff	4,150 spaces
Total	30,100 spaces
Car Hire	1,000 spaces
Total	31,100 spaces



- 8.28** The majority of car parking for the Passenger Terminal Site is currently provided within the Airport Operational Area, and is largely provided as surface level car parking. However, for the future, the forecast growth in demand is proposed to be provided as a combination of:
- > Short & Long Stay Multi-Storey.
 - > Long Stay Surface Level.
 - > Off-Site
- 8.29** In order to meet the forecast growth in car parking demand for passengers and visitors, the Airport Company proposes to provide future car parking capacity within the Airport Operational Area. This will require the safeguarding of the existing multi-storey car parks and, as appropriate, parts of the existing surface level car parks, along with the safeguarding of new sites for both surface level car parking and multi-storey car parking at the Passenger Terminal Site, the Elmdon Terminal Site and on the current NEC Western Car Park.
- 8.30** Additional 'off-site' car parking is outside the control of the Airport Company. However, the development of off-site car parking sites is subject to local authority planning policies. The Airport Company considers it most effective to maximise the amount of car parking provision provided at the Passenger Terminal Site. The Airport Company proposes that it should work with off-site car park operators and local planning authorities to seek proper arrangements and conditions on 'off-site' car parks, in order to ensure that their operations are compatible with local planning policies and the local communities which could suffer disturbance from their operations.



- 8.31** The Airport Company will continue to encourage the use of public transport by employees for their journeys to/from work, in order to reduce the overall demand for staff car parking. However, it is still anticipated that a significant number of spaces will be required for staff car parking at both the Passenger Terminal Site and the Elmdon Terminal Site. Therefore, the Airport Company will continue to provide for staff car parking in the future, but, through the Airport Surface Access Strategy and 'Green Travel Plans', it intends to reduce the overall need for staff car parking.

Public Transport

- 8.32** Although private cars are expected to continue as the largest mode of surface access for Birmingham International Airport, in order to provide for the continuing and sustainable development of the Airport, there will need to be significantly greater use of public transport.
- 8.33** As part of its commitment to increase surface access for Birmingham International Airport by public transport and, in particular, the Passenger Terminal Site, the Airport Company intends to encourage and promote such opportunities to those organisations that provide public transport infrastructure and public transport services. The Airport Company recognises that the encouragement and promotion of public transport will enable a more efficient use of the Airport's operational land and reduce the environmental impact of the Airport. Therefore, the Airport Company proposes to provide, where appropriate, facilities and infrastructure at the Airport to facilitate public transport.
- 8.34** The Airport Company also recognises that public transport should play a greater role in future surface access by employees and, therefore, it will promote measures, through the Airport Surface Access Strategy, to encourage greater use of public transport by staff employed at the Airport.
- 8.35** The White Paper sets a long term target of 25% by 2030 for the Airport's Public Transport Modal Share. In 2006, the Public Transport Modal Share was 20.2%. The new Airport Surface Access Strategy sets new, and separate, Public Transport Modal Share Targets for passengers and employees of 25% by 2012. In addition, the Airport Company considers longer term targets of 30% by 2020 and 35% by 2030, for the Airport's Public Transport Modal Share, to be achievable.

Public Transport Interchange

- 8.36** Birmingham International Airport is unique in the West Midlands, in providing interchange between all modes of transport (i.e. air, rail, bus, coach, cycling and pedestrians, as well as private car). The 'Birmingham International Interchange', opened in 2003 and funded by the Airport Company (with support from Local Transport Plan funding), is ideally located adjacent to Birmingham International Station (and the West Coast Mainline). It is connected to the Passenger Terminal Site by a dedicated people mover system, the 'Air-Rail Link' (which had support from Trans European Networks funding), and it is the focus for surface access by public transport for the Passenger Terminal Site, along with the new 'Bus and Coach Terminus' at the Passenger Terminal Site on Concorde Road.
- 8.37** As further development of the Passenger Terminal Site, and its facilities, proceeds, the Airport Company proposes that surface access by public transport, for the Passenger Terminal Site, should be concentrated at the 'Birmingham International Interchange'. Therefore, the Interchange will need to expand, in the future, in order to cope with the additional demand, and to be connected to the proposed new Terminal 3 by a second dedicated people mover system or pedestrian link.



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Bus & Coach

- 8.38** The Airport Company believes that bus is ideally suited to surface access by staff employed at the Airport. It offers flexibility, where services can be modified to best meet customer requirements and, in particular, those of staff employed at the Airport.
- 8.39** In 1998, the Airport Company established the 'Airport Bus Network', making available financial support, in the form of 'pump priming', to increase the number and frequency of buses serving the Airport. Since then, the Airport Company has supported the experimental demand responsive "Buster Werkenbak" service and the West Midlands Local Transport Plan Annex E Scheme³⁸ (submitted to the Department for Transport by Solihull Metropolitan Borough Council) to enhance the local bus network serving the Airport and the NEC. The Airport Company also promotes the use of bus, by employees, through its support for the 'Travelwise' scheme.
- 8.40** In 2006, the Airport Company completed the development of a new 'Bus and Coach Terminus' at the Passenger Terminal Site (on Concorde Road), providing five new bus stands, improved bus shelters all linked by a continuous covered walkway, information displays and covered walkways to the Passenger Terminals.
- 8.41** The Airport Company continues to promote the 'Airport Bus Network' and there has been steady growth in the number of passengers using bus for journeys to work. However, the Airport Company expects the 'Airport Bus Network' to expand and be improved, in order to meet the needs of staff employed at the Airport and provide a more sustainable approach for journeys to work. The Airport Company is particularly keen to see improvements in services and frequencies for the following bus routes and corridors:
- > East Birmingham and North Solihull Regeneration Zone.
 - > Birmingham, including Acocks Green, Erdington/Sutton Coldfield and Sheldon.
 - > Coventry.
 - > Solihull, including Elmdon/Elmdon Heath, Marston Green, Olton, Shirley and Solihull Town Centre (including Solihull Railway Station).
 - > North Warwickshire, including Atherstone, Coleshill and Nuneaton.
 - > South Warwickshire, including Leamington, Stratford upon Avon and Warwick (including Warwick Parkway Railway Station).
 - > Staffordshire, including Tamworth.
- 8.42** To ensure that bus realises its full potential, as a mode of transport providing surface access for the Airport, a high quality and frequent network of bus services is required that penetrates key employment catchment areas. The Airport Company intends to work with Centro, the local authorities and local bus operators to develop a more extensive bus network, providing access to the Passenger Terminal and Elmdon Terminal Sites and extending the periods of operation to meet the various shift patterns operated at the Airport. In 2006, bus accounted for 15.4% of the Airport's employee surface access. The Airport Company will seek to increase this substantially as part of future Airport Surface Access Strategies.



- 8.43** Coach, as a mode of transport providing surface access for the Airport, serves a different market and provides links for the Airport from a wider catchment area. The Airport Company believes that coach is ideally suited to surface access by passengers and intends to work with National Express, and other coach operators, to develop a more extensive coach network to serve the Passenger Terminal Site, with services operating directly to the Airport (or via Birmingham's central coach station, at Digbeth), including services in the following corridors:
- > North East/Yorkshire - Birmingham - South West/South Wales.
 - > Scotland/North West - Birmingham - London.
 - > North West - Birmingham - Oxford - South Coast.
 - > North West - Birmingham - Cambridge/East Anglia.
- 8.44** Whilst currently bus and coach services serve both the Passenger Terminal Site and the 'Birmingham International Interchange', it is proposed that, ultimately, all bus and coach services should operate via an expanded Interchange, and use the 'Air-Rail Link' for access to the Passenger Terminal Site.

Rail

- 8.45** Birmingham International Airport is located adjacent to Birmingham International Station and the West Coast Mainline. The West Coast Mainline serves London (via Euston Station), together with the South, the North West, the North East and Scotland. Therefore, the Airport is unique in terms of its potential for surface access by rail. Frequent local rail services are available for Birmingham City Centre (via Birmingham New Street Station, where connections to other stations on the rail network are available), Coventry and Wolverhampton.
- 8.46** The Airport Company believes that rail is ideally suited for surface access by passengers and intends to develop, in consultation with Network Rail, the Train Operating Companies and Centro, an Air Rail Access Strategy for the Airport. Rail is also used for surface access by staff employed at the Airport and visitors. In 2006, rail accounted for 11.7% of the Airport's passenger surface access. The Airport Company will seek to increase this substantially, as part of future Airport Surface Access Strategies and the Air Rail Access Strategy.
- 8.47** The Airport Company recognised the importance of the West Midlands Rail Utilisation Strategy³⁹ and the West Midlands Regional Planning Assessment⁴⁰ to improving surface access by rail for the Airport and, therefore, engaged with the former Strategic Rail Authority on the development of these documents. The Airport Company also recognised the importance of the new Cross Country and West Midlands Rail Franchises, in terms of improving surface access by rail for the Airport, by engaging with the new operators. Together with an Air Rail Access Strategy for the Airport, these strategic rail industry documents and the new rail franchises will be important in delivering improvements in rail infrastructure and rail services to support an increase in surface access for the Airport by rail.

Footnote 39 www.dft.gov.uk

Footnote 40 www.dft.gov.uk

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8.48 In the longer term, the provision of additional capacity on the West Coast Mainline and proposals for the 'International Connection' (a new rail line, using a now redundant route connecting the West Coast Mainline, near Birmingham International Station, with the Birmingham – Derby line, near Whitacre Junction) are considered desirable. However, in the shorter term, the redevelopment of Birmingham New Street Station, which the Airport Company supports and considers essential, and the Coleshill Parkway rail station and bus interchange will provide for significant improvements to access by rail for the Airport. The Airport Company is particularly keen to see improvements in services and frequencies for the following rail corridors:

- > West Coast Mainline to London.
- > West Coast Mainline to Milton Keynes.
- > West Coast Mainline to Birmingham New Street Station, Coventry and Wolverhampton.
- > Nuneaton, Hinckley and Leicester, via the Coleshill Parkway.
- > Tamworth, Burton, Derby, Nottingham, via the Coleshill Parkway.
- > Derby, Sheffield, Leeds, Newcastle.
- > Cheltenham, Bristol, Cardiff.
- > Coventry, Leamington, Oxford, Reading and the South Coast.
- > Chiltern Line, via Solihull Station and a bus/coach connection service.

together with improvements to local rail services.

8.49 The Airport Company would be concerned about any proposals, or development, at Birmingham International Station which would prejudice rail access for Birmingham International Airport. In the absence of appropriate infrastructure, the Airport Company would oppose any proposals for Birmingham International Station to be developed as a 'Park and Ride' station, for commuting into Birmingham, which would add further to congestion on the local highway network.

Midland Metro

8.50 Centro is currently developing proposals to expand the 'Midland Metro' light rail system in the West Midlands conurbation, including a route between Birmingham City Centre and Birmingham International Airport/NEC, via the A45 Coventry Road⁴¹.

8.51 The Airport Company supports the principle of developing a 'Midland Metro' network in the West Midlands conurbation and also considers it important that the Airport should be a destination on the future network. The network is likely to be used predominantly by staff working at the Airport (and the NEC) and the route would need to have good connections into employee catchment areas such as the East Birmingham and North Solihull Regeneration Zone.

8.52 Given the proposed realignment and tunnelling of the A45, required to accommodate the proposed extension to the Main Runway, it will be important that close liaison between the Airport Company and Centro is maintained. A 'protected' corridor for the Midland Metro has been identified along the A45, and included in the realignment and tunnel for the A45 with the proposed extension to the Main Runway.



- 8.53** The Airport Company proposes that the Midland Metro should terminate at the 'Birmingham International Interchange', in order to take advantage of, and enhance, the multi-modal interchange opportunities. This terminus would also give excellent connections to both the Airport and the NEC.
- 8.54** The Airport Company also believes that, in the long term, there is a case for a further Midland Metro route linking the Airport and the NEC directly with the East Birmingham and North Solihull Regeneration Zone. Such a route could form a natural extension to the proposed Midland Metro route between Birmingham City Centre and the Airport/NEC, with a subsequent extension onwards from the Airport/NEC and 'back-in' towards the City Centre, north east of the airfield.

Taxis & Private Hire

- 8.55** Taxis and Private Hire vehicles provide an important option for access to/from the Airport, and are particularly important for in-bound business travellers and tourists arriving at the Passenger Terminal Site. Therefore, it is essential to continue to provide facilities for Taxis and Private Hire vehicles.

On-Site Transport

- 8.56** National Car Parks (NCP) operate a courtesy bus service between the Passenger Terminals and the Long Stay Car Parks, whilst off-site car parking companies operate similar services to their facilities. Local hotels also provide courtesy bus services, linking the local hotels with the Airport. Such facilities will continue to be accommodated in the future.

Cycling & Pedestrian Links

- 8.57** The Airport Company encourages surface access by bicycle for people employed at the Airport, and has a range of schemes and facilities to promote cycling. In the future, further schemes will be developed to encourage and increase cycling, and also to tie-in with the arrangements, locally, to provide dedicated cycle routes, including links to National Cycle Route 53 (Birmingham – Coventry) and a link along the A45 with the proposed extension to the Main Runway.
- 8.58** Pedestrian movements are a significant element of the overall movements within the Airport, particularly at the Passenger Terminal Site. A 'Public Right of Way' runs across the Passenger Terminal Site, in a landside area, linking the villages of Bickenhill and Marston Green. The Airport Company provides footways along at least one side of the landside road network, and where appropriate on both sides, to ensure pedestrian accessibility is available to all landside parts of the Passenger Terminal Site. Similar arrangements are also available at the Elmdon Terminal Site.
- 8.59** Appropriate facilities for pedestrians, including footways, will be accommodated in the future to ensure pedestrian accessibility is available within all landside parts of the Passenger Terminal and Elmdon Terminal Sites. The Airport Company also proposes to provide links between the Passenger Terminals and the 'Birmingham International Interchange' for pedestrian movements and passenger transfers.



Section Two

Travelwise & Green Travel Plans

- 8.60** The Airport Company has a 'Green Commuter Plan' ("A Small Change can make a Big Difference")⁴², which includes 'Green Travel Plans', and is a member of 'Travelwise' (the scheme operated in the West Midlands to encourage employees to use public transport through discounted passes and tickets)⁴³. Public transport is recognised as the most sustainable way to deal with the forecast increase in levels of passenger activity and surface access, but it is evident that the simple provision of enhanced public transport will not deliver proportionate increases in use and, therefore, achieve the Public Transport Modal Share targets, unless it is combined with traffic restraint measures.
- 8.61** The further development of 'Green Travel Plans' will offer more sophisticated ways of marketing an increased use of public transport by passengers, visitors and employees. The Airport Company will examine ways in which passengers and visitors can be encouraged, and incentivised, to use public transport for surface access to the Airport. For staff employed at the Airport, a new Green Commuter Plan will be developed, which will use a combination of 'carrot' and 'stick' measures to reduce surface access by car. These measures will include:
- > Travelwise schemes.
 - > improvements in bus and rail services.
 - > improvements in cycling.
 - > car sharing.
 - > Homeworking.
 - > charges and restrictions for staff car parking.
- 8.62** Ultimately, the Government may propose national schemes to restrain traffic, i.e. road pricing or congestion charging. The Airport Company recognises the role of such measures and is willing to work with Government, local authorities and regional stakeholders to consider how such measures can be successfully applied in the West Midlands.



Surface Access Policies

Surface Access Strategy

- SAP1** The Airport Company will produce an:
- > Airport Surface Access Strategy.
 - > Airport Green Commuter Plan.

Surface Access by Road

- SAP2** The Airport Company will support the development and improvement of the strategic and local highway networks which serve the Airport, in order to maintain a high standard of road access for the Airport.
- SAP3** The Airport Company will seek to ensure that the strategic and local highway networks which serve the Airport are designed to a standard which recognises the growth of the Airport, and will seek to maintain a high standard of surface access by road for the Airport. The Airport Company will also endeavour to ensure that new, or further, development on sites near, or adjacent, to the Airport should also be controlled, in order that it does not undermine surface access by road for the Airport or cause congestion and delay to Airport traffic.
- SAP4** The Airport Company supports, in principle, the following proposals for the highway network:
- > Active Traffic Management on the M42.
 - > M42 Widening.
 - > Improvements for access to/from the M42, including Junction 6 on the M42.
 - > Improvements to A45 and Clock Junction (including direct access for the Passenger Terminal Site to/from the A45).
 - > Realignment of the A45, including a tunnel, to facilitate an Extension to the Main Runway.
 - > Improvements to A45/Damson Parkway/Elmdon Terminal Site Junction (including direct access for the Elmdon Terminal Site to/from the A45).
- SAP5** The Airport Company will seek to ensure that a route is safeguarded for a further realignment of the B4438 Bickenhill Lane, in order to facilitate the potential expansion of the Passenger Terminal Site.

Car and Vehicle Parking

- SAP6** The Airport Company will monitor the supply and demand for parking at the Airport to ensure that future parking provision is appropriate, in terms of both its capacity and its type.
- SAP7** The Airport Company will safeguard land for new car parks for the Passenger Terminal Site, as both surface level and multi-storey car parks and for short stay, long stay and staff car parking.
- SAP8** The Airport Company will safeguard land at the Elmdon Terminal Site for car and vehicle parking.
- SAP9** The Airport Company will expect new development at the Elmdon Terminal Site to include appropriate provision for related car and vehicle parking.



Section Two

Car and Vehicle Parking (continued)

- SAP10** New car parks and vehicle parks at the Airport will be designed to maximise efficiency and convenience for users, and will also be designed to meet the Airport Company's requirements for security and landscaping.
- SAP11** The Airport Company will work with local planning authorities to seek appropriate guidelines and controls for off-site car parking.

Surface Access by Public Transport

- SAP12** The Airport Company will encourage an increase in the use of public transport for surface access by passengers, visitors and staff employed at the Airport.
- SAP13** The Airport Company will produce an Air Rail Access Strategy.
- SAP14** The Airport Company will seek to ensure that appropriate facilities are developed for the Airport, with the support of other transport agencies, to support surface access by bus, coach, rail and Midland Metro.
- SAP15** The Airport Company will seek improvements, in terms of routes and frequencies, for bus, coach and rail services which serve the Airport.
- SAP16** The Airport Company supports the development of the Midland Metro network and a Midland Metro Route to serve the Airport and NEC.
- SAP17** The Airport Company will, as development at the Passenger Terminal Site proceeds, ensure that facilities will develop in such a way that easy interchange between transport modes is available, with the focus based around the Birmingham International Interchange.
- SAP18** The Airport Company will support the development of dedicated facilities for surface access by bicycle and sustainable forms of travel.

Landside Circulation

- SAP19** The Airport Company will develop efficient and effective facilities for internal landside circulation within the Passenger Terminal Site, including landside roads and set-down and pick-up facilities for the Passenger Terminals.
- SAP20** The internal landside circulation systems will include appropriate access for all facilities at the Passenger Terminal Site, including the Passenger Terminals, Birmingham International Interchange, car parks, commercial facilities and operational facilities.
- SAP21** The Airport Company will develop appropriate facilities for access by taxis, private hire vehicles and courtesy buses.



9. Environmental Impacts & Mitigation

Introduction

- 9.1 The Airport Company has been operating a ‘good neighbour’ policy for over ten years, and is committed to minimising the environmental impacts of the Airport. In assessing future growth and development, emphasis is placed on environmental issues. The environmental impacts of the Airport’s existing operations are already mitigated, and there is a policy of continuous environmental improvement. The Airport Company is aware of the environmental concerns of local communities, and recognises that there will be concerns over the effects of future Airport development.
- 9.2 The White Paper places a high priority on environmental management, and the Airport Company believes that a coherent, comprehensive and effective policy, which deals with the environmental impact of the Airport’s operations and its future growth and development, is essential. In terms of this Master Plan, an assessment of the environmental impact has enabled the Airport Company to develop environmental management policies and a programme of mitigation.
- 9.3 As the first stage in determining new policies and a programme of mitigation, a clear understanding of the current environmental situation was required. This has been achieved through a series of environmental reviews.

The objectives of the environmental reviews were to:

- > Identify existing environmental baseline features within the proposed future Airport Operational Area and the immediate surrounds.
- > Identify any significant environmental constraints in order to inform the Master Plan.
- > Provide baseline information in sufficient detail to undertake an Environmental Assessment for the Master Plan.
- > Identify any potentially significant environmental impacts with the Master Plan and outline a mitigation strategy.

Studies for the following environmental issues were undertaken:

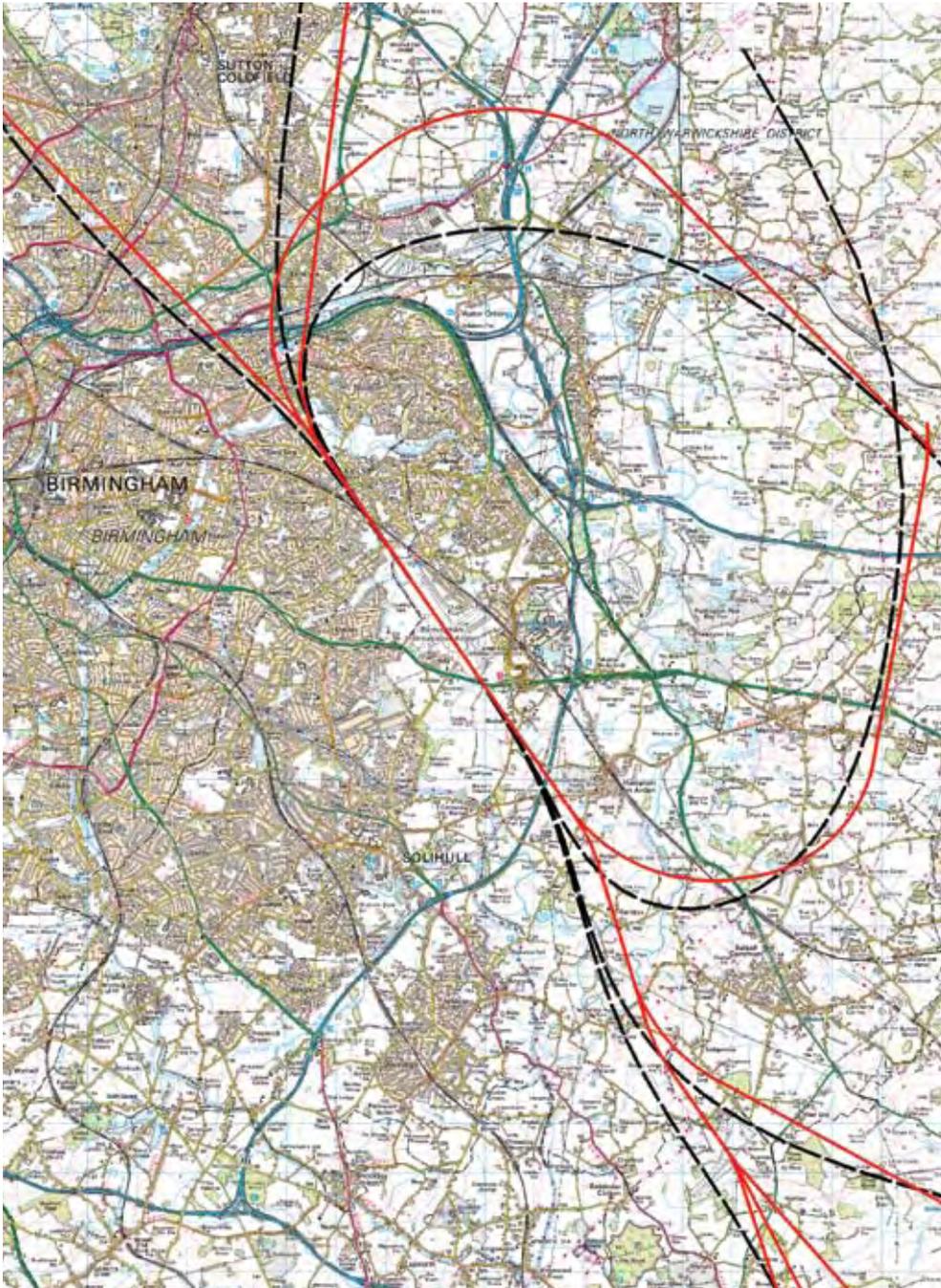
- > Noise.
- > Air Quality.
- > Water Resources.
- > Ecology.
- > Archaeology.
- > Landscape and Visual Impact.
- > Community Facilities.

- 9.4 The environmental impact studies were undertaken at a strategic level, which has enabled broad impacts and effects to be identified and a programme of mitigation to be proposed at an outline level. Further, more detailed, environmental studies will be required to fully assess development proposals, should they proceed to planning application stage. A summary of the environmental features is shown on the Airport Master Plan – Summary of Environment Feature drawing, in Section 3.

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Figure 9.1 – Potential departure routes for 2012, 2022 and 2030

Key: ■ Potential Departure Routes (2012, 2022, 2030) ■ 2006 Mean Departure Tracks





Air Noise

- 9.5 The Civil Aviation Authority's Environmental Research and Consultancy Department (ERCD) were commissioned to undertake an Air Noise Study, in order to assess the impact of the proposals in this Master Plan. The work utilised ANCON (Version 2), the UK civil aircraft noise model. ANCON has been employed for the production of noise contours at Birmingham International Airport, and other UK airports, over many years. The noise contours were calculated for the peak period of airport operation⁴⁴.
- 9.6 The ERCD Air Noise Study modelled the proposed development programme set out in this Master Plan, i.e. an extension to the Main Runway, with a Starter Extension.
- 9.7 The National Air Traffic Services (NATS) Procedure Design Group have created new P-RNAV track procedures (an enhanced method of air navigation, which enables aircraft to follow flight paths with greater accuracy) for aircraft departing from Runway 15 (i.e. to the south), to take account of the proposed extension to the Main Runway. In addition, the route for aircraft departing from Runway 33 and then turning to take a southerly heading has been revised, to facilitate improved track keeping performance. However, whilst this work is sufficient to prepare this Master Plan, with the proposed extension to the Main Runway, the Airport Company will have to comply with Civil Aviation Publication 725 Airspace Change Process Guidance (published by the Civil Aviation Authority), and its requirements for consultation⁴⁵.
- 9.8 For noise contours with the proposed extension to the Main Runway, the modelled departure routes were based on new P-RNAV tracks. Arrivals were modelled to follow 'straight-in' tracks along the extended runway centreline. Existing radar data was used to forecast average departure profiles of height, speed and thrust. To reflect a 'worst case' scenario, reverse thrust was modelled for landings in both the day and night (current local instructions require a sympathetic use of reverse thrust and restrict use during the Night Period).
- 9.9 The noise contours were produced based on a long term average of runway splits for day and night. The daytime modal splits are 64% NW / 36% SE, and the nighttime modal splits are 73% NW / 27%SE. The effects of surrounding topography were also included in the modelling.
- 9.10 Estimated areas, populations and households included within the noise contours were calculated for 2012, 2022 and 2030. A summary, indicating day noise contours for 2030, is set out in the table below, with the population levels relative to the noise contours for the Birmingham Alternative⁴⁶ and the Government Consultation Document - The Future of Air Transport in the United Kingdom : The Midlands⁴⁷.

Populations within Noise Contours for 2030

Contour Level Leq dB(A) 2030	Current Proposals & Study	Birmingham Alternative	Government Consultation
57	55,150	102,750	117,400
63	11,750	35,150	40,700
66	3,200	11,900	14,700
69	200	2,900	3,300

Note The population numbers for the Birmingham Alternative and Government ('RASCO') Consultation included proposals for a new second runway.

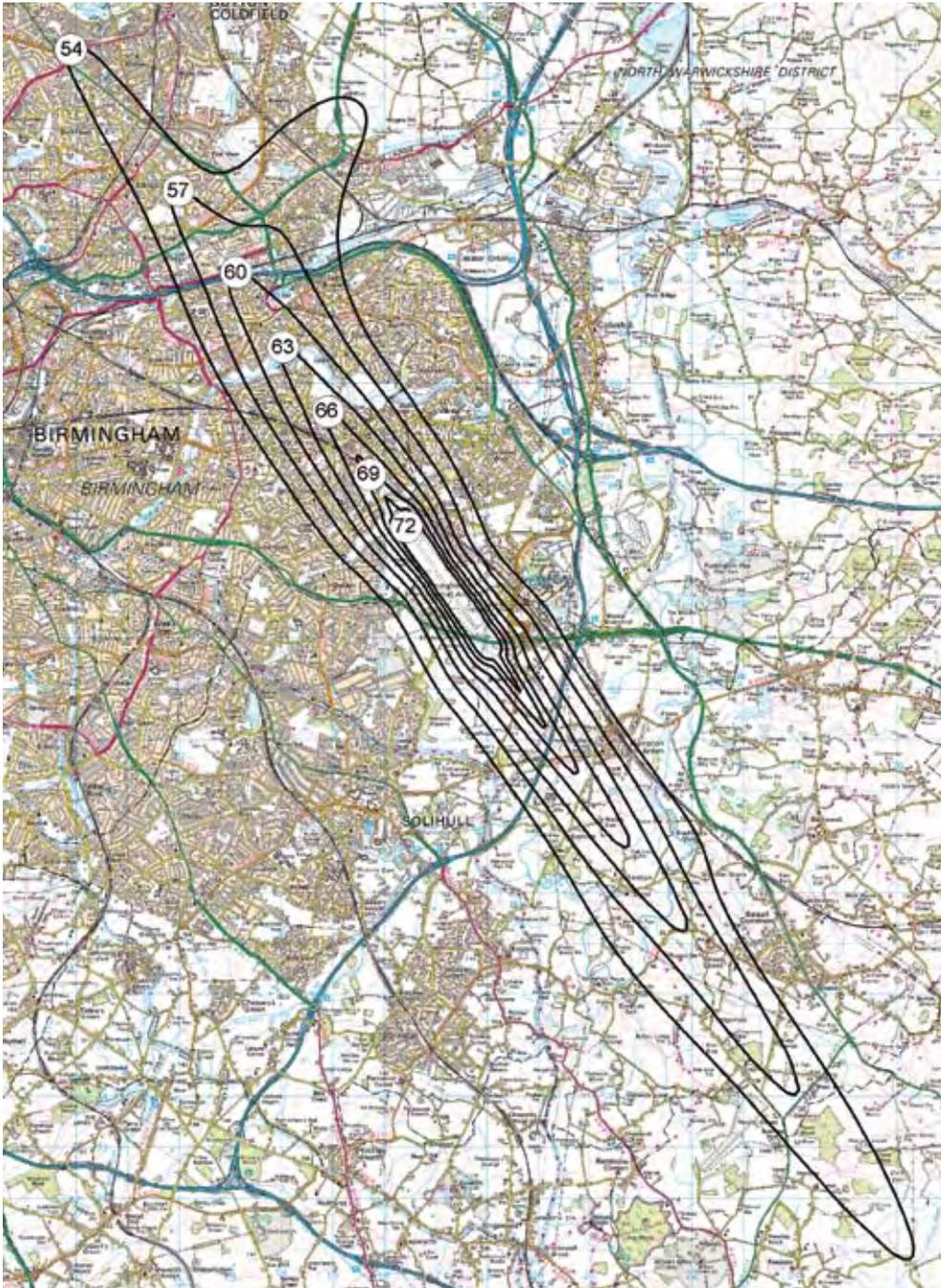
Footnote 44 i.e. the 92 day summer period from 16 June to 15 September, and the forecast summer day period is 0700 to 2300 and the night time period is 2300 to 0700.

Footnote 45 www.caa.co.uk **Footnote 46** www.bhx.co.uk **Footnote 47** www.dft.gov.uk

Section Two

Figure 9.2 – Forecast Summer Day Air Noise Contours 2030

Key: ■ Noise Contour Leq 16 Hour dB(A)





- 9.11** The proposed future Standard Instrument Departures (SIDs) are set out in Figure 9.1. The main impact is the proposed extension of the Main Runway, which would necessitate the discontinuance of the existing noise abatement procedures for Runway 15 departures, including the 'Hampton Turn', introduced prior to the elimination of the noisier "Chapter 2" aircraft types, e.g. the BAC 1-11 and Boeing 737-200. In future, with an extension to the Main Runway, aircraft would depart straight ahead on a 150 degrees track, as opposed to making a right turn onto a 170 degrees track after one nautical mile. In addition, to improve track keeping performance and due to the requirements of P-RNAV, for aircraft departing from Runway 33 and then turning to take a southerly heading, there would be a change to the turn during the initial stage of the SID.
- 9.12** The Noise Contours can also be compared over time, as shown in the table below. The increase in Air Transport Movements from 2012 through to 2030 leads to an increase in populations exposed to corresponding day and night noise contours.

Contour Level Leq dB(A)	2006		2012		2022		2030	
	Day	Night	Day	Night	Day	Night	Day	Night
57	26,800	5,100	34,600	5,400	43,700	6,150	55,150	9,000
63	3,550	100	4,500	0	8,250	0	11,750	50
66	500	0	550	0	1,900	0	3,200	0
69	0	0	0	0	50	0	200	0

- 9.13** The White Paper stated that it would be necessary to limit the numbers of properties exposed to new noise impacts. The proposals in this Master Plan show a significant reduction in noise impacts and the number of properties affected, compared to the White Paper. This is because of the lower forecasts for Air Transport Movements and the use of quieter aircraft, and because no second runway is proposed.
- 9.14** The night noise contours reflect a growth in average noise over the period 2012 to 2030. However, the night Quota Count for 2030 would be within the current limit in the Night Flying Policy.

Noise Mitigation

- 9.15** The White Paper expected airport operators to offer noise mitigation measures to households experiencing 63dB(A) Leq or more. The White Paper also commended the Airport Company for its existing noise mitigation programme for schools.
- 9.16** To address the impacts of future growth, the White Paper expected that airport operators would purchase properties experiencing 69 dB(A) Leq or more, and offer acoustic insulation to properties experiencing 63 dB(A) Leq or more. The acoustic insulation standard is accepted by the Airport Company and a scheme covering the more onerous 63dB(A) noise contour has already been implemented for the existing Main Runway.
- 9.17** The results of the ERCD Air Noise Study show that, whilst the noise contours have increased with air traffic growth up to 2030, the calculated noise impact is much lower compared with the 'Birmingham Alternative' and the Government Consultation document.



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- 9.18** Across the UK, airports have been introducing Continuous Descent Approach (CDA) procedures, as a noise abatement technique for reducing the impact of noise from aircraft on final approach. Continuous Descent Approach procedures enable an arriving aircraft's descent, from a designated altitude, to contain a minimal amount of level flying and, therefore, reduce the noise impact on the ground. The Airport Company will work with the Civil Aviation Authority and NATS to consider the feasibility of introducing Continuous Descent Approaches at Birmingham, but it will require the integration of a number of complex issues, including airspace capacity, air traffic control, traffic levels and the integration of Birmingham and Coventry air traffic.

Day Time Noise Limit

- 9.19** Birmingham International Airport has a Daytime Noise Limit, set at a maximum level of 92 dB(A), which aircraft must not exceed during the Day Period (i.e. 0600 to 2300). Any aircraft exceeding this noise level will be surcharged £500, plus a further £150 for every decibel above 92 dB(A), with all the revenues raised from the surcharges added to the Community Trust Fund.

Night Flying Policy

- 9.20** Birmingham International Airport has one of the most stringent Night Flying Policies of any UK airport. The Night Flying Policy is based on the Section 106 Planning Agreement with Solihull Metropolitan Borough Council for the Expansion of the Passenger Terminal Facilities and Related Infrastructure, and includes a number of measures to mitigate the impact of aircraft noise at night. It sets a maximum noise level of 87 dB(A), which aircraft must not exceed during the Night Period (23:30 to 06:00). Any aircraft exceeding this noise level will be surcharged a full runway charge, with all the revenues raised from the surcharges added to the Community Trust Fund. The Night Flying Policy also restricts the number and types of aircraft operating during the Night Period, through a Night Movement Limit for Air Transport Movements and an Annual Noise Quota Limit.
- 9.21** The Airport Company recognises the importance of the Night Flying Policy, as a key element in the overall programme for noise management and mitigation. Therefore, the Airport Company proposes that the Night Flying Policy should continue, based on the existing terms, but it is recognised that it will need to be kept under regular review. In future, the Night Flying Policy will be reviewed every two years, until such time as the Airport Company and Solihull Metropolitan Borough Council agree a revised basis for subsequent reviews, or new legislation is introduced with regard to night flying in the UK or Europe.

Ground Noise

- 9.22** Airport ground noise is defined as noise generated by aircraft taxiing, aircraft auxiliary power units (APU's) and the ground running of aircraft engines. It excludes air noise, which is measured as aircraft in flight, taking off or landing (including aircraft on the ground at start of roll or end of landing phase).
- 9.23** There is no requirement to undertake a ground noise study in the Department for Transport's Guidance on the Preparation of Airport Master Plans.
- 9.24** The existing Main Runway already has apron and parallel taxiway noise bunds, which provide significant noise mitigation. As the Airport's traffic using the existing Main Runway grows, these bunds will continue to provide important mitigation against ground noise.
- 9.25** A previous study has advised on engine ground running and shown that a dedicated Engine Ground Running Facility is technically feasible and would provide noise mitigation. Therefore, a dedicated Engine Ground Running Facility is proposed at the Elmdon Terminal Site.



- 9.26 The proposed re-alignment of the A45 is not expected to increase the overall noise impact because it will be within a tunnel and cutting.

Air Quality

- 9.27 Local air quality is affected by emissions of chemicals and particles, resulting from natural sources and from human activity. The UK Government published its strategic policy framework for air quality management in 1995, establishing national strategies and policies on air quality which culminated in the Environment Act 1995 and, subsequently, an Air Quality Strategy (Department of the Environment, 1997, Department for the Environment Transport and the Regions, 2000 and Department for Environment Food and Rural Affairs, 2007)⁴⁸. The Air Quality Strategy sets out the pollutants of concern and provides a framework for air quality control through air quality management. The Air Quality Strategy also sets out air quality standards and objectives for these pollutants, designed for the protection of human health and the environment.
- 9.28 An Air Quality Study was undertaken to assess the impact of the proposals in this Master Plan. The Air Quality Study assessed the effect of the Master Plan proposals on air quality in 2012, 2022 and 2030, compared to a base year of 2006. The Air Quality Study also examined the contribution of various sources to total air pollution concentrations. Local air quality impacts have been assessed with reference to relevant legislation, guidance and best practice in the UK.
- 9.29 Operations at airports influence local air quality as a result of emissions arising from a number of sources. These sources are summarised in the table below, which also indicates the key pollutants associated with these source groups, in terms of their contribution to local air quality, based on studies at airports in the UK. The key pollutants arising from airport activities, in terms of potential health and ecological impacts, are nitrogen oxides (NO_x) and particulate matter (PM₁₀). The Air Quality Study undertaken for this Master Plan was limited to a detailed consideration of the emissions and dispersal of these pollutants, with a comparison to the health impact based regulatory standards.

Sources of Atmospheric Emissions at Birmingham International Airport

Source Groups	Key Pollutants	Non-Key Pollutants
Aircraft movements, auxiliary power and engine runs	NO _x , PM ₁₀	SO ₂ , CO, VOCs
Airport service vehicles and ground support equipment ('airside')	NO _x , PM ₁₀	SO ₂ , CO, VOCs
Traffic within the Airport, including car parks ('landside')	NO _x , PM ₁₀	SO ₂ , CO, VOCs
Traffic on local roads outside the Airport	NO _x , PM ₁₀	SO ₂ , CO, VOCs
Electricity and heat raising plant	NO _x , PM ₁₀	SO ₂ , CO
Fuel handling and storage	VOCs	

Notes

NO_x – nitrogen oxides are a product of combustion, consisting typically 5-15% nitrogen dioxide (NO₂) and 85-95% nitrogen monoxide (NO) at source. The NO is oxidised in the atmosphere to form NO₂.

PM₁₀ – particulate matter, i.e. particles with a mean diameter of ten microns or less. Such particles originate from a diversity of sources, i.e. primary particles arising from combustion, and secondary particles, mainly nitrates and sulphates formed through atmospheric chemistry, plus a coarse fraction of suspended soil particles, construction particles, sea salt and biological material.

CO – carbon monoxide is formed by the incomplete combustion of carbon containing fuels.

SO₂ – sulphur dioxide is formed by the combustion of sulphur containing fuels, e.g. coal and oil.

VOCs – volatile organic compounds, i.e. a collective term for a wide range of compounds, including benzene (contained in petrol) and 1,3-butadiene (a product of petrol combustion).

Section Two

- 9.30** A detailed Emissions Inventory of NO_x and PM₁₀ from the sources associated with the Airport, including surface access, has been estimated for the assessment years using projections of Airport activity, and is summarised in the table below.

Projected NO_x and PM₁₀ Emissions from All Source Groups at Birmingham International Airport

Tonnes Per Annum	2006	2012	2022	2030
Projected NO _x Emissions	727	920	1526	2065
Projected PM ₁₀ Emissions	13.5	10.6	11.1	13.5

The results of the emissions inventory have been used in a dispersion model to determine ground level concentrations of NO₂ and PM₁₀, with the dispersion model producing results for locations surrounding the Airport site. The dispersion model predicts that the overall impact of the developments included in this Master Plan, in terms of ground level concentrations of NO₂ and PM₁₀, is negligible. At all locations outside of the Airport boundary, the Government Air Quality objectives for these pollutants are predicted to be achieved.

- 9.31** Emissions of volatile organic compounds will have a local effect, principally in terms of odour, and a regional effect in atmospheric chemistry, particularly in the formation of ozone. An assessment of odour has been made based on current operations and the Air Quality Study also includes the role of ozone, in terms of local atmospheric chemistry, in the formation of NO₂.
- 9.32** The Airport Company recognises the occurrence of odour nuisance, principally associated with aircraft queuing prior to departure on Runway 15 to the south-east. However, the current Preferential Runway Use Policy of using Runway 33 will need to continue, unless weather conditions dictate otherwise.
- 9.33** For CO and SO₂, the Air Quality Study undertaken for this Master Plan indicates concentrations to near negligible levels.
- 9.34** Although the Air Quality Study demonstrates that the 2030 position will be compliant, it is important to understand that the figures derived present a 'worst case' scenario regarding the inventory for aircraft emissions. This is because the data was obtained by projecting forward an aircraft fleet mix based on current known aircraft types. New aircraft types coming 'on stream' could generate less emissions. The International Civil Aviation Organisation (ICAO) has recently established a new, more stringent, NO_x standard that will apply to all newly certified aircraft engines from 2008. There are also ACARE targets of an 80% reduction in NO_x emissions for new aircraft in 2020 (relative to new aircraft in 2000)⁴⁹. None of these reduction standards or targets has been specifically built into the Air Quality Study for this Master Plan.
- 9.35** In order to manage air quality, the Airport Company will:
- > Continue to undertake 24 hour air pollution monitoring at the Airport Site.
 - > Continue to raise general awareness of air quality issues.
 - > Provide Fixed Electrical Ground Power on aircraft stands and minimise the use of Ground Power Units and Aircraft Auxiliary Power Units.
 - > Ensure cleaner and more efficient ground services equipment by auditing airside vehicles and compliance with MOT standards.
 - > Conserve energy in buildings.
 - > Promote the use of public transport for passengers, staff and visitors.
 - > Encourage and specify the use of emerging technologies.



Energy Use and Climate Change

- 9.36** The Airport Company supports the position of Airports Council International (ACI) and the Airport Operators Association (AOA) in that aviation should address its verified, total climate change impacts on a global level. It believes that the best approach for addressing aviation's climate change emissions is a long-term strategy, which identifies and phases-in the most environmentally-effective, economically-efficient and politically-deliverable measure for each emission. ACI has suggested that the European Commission establishes a 'road map' for long-term global action, with an action plan setting out policy milestones for achieving emissions objectives⁵⁰.
- 9.37** ACI recognises the role of ICAO in setting standards and, therefore, has called upon ICAO for a policy measure for the early integration of European Union aviation, for CO₂ emissions, into the European Union Emissions Trading Scheme⁵¹.
- 9.38** Airports already have responsibilities with respect to the European Union Emissions Trading Scheme. It covers fixed combustion plant and the Airport Company is registered under the scheme, holds a Greenhouse Gas Emissions Trading Permit and is fully compliant with its requirements.
- 9.39** The Airport Company supports, and will investigate, the introduction of renewable energy and low-emission technology, where appropriate. Subject to safety and technological limitations, this could include biofuels, solar power and electric and hydrogen-powered vehicles and ancillaries. The Airport Company will also consider climate change impacts with the respective development proposals in this Master Plan, including formal Climate Change Assessments, as appropriate, with relevant planning applications.

Water Resources

- 9.40** The proposals in this Master Plan have the potential to impact upon both the groundwater and surface water resources in the proposed future Airport Operational Area. There are two surface watercourses likely to be affected by the proposals, namely Bickenhill Brook and Low Brook.
- 9.41** The bedrock underlying the Airport Operational Area comprises the Mercia Mudstone, a formation classified as a Non Aquifer. The Alluvium within the valley floors of the Bickenhill Brook and Low Brook is classified as a Minor Aquifer. There is only one groundwater abstraction within 3 kilometres of the area, and the area is not located within any current Groundwater Source Protection Zones.

Footnote 50 Airports Council International Paper, August 2005

Footnote 51 Airports Council International Paper, August 2005

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9.42 Based on the environmental information on water resources collated to date, it is clear that the existing surface watercourses, located within the catchments affected by the proposals in this Master Plan, have, generally, good water quality. However, a number of factors have affected water quality, including leachate from previous landfill. Groundwater is considered to be less sensitive, as the underlying Major Aquifer is, generally, protected from surface contamination by the thick layer of impermeable Mercia Mudstone.

The principal changes, which may result in impacts on surface water and groundwater features, include:

- > An increase in impermeable surfaces. This will lead to increased volumes (peak flows) of water entering the system more rapidly than the current situation.
- > Operational run-off. This will require retention and treatment.
- > Accidental spillage.
- > Permanent diversions of Bickenhill Brook and Low Brook.
- > Groundwater and surface water affected by the proposed realignment and tunnelling of the A45.
- > Changes in ground water recharge and flow patterns.
- > Linear barriers or preferential conduits resulting from construction.
- > Water quality issues during construction, particularly vegetation and soil removal; dewatering; contractors' compounds and storage areas; pollutants; obstructions to watercourses; and any diversions and culverting of Bickenhill Brook and Low Brook.

9.43 Mitigation measures, in terms of water quality and water management issues, will include the minimisation of culverting and realignment, with the design of watercourse diversions and overall drainage of catchments to be agreed with the Environment Agency.

9.44 An operational 'water treatment plan' (or processes) and 'water retention systems' will need to be developed, in detail, and agreed with the Environment Agency. A full operational water management system will need to be developed, and the water management regime in the whole area will need to be structured to avoid significant changes to the groundwater regime, particularly in relation to sensitive ecological resources.

Waste Management

9.45 The Airport Company already has measures in place to use resources efficiently, and minimise and recycle waste wherever possible. It also encourages tenants to participate in waste recycling schemes. In 2005, the Airport Company opened a new purpose-built Waste Management Facility, at the Elmdon Terminal Site, to handle Airport waste. In the future, the Airport Company will continue with policies to minimise and recycle waste, as part of its overall approach to sustainability and in line with Government policies concerning sustainability.



Ecology

9.46 The proposed future Operational Area, and its immediate environs, contains a number of sites of ecological interest. There are Sites of Special Scientific Interest (SSSIs) and Sites of Importance for Nature Conservation (SINCs).

The full list of such ecologically sensitive sites includes:

- > Bickenhill Meadows, SSSI (national value).
- > Shadowbrook Lane Meadows Nature Reserve, SSSI (national value).
- > Greens Ward (part of Shadowbrook Lane Meadows Nature Reserve), SINC (county value).
- > Remaining parts of Shadowbrook Lane Meadows (i.e. those parts which are not a SSSI or SINC), Eco-site (county value).
- > Castle Hills Farm Meadows, SINC (county value).
- > Fields at Clock Lane Meadows (i.e. those not part of Castle Hills Farm Meadows SINC), Eco-site (county value).
- > Part of 'meadows to the east of the Jungle' (i.e. those parts not a SINC), Eco-site (county value).
- > Hampton Coppice and Elmdon Coppice, SINCs (county value).
- > Elmdon Park, Eco-site (county value).
- > Elmdon grasslands, Eco-site (county value).
- > Low Brook and Kingshurst Brook, Eco-site (county value).
- > Barbers Coppice, Eco-site (county value).
- > Elmdon Manor, LNR/Eco-site (county value).
- > Elmdon Church, Eco-site (county value).

9.47 During development of this Master Plan, the aim has been to minimise impacts on important ecological features, particularly SSSIs. As such, neither of the SSSIs will be directly affected by the proposals. The major, indirect impact on the SSSIs is the potential for the hydrogeological regime to change, with changes in infiltration patterns, which could affect the structure of their flora.

9.48 The land take of designated sites will result in some loss of nationally important grassland communities (National Vegetation Classification type MG4 and some small areas of MG5⁵²), as well as some woodland and lengths of hedgerow. The cumulative effect on designated sites would be, locally, important, but not significant. The alteration of watercourses would also be important, primarily due to the presence of water voles and native white-clawed crayfish.

9.49 In addition, some off-site areas will be affected due to obstacle clearance issues, related to the proposed extension to the Main Runway, which will result in some trees and hedgerows having to be removed and some trees and hedgerows having to be reduced in height.

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9.50 With regards to rare and protected species, mitigation must be made for badgers, great crested newts, bats, water voles, white-clawed crayfish and three species of rare plants, as well as significant bird, terrestrial invertebrate and aquatic invertebrate communities. The Airport Company is committed to offset the ecological impacts of the Master Plan proposals. The mitigation strategy will include:

- > Habitat compensation for the loss of designated sites of county value. A 'compensation plan' will be developed in partnership with relevant wildlife trusts. The proposed compensation ratio should be 2 hectares for every 1 hectare lost.
- > Translocation of some of the habitats and species. Grassland habitats can be translocated directly, i.e. via cutting turfs. However, it may be better to accumulate seed from the areas to be lost, to use for sowing at a new receptor site. The creation of a compensation site would require research to look at the suitability of the site and the best methods of establishing new habitats. The compensation site should be as near as possible to the Airport, without compromising the operational safety of the Airport. The initial investigations for developing a compensation plan may need to happen in advance of the proposed development, in order to allow appropriate times for pilot studies and translocations to take place.
- > Ground water and botanical monitoring will be necessary at the SSSIs and surrounding SINC, in order to detect any unforeseen changes in water tables as a result of a proposed development. A 'water resource management plan', which can react to changes in ground water levels, will be put in place to protect the SSSIs from drying out and losing their value.
- > The brooks will be protected, where possible, to try and retain their value (e.g. for white-clawed crayfish). Culverting and realignment will be minimised. Off site compensation for the loss of watercourse habitat will be investigated.
- > For each of the rare and protected species potentially affected by the proposed development, a phased plan of surveys will take place to assist in identifying the most appropriate mitigation plan, which could include translocation.

Archaeology and Cultural Heritage

9.51 Based on the information collected to date, there are no Scheduled Ancient Monuments (SAMs) in the proposed future Airport Operational Area, and its immediate environs. However, it does contain a number of identified archaeological features, plus a number of possible sites of interest (e.g. crop marks). A number of these sites have already been disturbed by landfill, quarrying, modern construction and buildings, road improvements and landscaping.

9.52 Archaeological mitigation will generally include the investigation, documentation and photographic recording of sites of importance. In addition, some exploratory excavation in areas of archaeological potential would be considered. The scope and extent of further investigations will be determined during any future detailed planning application process. A suitable strategy for the Bickenhill Village Conservation Area and Castle Hills Farmhouse will be developed, in liaison with English Heritage and Solihull Metropolitan Borough Council, to mitigate any impacts, as appropriate.



Landscape and Visual Impact

- 9.53** The landscape character of the proposed future Airport Operational Area, and its immediate environs, is principally farmland, characterised by an enclosed and gently undulating landscape and defined by woodland edges and belts of trees and hedgerows. The proposals in this Master Plan would change the landscape character through regrading of the site, loss of trees and hedgerows and airport development. Other areas of distinct landscape character, surrounding the proposed future Airport Operational Area, would be affected, indirectly, to varying degrees.
- 9.54** Due to the relatively flat topography, trees, hedges and woodland within the landscape, the 'Zone of Visual Influence' is not likely to extend significantly beyond the proposed future Airport Operational Area. The 'Zone of Visual Influence' could extend to the Grand Union Canal to the south, Sheldon to the west and Lea Hall to the North, as well as Bickenhill to the East. The most significant visual impacts would result from the loss of the mature landscape to the immediate south of the existing Airport boundary. The principal issue will be the effects upon the permanent views of local residents. Transient views associated with footpath users, motorists and those in vehicles are less sensitive.
- 9.55** Therefore, designs will be developed to maximise the amenity of remaining resources and develop positive contributions to the conservation and enhancement of the wider landscape. Off-site compensation areas and mitigation, where appropriate, will be developed, together with mitigation for ecological impacts.
- 9.56** There are no over-riding international or national designations associated with landscape or visual issues.

Landscape Issues

- > Loss of existing trees, woodland and hedgerows over the proposed future Airport Operational Area.
- > Indirect landscape impacts at Bickenhill Village.
- > Diversion of 'Public Rights of Way' across the proposed future Airport Operational Area.
- > SSSIs and SINCs adjacent, or close, to the proposed future Airport Operational Area are sensitive to direct or indirect impacts resulting from the implementation of the Master Plan proposals.

Visual Issues

- > Implementation of the Master Plan proposals is likely to have a relatively limited effect on the urban area north of the existing Airport boundary.
- > Views from 'Public Rights of Way' in rural areas between Catherine de Barnes Lane and the M42 will be affected by Master Plan proposals, but not significantly.
- > Longer distance views from the east and north-east will also be affected by the Master Plan proposals, but to a much lesser extent due to the distances from the Airport Site and the intervening local development and landscape.
- > The effects upon recreational users of footpaths and open land will vary according to the proximity of users to the proposed extension of the Airport boundary, as well as the intervening landscape. Views from footpaths within the proposed future Operational Area, which will need to be diverted, will be affected.



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Social and Community

- 9.57** The proposed future Airport Operational Area, and its immediate environs, does contain a range of community facilities and features, including footpaths and bridleways, some local businesses, sports and playing fields and areas of public open space. Adjacent to the future Airport Operational Area, there are also a number of residential areas, including the villages of Bickenhill and Catherine de Barnes.
- 9.58** Extensive changes are likely to be made to the A45 in the vicinity of the Airport. This will include a realignment and tunnelling of the A45 to accommodate the proposed extension to the Main Runway. However, the impacts will be temporary, occurring during construction only, which may cause delays.
- 9.59** Where 'Public Rights of Way' are lost to the proposed development, and the loss is regarded as significant or potentially significant, it should be possible to re-route them around the new Airport boundary without substantial diversions.
- 9.60** Some agricultural land, businesses and residences, together with other amenities, within the proposed future Airport Operational Area will be lost to the proposed development in this Master Plan.
- 9.61** Mitigation measures during construction will be necessary. The usual means of reducing impacts of construction on the community is to agree a traffic management plan and a construction environmental management plan, governing a range of issues, including working practices, hours of operation and construction traffic routing.

Health Impact Assessment

- 9.62** The Department for Transport, in its Guidance on the Preparation of Airport Master Plans, did not consider it necessary to produce a Health Impact Assessment as part of the master plan process. However, the Airport Company recognises the benefits of Health Impact Assessments.
- 9.63** The Airport Company concluded that it was not feasible to undertake a full scale Health Impact Assessment during the preparation of this Master Plan, but it is willing to discuss Health Impact Assessment studies covering the major development proposals. In addition, the Airport Company would support the setting up of a Health Impact Assessment Steering Group, as appropriate, where this Group could have membership drawn from a wide range of disciplines, under an independent Chair.
- 9.64** A previous study, completed in 2000⁵³, concluded that there was no link between air quality at the Airport and respiratory disease in the local population.



Environmental Policies

General

- ENV1** The Airport Company will continue to maintain and develop environmental policies to mitigate the environmental impact of the Airport's operations and development.
- ENV2** The Airport Company will consult with the Airport Consultative Committee, and all other relevant bodies, during the development process, in order to ensure that public views are taken account of at the appropriate planning stages.

Noise

- ENV3** The Airport Company will continue to develop detailed policies with regard to aircraft and airport noise, in order to mitigate the impact of noise resulting from the Airport's operations.
- ENV4** The Airport Company will continue to monitor noise levels and use the Airport Noise and Operations Monitoring System, in order to provide a comprehensive noise and track monitoring, noise and track investigation and noise complaint service. The Airport Company will provide regular reports on a wide range of Airport noise issues.
- ENV5** The Airport Company will regularly review the noise contours for the Airport, and provide local authorities with any revisions to the noise contours.
- ENV6** The Airport Company operates a Day Time Noise Policy which restricts the noise level of aircraft operating during the day. The Airport Company will continue to operate, and regularly review, the Day Time Noise Policy.
- ENV7** The Airport Company operates a Night Flying Policy which restricts the noise level, and the number and types of aircraft operating, at night. The Airport Company will continue to operate, and regularly review, the Night Flying Policy.
- ENV8** The Airport Company will maintain its commitment to the Sound Insulation Scheme and, where appropriate, implement modifications or improvements.
- ENV9** The Airport Company will review and develop a system of Preferential Noise Routes to mitigate, where practical, the impact of aircraft noise and operations on local communities.
- ENV10** The Airport Company will work with the Civil Aviation Authority (CAA) and National Air Traffic Services (NATS) to consider the feasibility of introducing Continuous Descent Approach procedures at Birmingham.
- ENV11** The Airport Company will continue to monitor planning applications to highlight proposals for development which fall within sensitive noise contours.



Section Two

Air Quality, Energy Use and Climate Change

- ENV12** The Airport Company will continue to develop detailed policies with regard to air quality and emission levels, in order to raise general awareness of air quality and mitigate the impact of the Airport's operations on air quality.
- ENV13** The Airport Company will continue to monitor air quality levels, and provide regular reports on air quality and emission levels.
- ENV14** The Airport Company will provide Fixed Electrical Power on aircraft stands, where practical, restricting the use of Ground Power Units and aircraft Auxiliary Power Units, and ensure cleaner and more efficient ground services equipment.
- ENV15** The Airport Company will promote the use of public transport for passengers, visitors and staff, in order to mitigate emission levels.
- ENV16** The Airport Company will conserve energy use in buildings and will investigate the introduction of renewable energy and low emission technology, where appropriate.
- ENV17** The Airport Company will support, through its membership of the Airports Council International, the introduction of an appropriate policy for the inclusion of aviation in the European Union Emissions Trading Scheme.

Water Quality

- ENV18** The Airport Company will continue to develop detailed policies with regard to Airport surface water and foul water discharges, in order to mitigate the impact of the Airport's operations on surface water and foul water discharges.
- ENV19** The Airport Company will continue to monitor surface water and foul water discharges from the Airport, and will implement improvements, where practical, to the existing Airport flood and pollution control facilities, in line with further development of the Airport and to provide additional capacity.

Waste Disposal and Waste Management

- ENV20** The Airport Company will use resources efficiently and prudently and, where practical, use products that are renewable and have the least environmental impact.
- ENV21** The Airport Company will minimise and recycle waste wherever possible, in order to mitigate the amount of waste and the disposal of waste resulting from the Airport's operations.



Ecology and Archaeology

- ENV22** The Airport Company will take full account of the effects of the Airport's operations and development on ecological areas and, where appropriate, will mitigate impacts on important ecological features, particularly SSSIs.
- ENV23** The Airport Company will consider opportunities for the creation of new ecological habitats, which will be provided on the basis of two hectares for every one hectare of ecological site lost.
- ENV24** The Airport Company will ensure that sites of Archaeological Importance will be investigated and documented, and exploratory excavation undertaken where appropriate.

Landscaping

- ENV25** The Airport Company will provide a high quality landscape, particularly for the Airport's boundaries and the landside facilities at the Passenger Terminal Site and the Elmdon Terminal Site. All landscaping will be designed and managed so as not to prejudice aircraft safety or operational requirements. A comprehensive landscape management plan will be developed and implemented for all areas within the Airport's control.





Section Two

10. Land Acquisition & Compensation

Land Acquisition

- 10.1** The current Airport Operational Area is approximately 330 hectares. This Operational Area will need to be expanded in order to accommodate the forecast growth and development of the Airport set out in this Master Plan. Some of the land that will be required is already in the ownership of the Airport Company. For any additional land, wherever possible, it is the Airport Company's intention to acquire this land by agreement, which has been the method of acquisition used in previous years. If this is not possible, then the Airport Company will consider using the compulsory purchase powers available to it under the Airports Act 1986.
- 10.2** Existing non-operational land and property now in the Airport Company's ownership, or land and property to be purchased in the future, will be retained in existing uses, where possible, until required for Airport development.

Compensation

- 10.3** In the White Paper, the Government asked airports to address the issue of "generalised blight" associated with future airport development. Whilst generalised blight has no legal definition, it is viewed as the impact on property values, resulting from proposals for future development, before statutory protection is available.
- 10.4** Proposals for an extension to the Main Runway, at the south eastern end of Main Runway in Solihull, were first identified in the previous Master Plan, published in 1995. Therefore, the Airport Company does not consider the proposed extension to the Main Runway to be an issue in terms of "generalised blight", as defined in the White Paper.
- 10.5** The Airport Company accepted the principle that people most directly affected by the proposals for a second runway, in the earlier draft to this Master Plan, should have some form of redress, where appropriate. Therefore, the Airport Company considered Voluntary Compensation Schemes for properties, as part of the consultation process on the draft Master Plan, together with programmes of environmental mitigation.
- 10.6** Following the earlier draft to this Master Plan, and with the more recent work by the Airport Company indicating that a second runway should not be needed before 2030, the Airport Company does not now consider there to be a "generalised blight" issue, as defined in the White Paper, and, therefore, there is no current requirement for a Voluntary Compensation Scheme.
- 10.7** Should a future review of this Master Plan consider a second runway to be required, the Airport Company would include appropriate compensation schemes to address the issue of "generalised blight". Such schemes would follow the principles set out during the consultation process, as updated in the Department for Transport's Progress Report on the White Paper (December 2006).



Land Acquisition & Compensation Policies

- LAC1** The Airport Company proposes to acquire land and properties which are required for the safe, effective and appropriate operation and development of the Airport and to meet the forecast growth in demand. Purchases will be by agreement, where possible, although the Airport Company reserves its right to use compulsory purchase powers where required.



Section Three



Proposal Maps



Airport Layout 2006

Airport Master Plan Proposals Map 2010

Airport Master Plan Proposals Map 2015

Airport Master Plan Proposals Map 2020

Airport Master Plan Proposals Map 2030

Airport Master Plan Summary of Environmental Features





Section Three

EXISTING

 Existing Airport Buildings Retained

PROPOSALS

 New Building

 Runway End Safety Area

 Air Traffic Control Tower

 Operational Area and Airport Site Boundary

 Fuel Farm

 People Mover

 Aircraft Runways Apron & Taxiways

 New Roads

 Engine Ground Running Area

 Midland Metro Corridor

 Apron Support Area

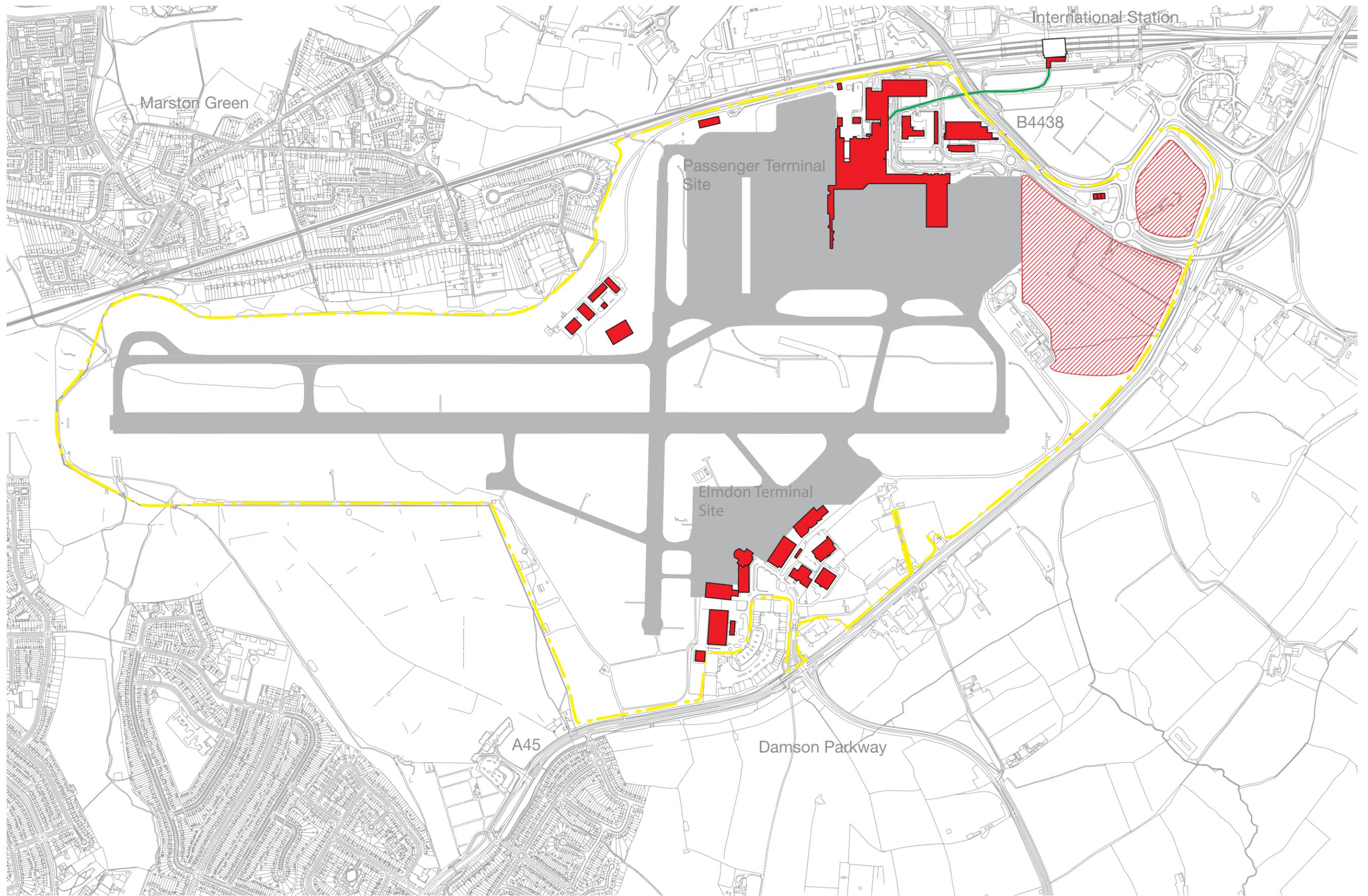
 Improved Link to A45 & M42

 Ancillary Airport Development

 Car Parking

 Ancillary Airport Development incl. Car Parking

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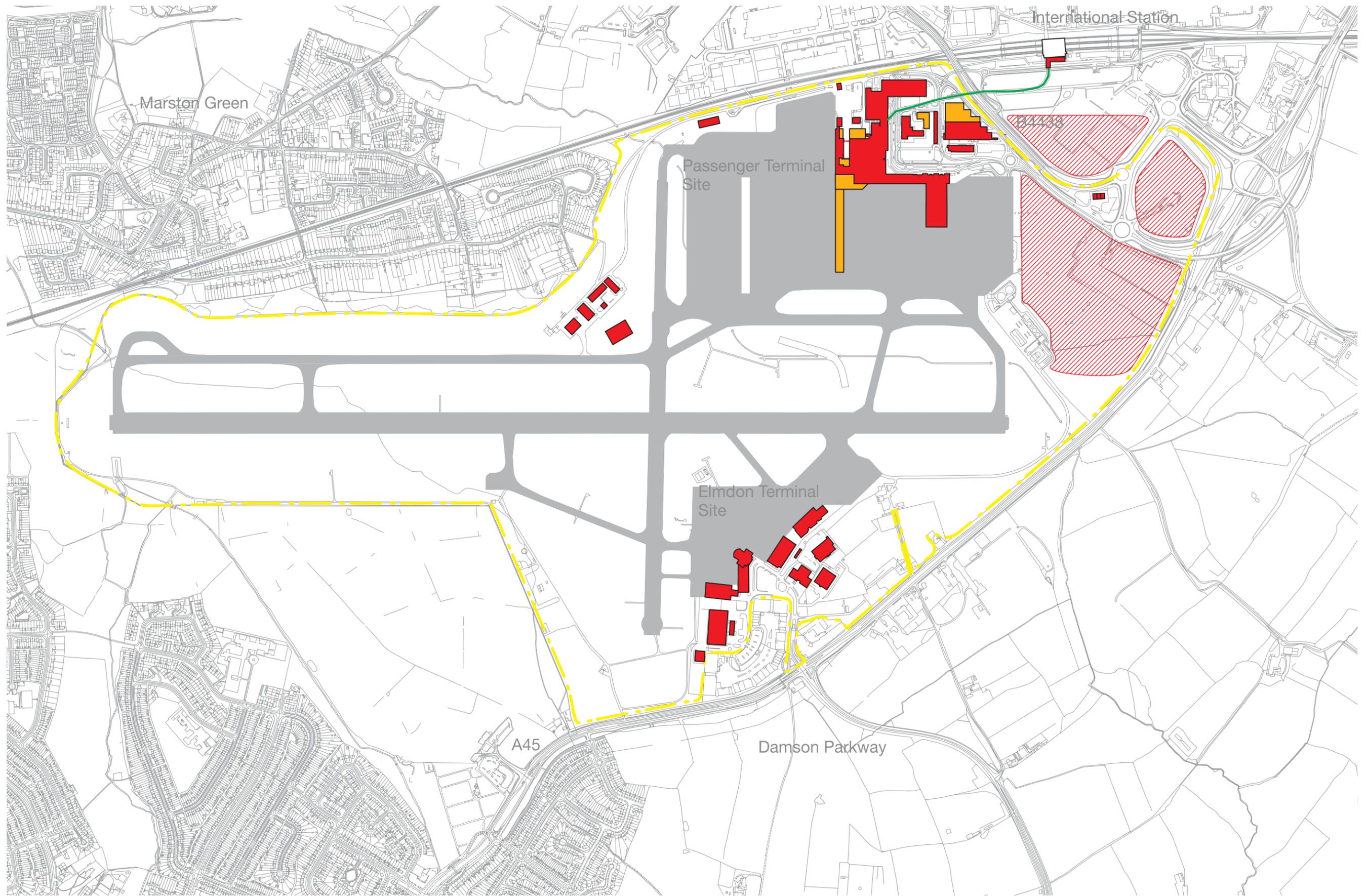
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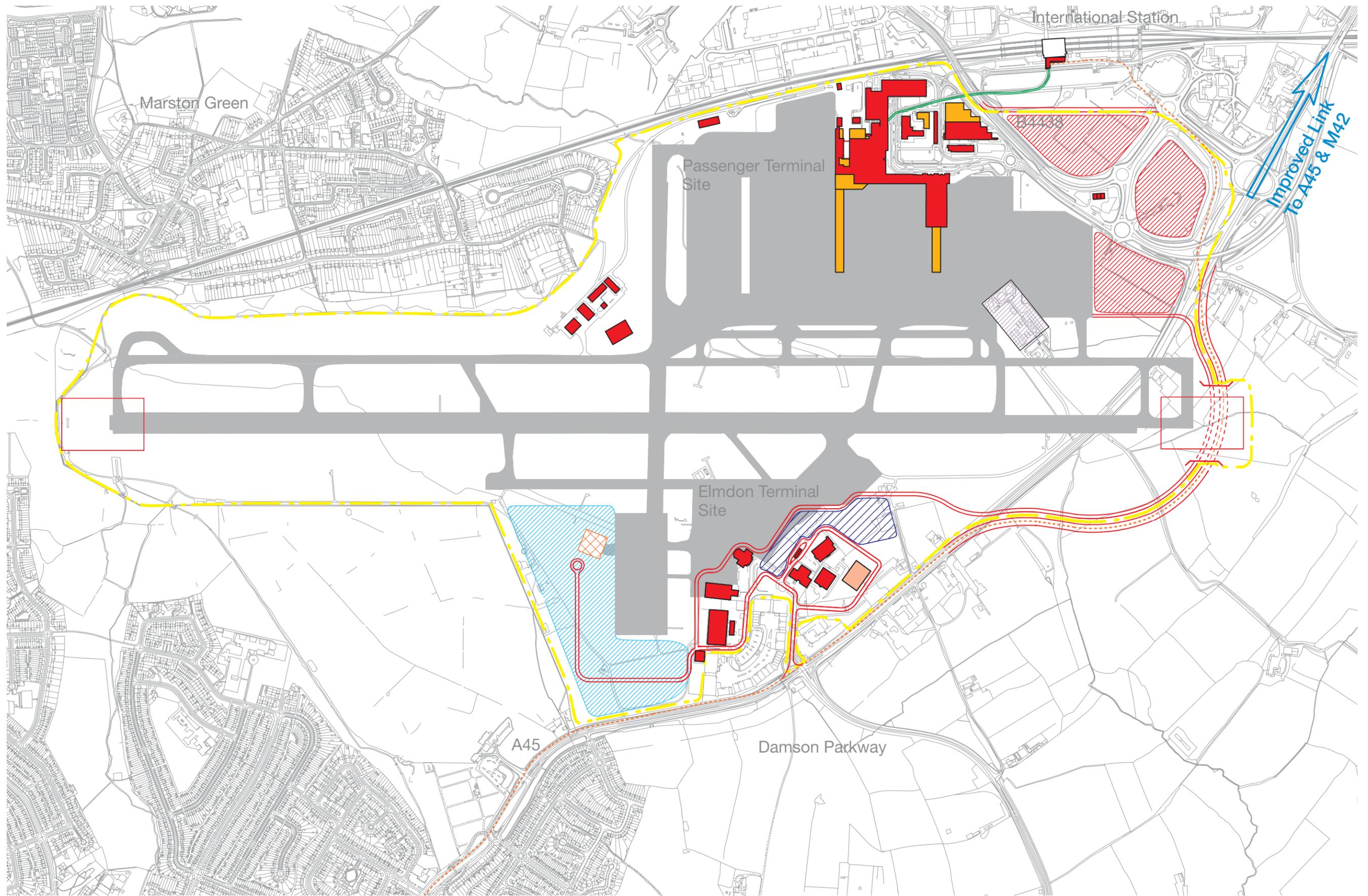
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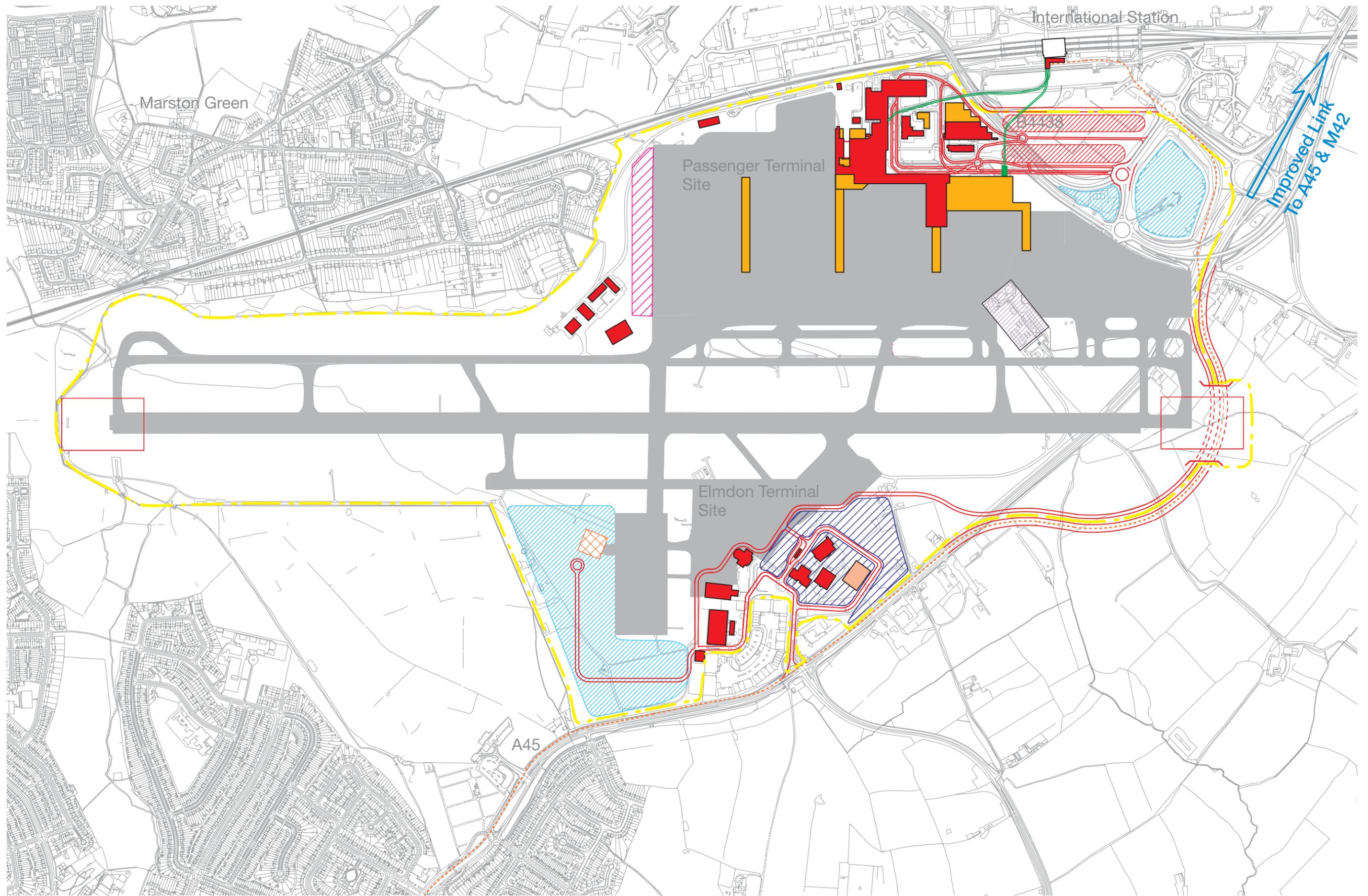
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Section Three

Key:

 Watercourse

Designated Sites

-  Ecosite
-  Site of Importance For Nature Conservation
-  Site of Special Scientific Interest

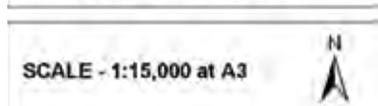
Built Heritage

-  National Importance
-  Regional Importance
-  Local Importance
-  Built Heritage Conservation Area

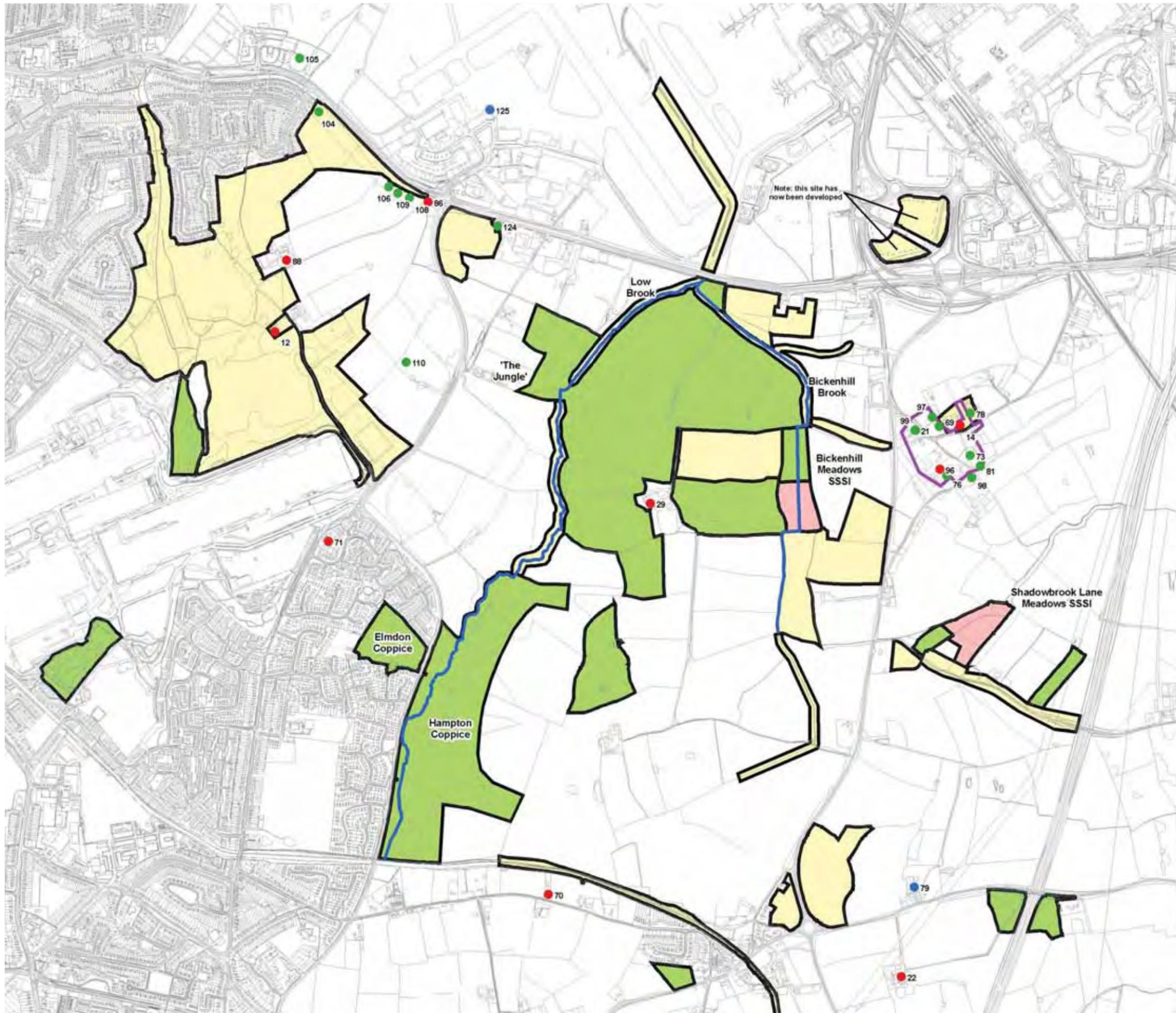
12 - Church of St Nicholas, Elmdon Park (grade II)
14 - Church of St Peter, Bickenhill (grade I)
21 - Glebe Farm, Bickenhill
22 - Walford Hall Farmhouse (grade II)
29 - Castle Hills Farmhouse (grade II)
68 - Church Farm, Bickenhill
70 - Number 239 Lugtrout Lane (grade II)
71 - Main Hall at Whar Hall Farm (grade II)
73 - The Croft, Bickenhill
76 - Barn Adjacent to Grange Farm, Bickenhill
78 - Vicarage, Bickenhill
79 - Hampton Lane Farm
81 - Rose Bank, Bickenhill
86 - Elmdon Hall Lodge (grade I)
88 - The Grange, Elmdon Park (grade II)
96 - Grange Farmhouse, Bickenhill (grade II)
97 - Barn Adjacent to Church Farmhouse, Bickenhill
98 - Hazel Cottage + The Old School House, Bickenhill
99 - Harpsford, Bickenhill
104 - Former Battle Headquarters, Elmdon
105 - Pillbox, Elmdon
106 - WW2 Garage
108 - WW2 Storage Tank
109 - WW2 Former Offices
110 - WW2 Nissen Hut
124 - Timber Framed Barn, Village Farm, Elmdon
125 - The Elmdon Building

SOURCE

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Section Four



Appendices



Existing Site & Facilities at Birmingham International Airport
Air Transport Trends at Birmingham International Airport
Glossary of Terms



Section Four

Existing Site & Facilities at Birmingham International Airport

1. The Airport has two runways:
 - > Main Runway 15/33 (Instrument - Category III) 8,530 ft/2,599 m long.
 - > Secondary Runway 06/24 (Visual) 4,314 ft/1,315 m long.

The Airport is equipped with the necessary navigational and technical aids for all weather operations, including radar and an Instrument Landing System (ILS) to CAT III Standard serving both approaches to the Main Runway.

2. Air Traffic Control is provided on behalf of the Airport Company by National Air Traffic Services (NATS) in respect of both:
 - > Approach Control, which is responsible for all arriving and departing aircraft.
 - > Aerodrome Control (or Visual Control), which is responsible for all aircraft on final approach to land, taxiing on the airfield, preparing for departure and during take-off, plus aircraft carrying out circuit training, and all vehicles moving on the runways, taxiways and aprons.

The Approach Control and Aerodrome Control are provided in the Elmdon Building, which is located at the Elmdon Terminal Site.

3. The Airport has a 24 hour operating licence. Passenger Terminal facilities are provided on a site east of the Main Runway, where a 'new' Passenger Terminal was opened in 1984. The freight and aircraft maintenance facilities are provided at the Elmdon Terminal Site, on a site west of the Main Runway, and are based about the former passenger terminal facilities and original aircraft hangars.
4. The Passenger Terminal facilities are based on a two terminal operation, i.e. Terminal 1 (formerly known as 'Main Terminal') opened in 1984, and Terminal 2 (formerly known as 'Eurohub') opened in 1991.
5. After a Public Inquiry in 1979, approval was given for a 'new' Passenger Terminal (now Terminal 1) and associated infrastructure. Construction of the 'new' Passenger Terminal facilities began in 1981, and they were completed, ahead of schedule, in 1984. Operations were transferred to the 'new' Passenger Terminal Site from 4 April 1984.
6. In 1988, the first phase of a programme of improvements to the 'new' Passenger Terminal facilities was provided, with extensions at ground floor and first floor to the landside facilities. In 1989, a second phase was provided, making better use of the existing facilities by matching passenger flows more closely with available capacity, in a process referred to as 'channel change'. In 1990, the third phase of improvements was provided, with extensions at ground and first floor to the airside facilities.

7. In 1988, the Airport Company, with British Airways, recognised the potential to develop a second Passenger Terminal, now called Terminal 2 (and previously known as 'Eurohub'), to provide dedicated facilities to support 'hub and spoke' operations at Birmingham International Airport. 'Eurohub' opened in 1991 and provided dedicated facilities for British Airways and its partner airlines. 'Eurohub' was a unique and innovative facility, the first of its type in Europe, designed to link the UK regions with European cities, whilst also providing facilities for a wider range and greater frequency of services, including, subsequently, long haul scheduled services to the USA.
8. During the construction of 'Eurohub', the Airport Company recognised the need to refurbish Terminal 1 (then known as 'Main Terminal'), to ensure that similar standards of facilities and service were available in 'Main Terminal' to those in 'Eurohub'. Therefore, in 1991, the Airport Company started on a substantial programme of improvements and refurbishment to Main Terminal, which was completed in 1994.
9. In addition, during 1994, the Airport Company also undertook further improvements to the airfield at the Passenger Terminal Site. The improvements involved the infill of the former grassed area at the end of the International Pier, to provide additional apron hardstanding, and the addition of a Parallel Taxiway at the Passenger Terminal Site to improve aircraft access and circulation for the Passenger Terminals.
10. In 1995, following publication of the previous Master Plan "Vision 2005", the Airport Company submitted an Outline Planning Application for the "Expansion of the Passenger Terminal Facilities and Related Infrastructure". Outline Planning Approval was subsequently granted in 1996, with Conditions and a Section 106 Planning Agreement between the Airport Company and Solihull Metropolitan Borough Council. Since then, the phased development of the Passenger Terminal Facilities and Related Infrastructure has been progressed to include:
- > Additional apron and taxiway capacity.
 - > Landside and airside extensions to Terminal 1.
 - > Landside and airside extensions to Terminal 2.
 - > New A45 Inbound/Outbound Access Roads.
 - > Improvements to the internal landside circulatory roads.
 - > New bus and coach facilities.
 - > Additional car parking capacity (both surface and multi storey).
11. The current car parking provision at the Passenger Terminal Site consists of:

Long Stay (Two Car Parks)	7,020
Multi Storey (Three Car Parks)	3,895
Short Stay	255
Staff/Employees	1,635
Total	12,805
Car Hire	345
Total	13,150



Section Four

12. The Airport is connected to Birmingham International Station (via the 'Birmingham International Interchange'), and the local and intercity rail networks, and the National Exhibition Centre (NEC), by the 'Air-Rail Link', a fully automated people mover system. Previously, the people mover link was provided by the 'MAGLEV' system (i.e. MAGnetic LEVitation), which had to be withdrawn from service in 1995 following problems with its reliability. The 'Air-Rail Link' is an elevated people mover system using two tracks, each carrying a double vehicle. The 'Air-Rail Link' stations are provided at Terminal 1 and at the 'Birmingham International Interchange' with direct access to Birmingham International Station.
13. In 1990, a Novotel Airport Hotel (with 196 bedrooms) was opened at the Passenger Terminal Site, and an Etap/Ibis Airport Budget Hotel (with 120 bedrooms and 162 bedrooms respectively) is due to be opened at the Passenger Terminal Site in 2008. The Novotel Hotel development also included some 2,000 square metres of separate, lettable airport-related office accommodation in Viscount House. In 2000, the Airport Company moved into a new dedicated office block, known as 'Diamond House', which is located opposite Terminal 2.
14. The completion of the new Passenger Terminal facilities in 1984 allowed attention to be focused on the development of freight activities at the Airport. Freight facilities are provided at the Elmdon Terminal Site, where they were based on the former Passenger Terminal facilities and can be operated and developed without conflicting with passenger operations. In 1986, a new purpose built Cargo Centre was provided for British Airways at the Elmdon Terminal Site, as part of a wider development which also included the Gateway Estate and Freeport.
15. In 1988, the first phase of a programme of improvements to the freight facilities was completed with the development of a bonded unit for freight operators. In 1989, the second phase was completed with the development of 4,000 square metres of dedicated processing facilities for freight operations, followed by an extension to the Western Apron in 1991. The Airport Company also proposed a third phase called 'Freight West', which would provide further freight facilities, including a dedicated apron and taxiway, located to the south west of the Secondary Runway. However, with the constraints of the Night Flying Policy, the Airport Company no longer markets Birmingham International Airport as a dedicated freight airport, but, given the range and frequency of scheduled passenger services, there is significant potential for freight activity based on 'belly hold' operations.
16. The Elmdon Terminal Site is served by its own internal landside road system and there is a dedicated access road linking the Elmdon Terminal Site with the local highway network. The Elmdon Terminal Site also has its own dedicated car parking (both surface level and multi-storey car parking) and vehicle parking (i.e. for vans and HGVs) to support the activities at the Elmdon Terminal Site.
17. Investment by the Airport Company in operational facilities has included stand guidance systems, electrical ground power units, additional air bridges, an improved Instrument Landing System (to Category III) and a new Airport Engineering Base and Stores. In 1990, the original 1939 Passenger Terminal, now known as the 'Elmdon Building', was refurbished by the Airport Company to provide further office accommodation at the Elmdon Terminal Site.



18. Other companies based at the Airport have also made considerable new investment, including a new In-Flight Catering Commissary at the Elmdon Terminal Site, the refurbishment of Hangar 1 and the refurbishment of Hangar 2. The aviation fuel consortium have developed an additional AVTUR storage tank and an AVGAS facility, whilst an underground fuel pipeline was constructed to the Airport. Hydrant refuelling was installed for the 'Eurohub' (Terminal 2) aircraft stands, which could be extended to the 'Main Terminal' (Terminal 1) stands.
19. In 1993, Airline Maintenance Birmingham Limited, a joint venture company between the Airport Company and Airline Maintenance Associates (specialists in aircraft maintenance based in Cambridgeshire), was granted Planning Approval for a third party aircraft hangar and maintenance facility, and associated infrastructure, including a three bay hangar suitable to accommodate three wide-bodied aircraft. In 2001, the Airport Company and Maersk Air were granted Planning Approval for a new aircraft hangar and maintenance facility, and associated infrastructure. Both these maintenance facilities would have been located at the Elmdon Terminal Site, but neither of the proposals have subsequently been progressed.
20. On a site adjacent to the Airport is 'Trinity Park', an office business park which was designed to provide 36,000 square metres of office accommodation.





Section Four

Air Transport Trends at Birmingham International Airport

- The growth in passengers, freight and air transport movements since 1986 at Birmingham International Airport is given in Table 1.

Table 1 : Passenger, Freight and Air Transport Movements 1986 – 2006

Year	Total Passengers	Total Flown Freight (Tonnes)	Air Transport Movements
2006	9,147,384	14,681	108,658
2005	9,381,425	12,939	112,963
2004	8,862,388	9,849	109,202
2003	9,079,172	11,573	116,040
2002	8,027,730	13,326	112,284
2001	7,808,562	11,886	111,008
2000	7,596,893	9,695	108,972
1999	7,013,867	29,166	98,748
1998	6,709,086	18,416	88,332
1997	6,025,485	19,845	79,880
1996	5,468,100	19,427	76,775
1995	5,328,469	21,125	74,400
1994	4,943,189	18,767	71,068
1993	4,202,685	16,526	68,754
1992	3,827,659	18,568	68,887
1991	3,396,060	26,000	65,513
1990	3,618,726	21,281	65,650
1989	3,431,445	14,432	60,782
1988	2,876,004	15,252	52,726
1987	2,725,853	13,623	51,564
1986	2,165,952	6,631	44,841

Source : Civil Aviation Authority

An Air Transport Movement (ATM) is a landing or take-off of an aircraft engaged in the transport of passengers cargo or mail on commercial terms.

2. The breakdown of passenger, freight and aircraft movements for 2006 is given below in the following tables:

Table 2A : Passengers

By Type	Passengers	By Market Sector	Passengers	By Terminal	Passengers
Terminal	9,061,596	International Scheduled (Terminal)	4,952,321	Terminal 1	7,171,129
Transit	91,451	International Charter (Terminal)	2,582,312	Terminal 2	1,981,918
Total	9,153,047	Domestic (Terminal)	1,526,800	Total	9,153,047
		Total	9,061,433		

Table 2B : Freight

Total	14,673
-------	--------

Table 2C : Air Transport Movements

Passenger	108,940
Freight	399
Total	109,339

Table 2D : Total Aircraft Movements

Air Transport Movements	109,339
Other Commercial Movements	3,546
Non Commercial Movements	6,647
Total	119,532

Source : Birmingham International Airport Limited

Table 3 : Monthly Terminal Passenger Traffic by Market Sector for 2006

Year	International Charter	International Scheduled	Domestic	Total
January	115,256	338,394	105,451	559,101
February	115,228	364,535	113,985	593,748
March	126,790	413,270	128,181	668,241
April	135,477	426,487	129,155	691,119
May	267,101	424,297	136,553	827,951
June	320,524	431,359	132,079	883,962
July	343,846	465,426	136,620	945,892
August	366,398	476,197	132,682	975,277
September	347,471	462,751	132,152	942,374
October	248,744	432,879	136,099	817,722
November	96,022	362,529	132,230	590,781
December	99,455	354,197	111,613	565,265

Source: Birmingham International Airport Limited

Section Four

Glossary of Terms

ACARE : Advisory Council for Aeronautical Research, European Union.

Aerodrome : Any area of land or water designed, equipped, set apart or commonly used for affording facilities for the landing and departure of aircraft, and includes any area or space, whether on the ground, on the roof of a building or elsewhere, which is designed, equipped or set apart for affording facilities for the landing and departure of aircraft capable of descending or climbing vertically, but shall not include any area the use of which for affording facilities for the landing and departure of aircraft has been abandoned and has not been resumed.

Aircraft Movement : An aircraft landing or take-off at an airport. For airport traffic purposes, one arrival and one departure are counted as two movements.

Aircraft Stand : A position on the apron at which an aircraft can be located or parked and where all normal servicing activities are carried out, including the enplaning and deplaning of passengers. Stands may be remote from, or adjacent to, the terminal buildings.

Airport Consultative Committee : The committee to provide a facility, for the purposes of Section 35 of the Civil Aviation Act 1982, for consultation between the Airport Company and users of the airport, the local authority and neighbouring local authorities and local communities with respect to matters concerning the management and administration of the Airport which affect their interests.

Airport Noise and Operations Monitoring System : The system known as “ANOMS” used to record complaints and monitor the noise and tracks of Air Transport Movements.

Airport Transport Forum : The forum, as set up by the “Guidance on Airport Transport Forums and Airport Surface Access Strategies” issued by the Department of the Environment Transport and the Regions in 1999, to facilitate partnership between airport operators, government agencies, local authorities, passenger transport authorities, transport operators, local communities and local businesses to facilitate improvements to surface access for airports.

Air-Rail Link : The dedicated fixed people-mover system (replacing the former MAGLEV system) linking Birmingham International Airport with Birmingham International Interchange/Railway Station and the National Exhibition Centre.

Airside : The restricted area of an airport to which the public do not have general access.

Air Transport Movement : A landing or take-off of a civil aircraft operating a scheduled or non-scheduled commercial service.

ANCON : Aircraft Noise Contour Model.

Annual Limit (or Night Movement Limit for Air Transport Movements) : The annual limit of Air Transport Movements in the period 2300 to 0600 (excluding Exempt Movements) which is currently 5% of total Air Transport Movements.

Approach Surface : An inclined plane or combination of planes preceding the threshold (the beginning of that portion of the runway used for landing).

Apron : A defined area of land on an aerodrome for the stationing of aircraft, for the embarkation and disembarkation of passengers, the loading and unloading of cargo, and for parking.



Busy Hour Rate : Passenger Terminal design parameter, which is the hourly rate above which only 5% of the passenger traffic is handled.

CAA : Civil Aviation Authority.

Chapter Aircraft : Aircraft are classified by ICAO's (International Civil Aviation Organisation) "International Standards and Recommended Practices Environmental Protection Annex 16" according to the level of noise that they make and the areas on the ground affected by the aircraft noise. The three classifications are:

- > Chapter 1 aircraft are the old turbojet aircraft which have now largely been phased out.
- > Chapter 2 aircraft are the older aircraft fitted with low bypass turbofan engines. This classification includes such aircraft as the BAC 1-11, Boeing 727, Boeing 737-200, Boeing 747-200, Airbus A300, Fokker F28, Lockheed L1011, Douglas DC9 and DC10.
- > Chapter 3 aircraft are the modern quieter aircraft fitted with high bypass turbofan engines, such as the BAe 146, Fokker 100, Boeing 737-300/400/500, Boeing 767-300.

Charter Services : Includes all Air Transport Movements other than scheduled services.

Clearway : An area at the end of the take-off run available, and under the control of aerodrome licensee, selected or prepared as a suitable area over which an aircraft may make a portion of its initial climb to a specified height.

Conical Surface : A surface sloping upwards and outwards (i.e. 1:5 measured above the horizontal in a vertical surface) from the periphery of the Inner Horizontal Surface and represents the level above which consideration needs to be given to the control of new obstructions and the removal or marking of existing obstructions so as to ensure safe visual manoeuvring in the vicinity of an aerodrome.

Continuous Descent Approach (CDA) : a procedure intended to minimise noise nuisance during an aircraft's intermediate approach phase.

dB : Unit of relative sound level or changes in sound level.

dBA : Unit of sound pressure level measured on the A weighted scale, i.e. as measured on an instrument that applies a weighting to the electrical signal as a way of simulating the way a typical human ear responds to a range of acoustic frequencies.

Development : Development is defined in Section 55 of the Town and Country Planning Act 1990 as:

"The carrying out of building, engineering, mining or other operations in, on, over or under land, or the making of any material change in the use of any buildings or other land."

Domestic Services : Services flown entirely within the United Kingdom, Isle of Man and Channel Islands.

Emergency Distance Available : The length of the take-off run available for a runway, plus the length of any associated stopway.

EPNdB : Effective Perceived Noise Decibels.

EPNL : Effective Perceived Noise Level measured in EPNdB. Its measurement involves analyses of the frequency spectra of noise events and the duration of the sound as well as the maximum level.



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ERCD : Environmental Research and Consultancy Department of the Civil Aviation Authority.

Exempt Movements : Air Transport Movements in the following circumstances:

1. Aircraft diversions that have been brought about by changes in weather conditions at the original destination airport or an in-flight emergency.
2. Aircraft or medical evacuation or mercy flights where there is danger to life or health, human or animal.
3. Any take-off or landing in an emergency consistent with preventing danger to life or health.
4. Delays to aircraft resulting from widespread and prolonged disruption to air traffic.
5. Delays to aircraft that are likely to lead to serious congestion at the Airport or serious hardship or suffering to passengers or animals.

Provided that aircraft diverting because of night flying restrictions at other airports are not Exempt Movements.

General Aviation : All non commercial movements, including private aircraft operations and aeroclub instructional flights, and Business Aviation which is made up of air taxi and corporate aircraft operations.

General Development Order : A Statutory Instrument made under the provisions of the Town and Country Planning Act. It establishes the procedure for seeking approval to carry out development and specifies the types of development that do not require planning permission.

Hub and Spoke : A hub and spoke airport operation provides for a number of origins to be routed via a central hub, where passengers can change aircraft to any one of a number of destinations served at the hub. The passenger has, with one change, a network of destinations to choose from, rather than simply one destination. The passenger terminal is the hub and the origins and destinations are the spokes.

IATA : International Air Transport Association.

ICAO : International Civil Aviation Organisation.

Inner Horizontal Surface : A horizontal plane located above an aerodrome and its vicinity. It represents the level (i.e. 45 metres above the lowest runway) above which consideration needs to be given to the control of new obstacles and the removal or marking of existing obstacles to ensure safe visual manoeuvring of aircraft in the vicinity of the aerodrome.

Instrument Approach Runway : A runway intended for the operation of aircraft using non-visual aids providing at least directional guidance in azimuth adequate for a straight-in approach.

International Services : Services flown between the United Kingdom, Isle of Man and Channel Islands and places outside.

Landing Distance Available : The length of runway available and suitable for the ground landing run of an aeroplane.

Landside : That area of an airport to which the public have general access.

Lday : The twelve hour Leq average noise level from a specified source or sources as defined in Directive 2002/49/EC, in the UK defined to cover 0700 -1900 local time.

Lden : 'A' weighted average of sound levels during the day, evening and night as defined in Directive 2002/49/EC.



Leq : A measure of long term average noise exposure. For aircraft it is the level of a steady sound which, if heard continuously over the same period of time, would contain the same total sound energy as all the aircraft noise events.

Levening : The four hour Leq average noise level from a specified source or sources as defined in Directive 2002/49/EC, in the UK defined to cover 1900 - 2300 local time.

Lmax : The maximum sound level (normally in dBA) measured during an aircraft flyby.

Lnight : The eight hour Leq average noise level from a specified source or sources as defined in Directive 2002/49/EC, in the UK defined to cover 2300-0700 local time and sometimes defined over other periods at night.

Load Factor : Aircraft seat occupancy expressed as a percentage of the total number of seats available.

Main Runway : The runway most used for take-off and landing.

Morning Shoulder Period : The period from 0600 to 0700 (0800 on Sundays).

Night Flying Policy : The policy regulating the use of the Airport by aircraft during the Night Period and the Shoulder Periods.

Night Period : The period from 2330 to 0600.

Night Shoulder Period : The period from 2300 to 2330.

Noise Classification : The noise level range in EPNdB for take-off or landing (as the case may be) for aircraft.

Noise Footprint : The area within which the noise level, normally defined using the SEL metric (q.v.), from a noise event is equal to or greater than the specified level. The footprint may relate separately to an arrival or a departure, or may be defined as an 'envelope' encompassing both.

Noise Preferential Route (NPR) : Essentially the first part of a Standard Instrument Departure route (SID), compliance with which is assessed by reference to a 3km wide corridor.

Non-Instrument Runway (Visual Runway) : A runway intended for the operation of aircraft using visual approach procedures.

Obstacle Free Zone : A volume of airspace extending upwards and outwards from an inner portion of the Runway Strip which is kept clear of all obstructions, except for minor operational items, to protect aircraft.

Obstacle Limitation Surfaces : Aerodromes should be sited in areas where airspace is free from obstructions that could be hazardous to aircraft turning in the vicinity of an aerodrome, or on take-off or approach paths. It is also necessary to maintain the surrounding airspace free from obstacles that could cause an aerodrome to become unusable or compromise air safety. The Approach Surface, Conical Surface, Inner Horizontal Surface, Outer Horizontal Surface, Take-Off Climb Surface and Transitional Surface make up the Obstacle Limitation Surfaces.

Outer Horizontal Surface : A specified portion of a horizontal plane around an aerodrome beyond the limits of the Conical Surface (to a minimum of 15,000 metres from the aerodrome). It represents the level above which consideration needs to be given to the control of new obstacles in order to facilitate practicable and efficient instrument approach procedures and, together with the Conical Surface and the Inner Horizontal Surface, to ensure safe visual manoeuvring in the vicinity of an aerodrome.



Section Four

Public Safety Zone (PSZ) : An additional requirement established by the Department of Transport at specified major airports in order to prevent any build-up of population in areas where there is a greater risk of an aircraft accident. The Department of Transport generally advises against the grant of planning permission for developments which are likely to increase significantly the number of persons residing, working or congregating in Public Safety Zones, which are located at the ends of major runways.

Public Transport Modal Share : The share of surface transport traffic gaining access to the Airport by all means of public transport (excluding taxis).

Quota Count (QC) : Also referred to as the Noise Quota for an aircraft. The weighting attributed to the arrival or departure of a specified aircraft type by reference to its certificated noise performance.

Runway Capacity : Usually expressed in aircraft movements per hour and defined as the number of aircraft movements which can use a runway in one hour and be expected to generate an 'acceptable' average delay (usually 5 minutes) over the busy period.

Runway End Safety Area (RESA) : An area provided at each runway end to minimise risk of aircraft overrun or undershoot.

Scheduled Services : Services performed according to a published timetable, including those supplementary thereto, available for use by members of the public.

SEL : Sound Exposure Level. The level generated by a single aircraft at the measurement point. Accounts for the duration of the sound as well as its intensity.

SINC : Site of Importance for Nature Conservation.

SSSI : Site of Special Scientific Interest.

Slot : The time interval formed by the earliest and latest airborne times after flow regulation and/or traffic restrictions have been applied.

Stopway : A defined rectangular area at the end of the take-off run available, prepared and designated as a suitable area in which an aircraft can be stopped in the case of a discontinued take-off.

Statutory Instrument (SI) : A form of legislation which allows the provisions of an Act of Parliament to be subsequently brought into force or altered without Parliament having to pass a new act. They are also referred to as secondary, delegated or subordinate legislation.

Strip : An area of specified dimensions enclosing a runway and taxiway to provide for the safety of aircraft operations.

Take-Off Climb Surface : An inclined plane, or other specified surface, located beyond the end of the take-off run available at the end of the clearway (an extra area at the end of the take-off run over which an aircraft may make a portion of its initial climb), when a clearway is provided.

Take-Off Distance Available (TODA) : The length of the take-off run available for a runway, plus the length of any associated clearway.

Take-Off Run Available (TORA) : The length of runway available and suitable for the ground run of an aeroplane taking off.



Taxiway : A defined path on an aerodrome established for the taxiing of aircraft and intended to provide a link between one part of the aerodrome and another, including:

- (a) Aircraft Stand Taxilane : A portion of an apron designated as a taxiway and intended to provide access to aircraft stands only.
- (b) Apron Taxiway : A portion of a taxiway system located on an apron and intended to provide a through taxi route across the apron.
- (c) Rapid Exit Taxiway (and Fast Turn-Off Taxiway) : A taxiway connected to a runway at an acute angle and designed to allow landing aircraft to turn off at higher speeds than are achieved on other exit taxiways, thereby minimising runway occupancy.

Terminal Passengers : A passenger joining or leaving an aircraft at the reporting airport. Therefore, a passenger travelling between two reporting airports is counted twice.

Threshold : The beginning of that portion of the runway usable for landing.

Total Passengers : All revenue and non-revenue passengers on Air Transport Movement flights.

Transfer Passenger : A passenger who both arrives and leaves the airport by air, often transferring from a domestic flight to an international flight (or vice versa).

Transitional Surface : A surface sloping upwards (i.e. 1:7 for a precision approach runway and 1:5 for a non-precision or visual runway) away from the runway strip (the clear area beyond the runway itself, but enclosing the runway, provided for the safe operation of aircraft), i.e. from the sides of the runway and essential to landing an aircraft.

Transit Passenger : A passenger who arrives at or departs from a reporting airport on the same aircraft which is transiting the airport. Each transit passenger is counted once.

UK AIP : UK Integrated Aeronautical Information Package.

Wake Vortices : Wake vortices are circulating currents of air created by the passage of aircraft through the sky. All aircraft shed vortices, but in most cases they are broken up before they reach the ground. In certain weather conditions, the vortices can reach ground level. During the later stages of landing, they can, occasionally, cause the movement and slippage of roof tiles.

WHO : World Health Organisation.





Information



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