

Towards



2030

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The Future of Air Transport

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 is concluded that the Airport should continue to develop as the Midlands' principal international gateway. The 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.

The White Paper concludes that an extension to the existing runway and a new, second runway would be required to satisfy forecast demand through to 2030. However, this new infrastructure will need to be provided in a manner which recognises the need to manage and mitigate the environmental impact of aviation and airport development.

This new Draft Master Plan "Towards 2030: Planning a Sustainable Future for Air Transport in the Midlands" shows how the Airport Company believes that this scale of new 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.

The Airport Company demonstrated its commitment to reducing the environmental impacts of Birmingham International Airport's development during the regional airports consultation process ('RASCO') in 2002, with the proposals for a shorter, second runway, which were adopted in the White Paper. This theme is continued in this new Draft Master Plan, where we have set out our proposals to further mitigate environmental impacts.

This Draft Master Plan is being published in order to provide all the stakeholders and interested parties with an opportunity to consider and comment on our proposals for Birmingham International Airport's future. We want to receive views from as wide a range of people and organisations as possible. The consultation will remain open until March 2006 and a programme of exhibitions and meetings has been arranged to explain our proposals.

Once we have examined the comments that we receive, we aim to publish a new adopted Master Plan later in 2006. That Master Plan will not have any statutory status, but will inform the preparation of subsequent regional and local planning and development policies.

Twenty five years ago, 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 has now been implemented, to enable the Airport to handle a current throughput of nearly 10 million passengers per annum.

Twenty five years on, we now need to plan for the next quarter-century of development at the Airport, which I am sure will be delivered in an equally successful, and sustainable way. I look forward to hearing your views and working with you all on our future plans.



Richard Heard
Managing Director



Section One Introduction

This Section sets out the context and reasons for the Airport Master Plan, and provides a review of the 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, 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.



Section One

Figure 1.1 – Location of Birmingham International Airport



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 an increasingly important focus for the development of regional economies.
- 1.2 The Midlands is one of the major regions of the UK with a catchment of some 9 million population within one hour's travel time of Birmingham International Airport. In the West Midlands alone there are over 188,000 businesses and subsidiaries. Currently, less than 50% of the region's demand for air travel is served within the region, with 37% (in 2000) relying on airports in the south east. This is an unsustainable situation that creates high volumes of unnecessary surface access trips and contributes to the 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 facilities were opened. Since 1984, the Airport has benefited from high quality passenger terminal facilities and excellent surface access by road and public transport to deliver strong growth with a compound annual growth rate of nearly 10% over the last twenty years. The Airport is now the fifth largest in the UK, and the second largest regional airport in terms of passenger throughput.

Table 1 : Passenger Activity of Busiest UK Airports in 2004, 1994 and 1984 (Million Passengers per annum)¹

	Terminal Passengers 2004	Terminal Passengers 1994	Terminal Passengers 1984
Heathrow	67.109	51.368	29.164
Gatwick	31.391	21.045	13.953
Manchester	20.969	14.334	5.951
Stansted	20.907	3.256	0.528
Birmingham	8.797	4.784	1.673
Glasgow	8.557	5.456	2.747
Edinburgh	7.992	2.997	1.489
Luton	7.520	1.804	1.795
Newcastle	4.708	2.417	1.071
Bristol	4.603	1.276	0.423

Source: Civil Aviation Authority

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 2030.² 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 control and mitigation measures.

Footnote 1: <http://www.caa.co.uk/default.aspx?categoryid=80&pagetype=88&pageid=3&sglid=3>

Footnote 2: http://www.dft.gov.uk/stellent/groups/dft_aviation/documents/divisionhomepage/029650.hcsp

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- 1.5** The White Paper also endorses the important role of regional airports in supporting sustainable regional economic development and regeneration; in increasing regional choice for air travel; and relieving congestion in the south east by the ‘clawing back’ of traffic which currently travels to that region 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 a new second runway, but also emphasises the need for continuing environmental controls and mitigation measures.
- 1.6** The White Paper does not itself authorise any specific proposals, but 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 ones) in line with its latest conclusions.
- 1.7** The Airport Company welcomed the White Paper and its support for long term, sustainable development at Birmingham International Airport and, in 2004, formally committed to update the Airport’s Master Plan. In addition to demonstrating that commitment, this Draft Master Plan will contribute to the Government’s White Paper progress review anticipated for 2006.

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 Life³”, 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 sustainability principles underpin the future development plans for Birmingham International Airport.

- 1.9** The Airport Company has developed this Draft 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.
- 1.10** The Airport Company first published a Master Plan in 1995 (“Vision 2005”)⁴, which had a plan period to 2005. This new Draft Master Plan “Towards 2030: Planning a Sustainable Future for Air Transport in the Midlands” will replace Vision 2005, and set out a long-term strategy to 2030.

Consultation

- 1.11** This is a Draft Master Plan, which will now be 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 will be considered by the Airport Company, before a new Master Plan is adopted.

Footnote 3: A Better Quality of Life http://www.dti.gov.uk/construction/sustain/bql/pdf/sus_cons.pdf

Footnote 4: Vision 2005 <http://home.bia.bhx.co.uk/home/www/bhxco.uk.htm>

2. Aims & Objectives

The specific aims and objectives of this Draft 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 further 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 would be required for the proposed 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 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 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; these 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 users 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 region, there are other 'secondary' airports and airfields, including Coventry Airport, Wolverhampton Business Airport (formerly known as Halfpenny Green Airfield) and Wellesbourne Mountford Aerodrome. Coventry Airport provides facilities for 'no frills' operations and has submitted planning applications for the development of new passenger terminal facilities (at least one of which is the subject of a forthcoming Public Inquiry, where there are concerns about potential airspace conflicts with Birmingham International Airport). Wolverhampton Business Airport has also submitted planning applications to develop improved passenger facilities, but as yet the planning application has not been determined.
- 3.6** Elsewhere in the Midlands is Nottingham East Midlands Airport, which provides passenger services and is also the third largest freight airport in the United Kingdom.

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'). After a Public Inquiry in 1979, approval was given for a new Passenger Terminal (now T1) 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 Birmingham International Airport Limited was formed, with 48% of the existing shareholding being sold by the seven District Councils, to the private sector. Since 1997, there have been changes in the private sector shareholding, with Aer Rianta International and Macquarie Airports now owning 48% of the shares, 3% of the shares held by the Employee Trust Fund and the remaining 49% of the shares still held by the seven District Councils.

Airport Role

- 3.12** Birmingham International Airport serves a key role as a major contributor and stimulus to the economic activity and regeneration of the West Midlands and wider Midlands region. The Airport provides access to air travel for a wide catchment of some 9 million population within 1 hour travel time (and 35 million 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 its main role, supporting and stimulating the regional economy, the Airport itself is a major centre of economic activity and employment. Currently there are nearly 7,000 jobs supported on-site (with further jobs off-site) and the Airport is estimated to contribute some £220M 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.

4. Policy Context

National Airports Policy

- 4.1** In December 2003, the Government published a White Paper on airports and air transport entitled “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 (DfT) (including consultation on ‘The Future Development of Air Transport in the United Kingdom: Midlands, published by the DfT in July 2002⁵), sets out a long-term, strategic framework for the development of the air transport industry in the United Kingdom; 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 control and mitigation measures proposed.
- 4.2** A balanced and measured approach to the future of air transport is recommended which:
- (i) “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;
 - (ii) 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;
 - (iii) seeks to reduce and minimise the impacts of airports on those who live nearby, and on the natural environment;
 - (iv) 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;
 - (v) minimises the need for airport development in new locations by making best use of existing airports where possible;
 - (vi) respects the rights and interests of those affected by airport development;
 - (vii) 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 that region 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 a new second runway. A range of options for a new runway in the Midlands were considered by the DfT in its earlier consultation process. However, the White Paper clearly supports the short, wide-spaced second runway, previously proposed by the Airport Company, 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 forecasts suggest that a new second runway may be needed around 2016, the White Paper leaves it for the airport operator to judge when the project would be commercially viable.

Footnote: 5 The Future Development of Air Transport in the United Kingdom: Midlands
http://www.dft.gov.uk/stellent/groups/dft_aviation/documents/page/dft_aviation_503593.pdf

- 4.5** The preferred option for a new second runway at Birmingham International Airport, as originally proposed by the Airport Company, is identified as having significantly less environmental impact compared to the other options considered by the DfT in its earlier consultation process. Even so, stringent environmental controls are recommended, including a restriction of the use of the proposed second runway to aircraft with a Noise Quota of 0.5 or less, together with 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 of 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, to take account of the conclusions set out in the White Paper.
- 4.8** The Airport Company welcomes 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’ need 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 January 2004, the Airport Company formally committed to produce a new Airport Master Plan for Birmingham International Airport, based around an extension to the main runway and the preferred option for a new second runway, as set out in the White Paper.

Sustainability

- 4.10** A positive and pro-active approach to sustainability is an important part of both the Government’s national policy agenda and also the Airport Company’s development strategies. Full details of the Airport Company’s approach to sustainability are set out in Chapter 6 – Sustainability.

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 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 June 2004, the Government Office for the West Midlands published the “West Midlands Regional Spatial Strategy”⁶ (formerly Regional Planning Guidance for the West Midlands) with a plan period to 2021.

Footnote 6: http://www.wmra.gov.uk/regional_planning.htm

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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; and

“**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 the 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 PA12 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 PA12 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 to be the subject of a partial review, to include Policy T11 Airports following the publication of the White Paper.

4.19 Further details of regional economic development strategies and action plans are set out in Chapter 6.

Local Planning Policy

4.20 Being located entirely within the Metropolitan Borough of Solihull, Birmingham International Airport is subject to the local planning policies of Solihull Metropolitan Borough Council (Solihull MBC).⁷ 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.

4.21 The current 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 recent Planning and Compulsory Purchase Act 2004, the Unitary Development Plan process is to be replaced by a Local Development Framework process, with new Local Development Frameworks to be produced by local authorities to replace Unitary Development Plans.

Footnote 7: <http://www.solihull.gov.uk/planning/FP/default.htm>

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Solihull

4.22 The Solihull Unitary Development⁸ Plan (with a plan period to 2001), adopted by Solihull MBC in 1997, states for Birmingham International Airport:

“Policy E3 The Strategic Development of Birmingham International Airport and the NEC

Reasoned proposals for the development of the Airport, for passenger and freight services, and for the development of the NEC will be supported by the Council as important contributions to the economic regeneration of the West Midlands. The Council will allocate and safeguard land adjacent to the Airport and the NEC for their longer term expansion and to allow for the development of related uses.

Within the respective curtilages of the Airport and NEC as defined by this Plan, only those developments which can be demonstrated as necessary for operational efficiency and the amenity of users will be supported by the Council. In the case of the Airport, this would include operational and terminal facilities and related infrastructure; in the case of the NEC, this would include exhibition halls and related infrastructure. Reasoned proposals for associated developments may be supported, providing these are appropriately located and do not prejudice the prime purpose of the sites.

The Council will expect all new developments to enhance the appearance of the Airport, the NEC and their surroundings, and to minimise their environmental impact.”

4.23 However, the Solihull Unitary Development Plan has been the subject of a review by Solihull MBC. The Solihull Unitary Development Plan – First Review, for which a Public Inquiry was held in 2004, will have a plan period to 2011 and will provide the basis of land use planning policy for Solihull until 2011, subject to its replacement, eventually, by a Solihull Local Development Framework. The Solihull Unitary Development Plan – First Review 2001 – 2011 Revised Deposit Draft proposes, 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.

Footnote 8: <http://www.solihull.gov.uk/planning/UDP/default3.htm>

Any proposal to extend the main runway needs 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.

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 the 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.”

4.24 The Solihull Unitary Development Plan – First Review is likely to be adopted by 2006 and will then, subsequently, be replaced with a Solihull Local Development Framework, which is likely to have a Plan Period to 2021. The Airport Company will seek to have the new Master Plan adopted as an “Action Area” inset in the new Solihull Local Development Framework.

Section One

Birmingham

4.25 The Adopted Birmingham Unitary Development Plan⁹ (with a plan period to 2001), adopted by Birmingham City Council (Birmingham CC) in 1993, states, for Birmingham International Airport:

“6.52 The City Council will:

- (a) Encourage the sustained and balanced growth of Birmingham International Airport leading to an increased range of direct long and short-haul services.
- (b) Seek appropriate and complementary improvements in transport links to the City and to the motorway/trunk road network.
- (c) Ensure that the expansion is achieved with protection of the local environment.”

4.26 Birmingham CC is also reviewing the Birmingham Unitary Development Plan. The Birmingham Unitary Development Plan Alterations and Environmental Appraisal Deposit Draft 2001, for which a Public Inquiry was held in 2003, will have a plan period to 2011 and 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. The Birmingham Unitary Development Plan Alterations and Environmental Appraisal Deposit Draft 2001 Review proposes, 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.”

4.27 The Birmingham Unitary Development Plan – First Review is likely to be adopted by 2006 and will then, subsequently, be replaced with a Birmingham Local Development Framework, which is likely to have a plan period to 2021. The Airport Company will seek to have the new Master Plan reflected in the new Birmingham Local Development Framework.

Footnote 9: http://www.birmingham.gov.uk/GenerateContent?CONTENT_ITEM_ID=3131&CONTENT_ITEM_TYPE=0&MENU_ID=1454

Development Control

4.28 Development at Birmingham International Airport is subject to the normal processes of ‘Development Control’, as set out in the relevant Town and Country Planning legislation, circulars, directions and guidance. However, under the terms of “The Town and Country Planning (General Permitted Development) Order 1995”¹⁰, the Airport Company has ‘permitted development’ rights for certain types of development, subject to the prior submission of details (rather than a Planning Application) of the proposed development to Solihull MBC, i.e. the Local Planning Authority.

4.29 In cases where development would not be ‘permitted development’, the Airport Company applies for Planning Permission, by way of a Planning Application.

Aerodrome Safeguarding

4.30 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.

4.31 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 2002”¹¹ (issued jointly by the Office for the Deputy Prime Minister and the DfT).

4.32 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 10: http://www.odpm.gov.uk/stellent/groups/odpm_planning/documents/sectionhomepage/odpm_planning_page.hcsp

Footnote 11: http://www.dft.gov.uk/stellent/groups/dft_aviation/documents/page/dft_aviation_040247-02.hcsp

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Public Safety Zones

- 4.33** 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 which 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, PSZs and Aerodrome Safeguarding are important in the overall Development Control process with respect to airports.
- 4.34** The current PSZs for Birmingham International Airport were defined by the “Control of Development in Airport Public Safety Zones”¹² (a circular issued by the DfT in 2002). The basic policy objective is that there should be no increase in the number of people living, working or congregating in the PSZs, 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.

Footnote 12: http://www.dft.gov.uk/stellent/groups/dft_aviation/documents/page/dft_aviation_503576.pdf

5. Forecasts

Introduction

- 5.1** The DfT produced high level traffic forecasts for Birmingham International Airport as part of the White Paper. These Government forecasts provide the best available framework to take account of national and international policies on economic growth, taxation, environmental constraints and competitor airports – all of which affect such forecasts. These forecasts have been reviewed by the Airport Company, and subsequently used as the basis for this Draft Master Plan.

Historical Growth

- 5.2** Birmingham International Airport has experienced strong growth in passenger activity over the last ten years, averaging at 8.3% growth p.a. This growth rate has significantly exceeded that of other UK airports, with Birmingham’s share of the UK market increasing from 2.5% in 1984, through 3.9% in 1994, to 4.1% in 2004.¹³
- 5.3** The opening of the new passenger terminal (‘Main Terminal’, now ‘T1’) in 1984, and subsequently the ‘Eurohub’ passenger terminal (now ‘T2’) in 1991, acted as 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, Middle East and USA.
- 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 the 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 2004, Birmingham International Airport handled 8.87 million passengers and 109,914 Air Transport Movements (ATMs). The Airport is currently the fifth largest in the UK (the second largest outside London) and has the largest potential catchment of all of the UK regional airports.¹⁴
- 5.7** ‘Full-service’ scheduled traffic currently accounts for just over half of the passenger activity, with charter traffic accounting for a further third of the total. The remainder of the passenger activity is ‘no frills’ traffic.

Footnote 13: <http://www.caa.co.uk/default.aspx?categoryid=80&pagetype=88&pageid=3&sglid=3>

Footnote 14: <http://www.caa.co.uk/default.aspx?categoryid=80&pagetype=88&pageid=3&sglid=3>

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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 which currently travels 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 44%. By satisfying an increasing proportion of this demand in the region where it arises, this is forecast to grow to 54% 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 and the mid west 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 and the Pacific Rim could be served, together with the mid-west, central and the west coast of the USA. An extension to the Main Runway would also allow the 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 the Airport; and the growth in activity forecast in this Draft 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. Potential routes are anticipated to include the traditional short-haul European 'sun routes' and European cities, for both business and leisure purposes. Central and Eastern Europe will also present new opportunities.
- 5.12** In previous years, the charter sector has seen substantial growth at the Airport. Recently, this market sector has been challenged by 'no-frills' operators, however, and, therefore, the Airport Company anticipates that future growth will be in the long-haul charter market; a range of new long-haul leisure destinations would be possible 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 Domestic routes in the future.
- 5.14** In summary, the forecasts in this draft Master Plan are based around a wider network of :
- > Short-haul International Scheduled Destinations/Routes.
 - > Long-haul Scheduled Destinations/Routes (including those that require an extension to the Main Runway).
 - > 'No frills' Destinations/Routes.
 - > Domestic Destinations/Routes.
 - > Short-haul Charter Destinations/Routes.
 - > Long-haul Destinations/Routes.

Methodology

- 5.15** The forecasting review methodology used in this Draft Master Plan is very similar to that used by the DfT in developing the forecasts in the White Paper. In principle, the approach took the underlying air traffic demand generated within Birmingham International Airport's catchment area in 2000, and then applied DfT future growth rates for the period to 2030. For each route operated from the Airport, the market share was estimated, based on factors including:
- > Surface access travel time;
 - > Frequency of service;
 - > Fare Differential, compared with other airport options; and
 - > Other choice factors, such as airport reputation and competitor availability, modelled from past passenger behaviour.
- 5.16** The forecasts take account of the proposed development of new infrastructure at other major airports in the UK, as concluded in the White Paper. For Birmingham International Airport, it is assumed that a runway extension, second runway and the necessary airspace capacity are provided, as demand arises. In this respect, the forecasts are 'unconstrained'.

Passenger Forecasts

- 5.17** Three traffic scenarios were developed:
- > Baseline Scenario
 - > Low Growth Scenario
 - > High Growth Scenario

The main differential between the three scenarios is the assumed volume of 'no-frills' traffic at Birmingham International Airport. For 2030, this varies from 23% in the Low Growth Scenario, to 41% in the High Growth Scenario.

- 5.18** The overall forecast for each scenario is summarised in the table below. The Baseline Scenario is currently considered to be the 'most likely' forecast. The level of 'no-frills' activity is assumed at 30% in 2030.

Traffic Forecast by Scenario (Million Passengers per annum)

	2003	2010	2020	2030
Low	N/A	Note 1	20	30
High	N/A	Note 1	23	34
Baseline	9	13	22	33

Note 1 The short term forecast to 2010 is a baseline or 'most likely' forecast, without low growth or high growth scenarios, reflecting a higher degree of predictability in the short term.

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Air Transport Movements (ATMs) Forecasts

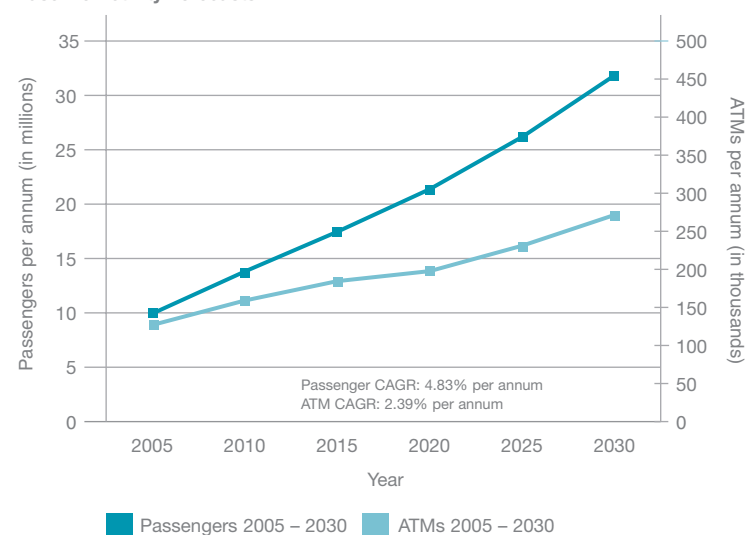
5.19 To accompany the passenger forecasts, associated Air Transport Movements (ATMs) have also been forecast for the Plan Period to 2030. A gradual increase in average aircraft size is anticipated over the Plan Period. At present, the average number of passengers per ATM is 80 (this has increased in the last two years from 70). By 2030, the average number of passengers per ATM is forecast to increase to 117 (for the Baseline Scenario).

Baseline Forecast – Passenger Related Air Transport Movements (Thousand Movements per annum)

	2003	2010	2020	2030
Low	N/A	N/A	198	268
High	N/A	N/A	207	277
Baseline Scenario	117	152	207	278

Note 1 The short term forecast to 2010 is a baseline or ‘most likely’ forecast, without low growth or high growth scenarios, reflecting a higher degree of predictability in the short term.

Baseline Activity Forecasts



Note: CAGR = Compound Average Growth Rate

Comparison with the White Paper

5.20 At an aggregate level, the passenger forecasts are consistent with the White Paper forecasts. The forecasts for the Baseline Scenario are 32.6 million passengers p.a. in 2030, compared to 31.7 million passengers p.a. as forecast by the DfT. In the context of long-term forecasts, this is not considered to be a significant difference.

5.21 However, there is a variance in the ATM forecasts compared with the White Paper forecasts. The forecasts for the Baseline Scenario are 278,000 ATMs p.a. in 2030, compared to 350,000 ATMs p.a. as forecast by the DfT. The difference is accounted for by an increased proportion of ‘no-frills’ traffic in the forecasts for this Draft Master Plan. The ‘no-frills’ traffic tends to utilise larger aircraft with high load factors, which enables more efficient use to be made of ATMs. Looking to the future, growth in ‘no frills’ traffic at Birmingham International Airport will be an important element of the strategy to make the best use of the Airport’s existing infrastructure.

5.22 The variation between the ATM forecasts would suggest that, in terms of operational demand, the target date for the proposed new Second Runway could be deferred beyond 2016, the date identified in the White Paper.

Freight Activity

5.23 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 9,477 tonnes in 2004). 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.

5.24 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 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 the Airport, and the introduction of larger aircraft which have a much greater ‘belly-hold’ freight capacity.

5.25 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 Review

- 5.26** The forecasts for Birmingham International Airport in the White Paper have been reviewed and updated. Continuing strong growth in passenger activity is predicted, broadly consistent with the DfT's forecasts in the White Paper. However, the forecasts for ATMs are not as high as those forecast by the DfT.
- 5.27** As this Draft Master Plan is developed, the forecasts will need to be kept under review and may need to be updated to reflect changing circumstances or constraints imposed by the Master Plan proposals, changes in market trends or environmental controls.
- 5.28** Looking further ahead, as with all long term forecasts, it is inevitable that those finally adopted in the Master Plan 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 and reviews of the Master Plan.
- 5.29** 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;
 - > additional Runway Capacity, including a Second Runway.

These proposals are addressed in Section 2 – Policies.

6. Sustainability

6.1 Policy

- 6.1.1** 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, social and family purposes, and also 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".
- 6.1.2** 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'.
- 6.1.3** 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.
- 6.1.4** More recently, in March 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.

Footnote 15: <http://www.sustainable-development.gov.uk/publications/uk-strategy99>

Footnote 16: <http://www.sustainable-development.gov.uk/publications/uk-strategy/uk-strategy-2005.htm>

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6.1.5 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.

6.1.6 The Airport Company's approach to sustainability is set out in the Airport Company's Sustainability Policy Framework and reported, annually, in the Airport Company's Environment and Community Report.¹⁷ 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."

6.2 Economic Impact

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

6.2.2 The recent consultation process on "Smart Growth – The Midlands Way"¹⁸ (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 Nottingham East Midlands Airport, as set out in the White Paper.

6.2.3 "Delivering Advantage – The West Midlands Economic Strategy and Action Plan"¹⁹ identifies a central role for Birmingham International Airport in terms of achieving the objectives of the Regional Economic Strategy for the West Midlands Region. It 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."

Footnote 17: <http://home.bia.bhx.co.uk/home/wwwbhxcouk.htm>

Footnote 18: <http://www.advantagewm.co.uk/smart-growth---the-midlands-way--1569-18-k-.pdf>

Footnote 19: <http://www.advantagewm.co.uk/downloads/west-midlands-economic-strategy.html>

6.2.4 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. "Developing Birmingham – An Economic Strategy for the City"²⁰ 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."

6.2.5 The Economic Development Strategy for Solihull "Building a Diversified Economy with Equal Opportunities for All – An Economic Development Strategy for Solihull"²¹ 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

6.2.6 Birmingham International Airport is one of the largest employment centres in the West Midlands Region. In 2004, employment, on-site and in activities directly related to the operation of the Airport, was 7,220 full-time equivalent jobs or 8,070 job opportunities (job opportunities takes into account full and part time employment).

6.2.7 Taking account of additional indirect and induced impacts, in 2004 it is estimated that the Airport supported around 9,690 full time equivalent jobs (10,990 job opportunities) and generated £220 million of income in the West Midlands Region.

6.2.8 With the proposals set out in this Draft 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:

Traffic Forecast by Scenario (Million Passengers per annum)

	Job Opportunities	Full Time Equivalent Jobs	Income £Million*
2004	10,990	9,690	220
2015	16,210	14,310	378
2021	22,770	20,080	655
2030	27,430	24,200	957

* Note (at 2004 prices)

Footnote 20: <http://www.birminghameconomy.org.uk/strategy.htm>

Footnote 21: <http://www.solihull.gov.uk/policies/economic/devstrategy/>

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6.2.9 In addition, it is estimated that the capital investment programme with the proposals identified in this Draft Master Plan (not including the capital cost of the schemes themselves) will support 6,420 full-time equivalent jobs and generate £145 million of income (at 2004 prices) in the West Midlands Region over the period to 2030.

6.2.10 With such employment opportunities, there will be a need for the Birmingham and Solihull Learning and Skills Council, together with the Airport Company and other agencies, to complement labour market and other initiatives, to ensure both that the growth of Birmingham International Airport is not constrained by a shortage of labour; 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

6.2.11 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 companies and businesses.

6.2.12 The West Midlands Region's tradition in manufacturing has seen dramatic change in the last 30 years, yet manufacturing continues to be an integral part of the regional economy. For companies engaged in manufacturing in the Region, access to air travel and the range of passenger services provided by Birmingham International Airport will be important in maintaining their competitive positions.

6.2.13 Access to air travel is also critical for companies engaged in the high technology sectors, which are now becoming well established in the Midlands. 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).

6.2.14 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.

6.2.15 The range of scheduled services will also aid the continuing success of the conference and exhibition sector, together with business tourism, based around the 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 (with a current journey time of less than ten minutes and up to six trains per hour).

6.2.16 A wider range of scheduled passenger services at Birmingham International Airport is one of the key elements required in the West Midlands Region if it is to continue to compete effectively for inward investment.

6.2.17 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 further development of the Airport and by enhancing the range of routes and destinations that it serves.

6.2.18 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 both runway capability and runway capacity. In terms of 'connectivity', Birmingham is also behind aspirational targets elsewhere in Europe, e.g. Barcelona, Düsseldorf and Geneva. All have substantially higher 'connectivity' indices than Birmingham. If Birmingham is to achieve its ambition of becoming a 'world city', there needs to be substantial growth in the 'connectivity' available.

6.2.19 The proposals in this Draft 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, whilst a Second Runway would provide for further capacity, in the longer term, to extend the range and frequency of routes to key short-haul destinations in Europe.

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6.2.20 In 2004, some three million overseas visitors came to the Midlands, spending some £900 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 three 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, Shugborough Hall, Warwick Castle, Kenilworth Castle and Coventry Cathedral.
- > international sporting, leisure and cultural facilities, such as the NEC, the NIA, Premiership Football Clubs (Aston Villa FC, Birmingham City FC and West Bromwich Albion FC), Edgbaston Cricket Ground (a Test Match venue), Birmingham Symphony Hall and International Convention Centre and 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.
- > 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 Wedgwood Visitor Centre, the Gladstone Pottery Museum and the Potteries Museum and Art Gallery.

6.2.21 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 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 further development of Birmingham International Airport, with an extended Main Runway and services to the West Coast of the USA and the Far East, would support the proposed growth in Milton Keynes and the South Midlands.

Putting the Region 'on the map'

6.2.22 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.

6.3 Journey Time Savings

6.3.1 The proposals in this Draft 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 to other airports outside the West Midlands. The annual economic benefits, in terms of the surface journey time savings, would also be substantial.

6.3.2 Estimates of the time and savings from reduced surface journeys are summarised below:

	2021	2030
Estimated Journey Time Savings hours	4 Million	13 Million
Estimated Cost Savings (2004 Prices)	£109 Million	£432 Million

6.3.3 Between 2004 and 2030, the discounted total value of journey time savings is estimated to be in excess of £1.3 billion (2004 prices). These are significant savings and further demonstrate the positive and sustainable benefits from the proposed long term development of Birmingham International Airport.

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6.4 Social Issues

- 6.4.1** 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.
- 6.4.2** 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 practice²². 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 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.
- 6.4.3** 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 2004, the Community Trust Fund had invested some £699,790 in 323 local community projects. The Airport Company will maintain its commitment to the Community Trust Fund.
- 6.4.4** 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 Shard End Community Building Project.
- 6.4.5** 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 Executive Group.
- 6.4.6** 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 regional schools and colleges. The Airport Company is involved in the ‘e-pals’ scheme, where Airport Company volunteers correspond with pupils, and the ‘reading volunteers’ scheme, where again 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 250 visits in 2004).

Footnote 22: <http://www.bitc.org.uk/awards/index.html>

6.4.7 The Airport Company will continue to maintain a programme of investment in local education programmes.

6.4.8 In terms of staff and employee issues, as set out in its 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 our 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.

6.4.9 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 (which shares similar issues in terms of recruitment), 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 the opening of ‘JobCentre Plus’, an on-site Job Centre handling Airport specific jobs and vacancies, and the establishment of ‘JobJunction’, which enables candidate referencing and criminal records checks and training for Airport jobs and vacancies to be co-ordinated. The Airport Company, and other Airport employers, hold an annual Jobs Fair, to highlight job opportunities at the Airport.

6.4.10 The Airport Company will also continue to pay high regard to the health and safety of staff, passengers and visitors alike, through investment in effective and appropriate health and safety practice.

Section One

6.5 Environmental Issues

6.5.1 The Airport Company will continue to seek and promote environmental improvement through the continuous development of an Environment Management System, including:

- > To mitigate 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.
- > To operate a Sound Insulation Scheme that benefits local residents.
- > To minimise the impact of construction projects.
- > To provide a Vortex Protection Scheme.
- > To measure, monitor and report on ambient air quality levels and share this data with local authorities and other interested parties.
- > To impose operational measures to improve local air quality.
- > To improve energy efficiency by introducing new technology, promoting energy awareness among staff, setting improvement targets and reporting on progress.
- > To provide an attractive landscape consistent with airport safety requirements and define the effects of airport activity on local ecology, conserving plants and wildlife and avoiding ecological disturbance during both normal airport operations and any development works.
- > To encourage understanding of, and support for, environmental issues, amongst airlines and other stakeholders.
- > To manage surface water quality on-site to ensure compliance with agreed consent limits and maintain improvements to surface and foul water drainage systems.
- > To impose operational controls to assure surface water quality.
- > To maintain a policy of water and solid waste minimisation by continuing with the maximum recycling of waste as an Airport wide target.
- > To carry out environmental appraisal of items procured.
- > To publicly report environmental performance.

6.5.2. An Environmental Assessment of the proposals set out in this Draft Master Plan is provided (in Section 2 – Policies) in Chapter 10 – Environmental Impacts & Mitigation, together with the Airport Company’s programme of mitigation measures to address the environmental impact.

Resources

6.5.3 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.



7. Development Proposals

7.1 Operational Area

Existing Operational Area

7.1.1 The '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 and the airside and landside operational and commercial facilities and airport-related activities which support air transport movements, passenger and freight activity, 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 Operational Area is set out in Section 3 – Proposals Maps, Airport Layout 2005.

7.1.2 The Operational Area is influenced by the aerodrome and navigational aid safeguarding constraints (the influence of these matters also extends beyond the boundary of the Operational Area in some locations). The 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 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 facilities which will bring benefits to the operation and development of the Airport, improve its amenity and play a part in the Airport's role as a major contributor and stimulus to the economic activity and regeneration of the West Midlands.

Future Operational Area

7.1.4 The extent of the 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 Operational Area, but, within the plan period for this Master Plan, it will be necessary to develop Birmingham International Airport beyond the existing Operational Area. Therefore, in the period up to 2030, the Airport Company would propose to extend the Operational Area:

- > to include land to the south of the A45 Coventry Road necessary to accommodate the proposed extension to the Main Runway and related infrastructure.
- > to include land south of the A45 Coventry Road necessary to accommodate airport-related infrastructure (including aircraft stands, aircraft maintenance facilities, cargo and freight facilities and fire training facilities) and remote surface car parking (for passengers and staff).
- > to include land to the south of the A45 Coventry Road necessary to accommodate a proposed new Second Runway and associated infrastructure.
- > to include areas of the NEC Western Car Park for the proposed expansion of the Passenger Terminal facilities and related infrastructure.

The proposed 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 NEC Western Car Park and land to the south of the A45 Coventry Road be safeguarded for future airport and airport-related use, and that they are not developed, in the meantime, in such a way as to prejudice airport development or airport-related development.

Operational Area Policies

Operational Area

OPA1 The Airport Company proposes to extend the Operational Area as set out in the Proposals Maps in Section 3.

OPA2 The Operational Area, the definition of 'airport' and 'airport-related' activities and the boundaries of the 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 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.

Section Two

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 at Birmingham International Airport 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

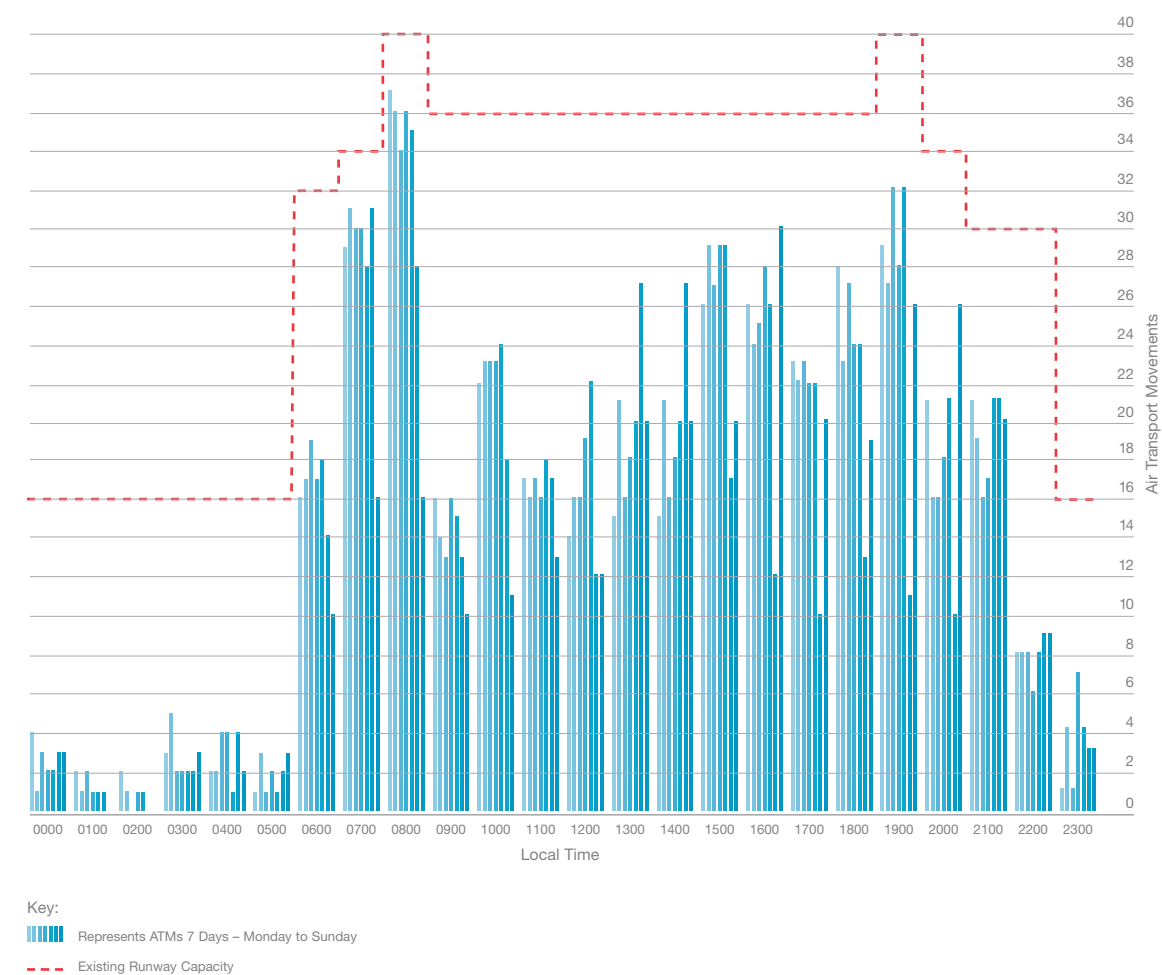
7.2.3 The existing airfield layout is dominated by the configuration of the two runways, i.e.:

- > Main Runway 15/33
 - True Bearing 146 degrees/326 degrees
 - Length 2,605 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 2004, 99.96% of total aircraft movements and 99.99% of the Air Transport Movements 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.

Figure 7.1 – Existing Runway Capacity Summer 2005



Section Two

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 Facilities 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 Facilities, 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.

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. This is the key to future growth and the real issue in terms of increasing the range of destinations, routes and frequencies available from Birmingham International Airport.

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 (the current profiled capacity for the Main Runway is shown in Figure 7.1), with an increase to 43 movements per hour in 2006 following the airfield works scheduled for completion in 2005 (which include a fast turn-off taxiway). 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-offs 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 and defer the operational demand for a proposed new Second Runway.

7.2.8 Beyond the maximum single runway capacity of 48 movements per hour, it is only possible to develop significant additional runway capacity by the provision of an additional new runway. 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 can 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 Strikes²³, with arriving aircraft approaching from the south, rather than from the north over densely populated residential areas in Birmingham. In 2004, the mode of operation for the Main Runway, in terms of Air Transport Movements, was:

- > Runway 33 North West Departures (Out Over Birmingham) 32%
- > Runway 33 South East Arrivals (In Over Solihull) 32%
- > Runway 15 North West Arrivals (In Over Birmingham) 18%
- > Runway 15 South East Departures (Out Over Solihull) 18%

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 Currently, the Secondary Runway (06/24) is used primarily by smaller General Aviation aircraft. It has been progressively downgraded as a runway in recent years, with only 51 aircraft movements in 2004, of which only 15 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, it is the Airport Company's intention to close the 'secondary' Runway as soon as practicable. This eastern end of the runway would then be used as a taxiway serving the Passenger Terminal area. Closure would also remove constraints on the future development of the Elmdon Terminal Site.

Extension 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 destinations, markets and routes which can be served directly from the Airport. The growing demand for a wider range of destinations and directly served routes to support the regional and local economy means that, without extension, the current length of the Main Runway would be an increasing constraint.

Footnote 23: Wake Vortices are air currents generated by aircraft wingtips. On occasion these can reach the ground and cause minor damage; usually to roof slates or tiles. <http://home.bia.bhx.co.uk/home/www/bhxcouk.htm>

Section Two

- 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 associated taxiways and airfield systems, would be extended for operational use as soon as practicable. Given the extensive consultation, planning, design and construction processes required for a project of this scale, it is estimated that a runway extension could be operational by 2012.
- 7.2.14** 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, under the proposed extension to the Main Runway, but 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.
- 7.2.15** An extension to the Main Runway would also enable the current Runway End Safety Areas (RESAs) to be extended to provide the CAA's 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 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 and future developments in Instrument Landing Systems, it may be necessary to carry out some treatment of the high obstacles, including trees, to the south of the proposed extension of 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 DfT 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. In the meantime, the Airport Company will safeguard a site, at the Elmdon Terminal Site, as shown in the Proposals Maps in Section 3.

Second Runway

- 7.2.19** The layout proposed in the White Paper for a Second Runway at Birmingham was based upon the Airport Company's response ('The Birmingham Alternative') 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, with capacity up to 20 million passengers p.a..
 - > A close spaced Second Runway, with a minimum length of 2,600 metres, which, together with an extended Main Runway, would provide capacity for between 30 – 35 million passengers p.a..
 - > A wide spaced Second Runway, with a minimum length of 2,600 metres, which, together with an extended Main Runway, would provide for in excess of 45 million passengers p.a.
- 7.2.21** As part of the consultation process, the Government also consulted on options for an additional runway at Nottingham 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. When the White Paper was published, the layout identified for an extension to the Main Runway and a new Second Runway which was essentially that outlined in the 'Birmingham Alternative'.
- 7.2.23** Following 'The Birmingham Alternative'²⁴, more recent work by the Airport Company, including simulation modelling of the proposed airfield, has concluded that a 2,000 metres long runway could be used by a sufficient proportion of the forecast traffic to justify a proposed new short Second Runway of 2,000 metres.
- 7.2.24** The White Paper proposed a Second Runway separated by 1,035 metres from the existing Main Runway (i.e. the wide-spaced option). This is the separation required by ICAO, as being appropriate for independent, parallel approaches, and was adopted by the DfT for the White Paper.
- 7.2.25** The location of the new Second Runway has been proposed in relation to existing land uses, to minimise environmental impacts. This location also enables the operational efficiency of the two runways to be optimised, by providing an offset, or 'stagger', between the landing thresholds. Additionally, the PSZ for the proposed new Second Runway would be positioned so as to avoid the residential boundary of Elmdon in Solihull.
- 7.2.26** To maximise declared runway distances, 150 metres Starter Strip extensions have been included within the Runway End Safety Areas (RESAs) for both ends of the proposed new Second Runway. This contains the envelope of the proposed airfield within the original boundary identified in the White Paper.

Footnote 24: <http://www.bhx.co.uk/Press/80.pdf>

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7.2.27 It is estimated, on the basis of the forecasts in this Draft Master Plan, that the target for the year of opening for the proposed new Second Runway could be deferred. Rather than a target of 2016, as identified in the White Paper, it is, currently, estimated that the proposed new Second Runway would not be required before 2020. An indicative potential hourly schedule capacity diagram for 2030 is shown at Figure 7.2. This indicates that the maximum existing runway capacity of 48 movements per hour is exceeded and clearly illustrates the requirement for a Second Runway.

7.2.28 The vertical profile of the proposed Second Runway is governed by the:

- > existing ground levels.
- > existing runway profile.
- > profile of the proposed extension to the Main Runway.
- > need to maximise the elevation of the taxiways, linking the existing Main Runway with the proposed Second Runway, where they cross the alignment of the diverted A45.
- > defined permitted gradients for runways and taxiways in Civil Aviation Publication 168 The Licensing of Aerodromes, published by the CAA²⁵.

The vertical profile needs to be at sufficient height to achieve runway threshold levels which would permit the Approach Surfaces to clear the most critical obstacles.

7.2.29 With the proposed new Second Runway, the future Outer Horizontal Surface has been defined from an Aerodrome Reference Point located midway between the proposed runway centrelines and the centreline of the proposed southerly linking taxiway.

7.2.30 The existing electricity pylons and cables, adjacent to the M42, would form an obstacle for take-offs towards, and approaches from, the south east. The pylons would need to be realigned, or the cables buried underground.

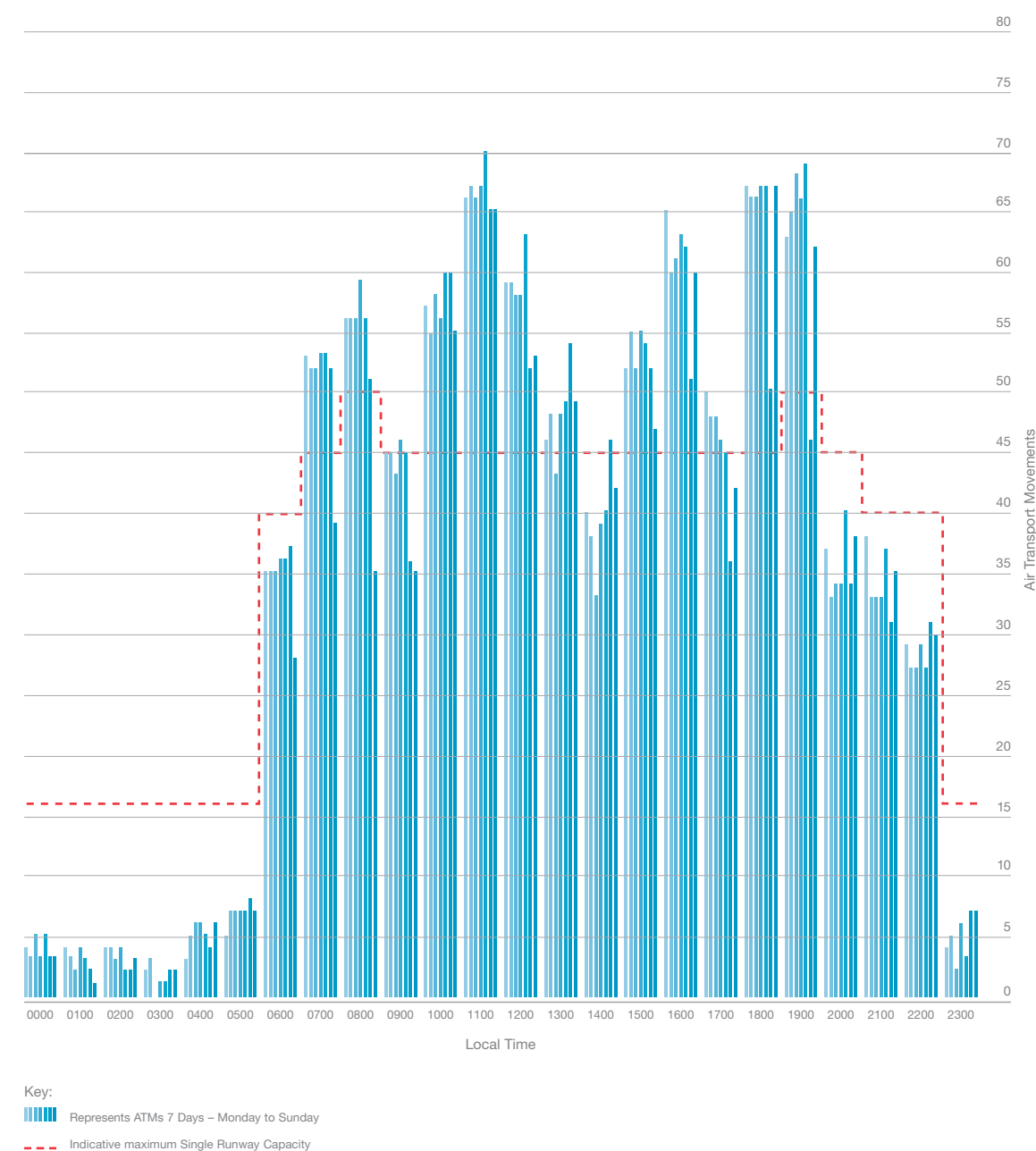
7.2.31 The treatment of landscaping features would require a reduction in the height of the trees in 'Barber's Coppice', which is adjacent to the B4438 Catherine de Barnes Lane. The reduction in height would be in the order of 5 metres and would be achieved by lopping the trees in Barber's Coppice.

7.2.32 It is proposed that the new Second Runway would, ultimately, utilise an independent mixed mode operation. There would be arrivals and departures operating from both runways. This mode of operation would not be required initially, but would be required by 2030 as traffic increases. It is intended that the proposed new Second Runway would be used initially, as an 'overspill'. The existing Main Runway would be operated to its maximum capacity and capability.

7.2.33 Until 'mixed mode' operation is required, the proposed new Second Runway would be operated in, 'segregated mode' (i.e. either for departing or for arriving traffic). This would offer operational benefits, minimise the volume of air traffic on the proposed new Second Runway, and reduce the environmental impact.

Footnote 25: <http://www.caa.co.uk/application.aspx?categoryid=33&pagetype=65&applicationid=11&mode=detail&id=232>

Figure 7.2 – Indicative Busy Week Summer Schedule in 2030



Section Two

Taxiways

7.2.34 Taxiways provide the essential links between runways and apron hardstanding. The key elements to the Airport's future network of taxiways will be determined by the future layout of the Airfield, Passenger Terminal Facilities and the Elmdon Terminal Site, together with the optimal plan for aircraft movements.

7.2.35 The future network of taxiways at Birmingham International Airport will include:

- > Fast Turn-Offs, Rapid Exit Taxiways and Taxiway Links for the Main Runway (with proposed extension).
- > Dedicated Parallel Taxiways, providing full access to both ends of the Main Runway.
- > Hold 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.

7.2.36 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 (and Public Inquiry in 1979) submitted by West Midlands County Council for the new passenger terminal facilities opened in 1984²⁶. The Planning Condition restricts the use of the Parallel Taxiway between 2300 and 0700. The Airport Company considers the Planning Condition for the Parallel Taxiway to be no longer 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 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, to achieve better environmental conditions and enhanced operational efficiency.

7.2.37 For the proposed new Second Runway, simulation modelling of the future airfield layout has identified the need for two new taxiways (crossing the existing Main Runway, in order to provide access to the proposed new Second Runway), together with a dedicated Parallel Taxiway. The Parallel Taxiway would also include Hold Points, outside the Critical Area for the Instrument Landing System, for departing aircraft awaiting access to the proposed new Second Runway.

7.2.38 The network of future taxiways will be designed to ensure adherence with safety standards and in accordance with the design standards in Civil Aviation Publication 168 Licensing of Aerodromes, published by the CAA.

Footnote 26: Secretary of State for the Environment Decision Letter relating to Planning Application for New Passenger Terminal Facilities, 1981

Navigational Aids

7.2.39 Birmingham International Airport is equipped with the necessary navigational and technical aids to assist in all weather operations and provide a safe operating environment.

7.2.40 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, would be affected by the high ground to the west of Bickenhill, which would require some regrading, and local electricity pylons and cables, which would require lowering, in order to ensure an obstacle free operating environment. The other navigational aids should not be directly affected by the proposed extension to the Main Runway.

7.2.41 The proposed new Second Runway would require its own dedicated navigational aids and Instrument Landing System. Therefore, new dedicated systems would be provided, together with the provision of appropriate 'critical areas' and 'sensitive areas', linked, as appropriate, to the systems for the existing Main Runway (with the proposed extension). In addition, the 'far field' ILS environment, and its suitability to CAT III Standards, could be affected by the local landscape (including trees), which may require some regrading and treatment, and local electricity pylons and cables, which may require the realigning of the pylons or the burying of the cables underground, in order to ensure an obstacle free operating environment.

7.2.42 The existing Surface Movement Radar will not provide adequate coverage for the proposed new Second Runway or connecting taxiways. A new location for the Surface Movement Radar will therefore be necessary, but it will require future detailed planning to determine the optimum system type and location.

7.2.43 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.

Section Two

Airfield Infrastructure Policies

- ARF1** The Airport Company proposes to ensure the highest possible safety requirements concerning 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 proposes to 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 to a length of 3,000 metres, in order for Birmingham International Airport to serve a wider range of direct world-wide destinations. 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 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, restricting the use of the Parallel Taxiway (Taxiway A) between 2300 and 0700, removed.
- ARF8** The Airport Company proposes to construct a new Second Runway to a length of 2,000 metres, with 150 metre Starter Extensions. Subject to continuing market and financial appraisals, proposals for a Second Runway are unlikely to be brought forward any earlier than is necessary to bring it into operational use before 2020.
- ARF9** Public Safety Zones will be provided at the ends of the Main Runway in accordance with Department for Transport requirements.
- ARF10** The Airport Company will ensure the provision of a comprehensive range of appropriate air navigation aids.

7.3 Passenger Terminal Facilities

Role of the Passenger Terminal Facilities

- 7.3.1** Passenger Terminals and 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, concessionaire and 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, a key additional requirement for the proposals in this Draft Master Plan has been to facilitate and optimise the modal shift of surface access to public transport.

Site Assessment

- 7.3.3** Passenger Terminal facilities 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 further Passenger Terminal Facilities. The key advantage remains the proximity to excellent surface access by road and rail. The scale of new facilities required to accommodate the forecast demand to 2030 is considered to require expansion of the current Passenger Terminal Facilities into the Airport's current Long Stay Car Park 1 and areas of the NEC Western Car Park.

Section Two

7.3.5 Prior to reaching this conclusion, the Airport Company analysed potential sites for the further development of Passenger Terminal Facilities to the south of the Main Runway in the 'midfield' between the two runways. However, it was concluded that a 'midfield' terminal was not the preferred option because it would involve a split site operation which would be undesirable in terms of both customer service and surface access by public transport. Economies of scale and operational efficiencies would also be lost. However, a 'midfield' site offers efficiencies associated with the elimination of some of the runway crossing movements. It is forecast that once the current site north of the Main Runway is fully utilised, it will be necessary to develop 'midfield' passenger terminal facilities.

7.3.6 For this reason, the Airport Company proposes to safeguard land, between the Main Runway and the proposed Second Runway, for a 'midfield' Passenger Terminal facility. This would enable some additional passenger terminal capacity to be accommodated up to 2030, should it not be possible to meet all of the capacity required based around the existing Passenger Terminal Site.

Passenger Terminals Development

7.3.7 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. It is not possible to include a detailed, architectural design of any future passenger terminals or any detailed revisions to the existing passenger terminals at this stage.

Demand

7.3.8 As set out in Chapter 5, Birmingham International Airport is forecast to grow to 32.6 million passengers per annum by 2030, with the 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	1.4	1.9	2.6	2.8	3.4
Short-haul International Scheduled	3.9	7.3	9.1	11.4	18.4
Long-haul Scheduled & Charter	0.6	1.5	1.5	3.2	5.2
Tour Operator Leisure (Charter)	3.0	2.7	3.3	4.2	5.6
Total	8.9	13.3	16.5	21.6	32.6

7.3.9 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. Terminals 1 and 2, and expand these Passenger Terminals within the current site envelope.

7.3.10 In response to growth, the Airport Company already has a number of schemes to expand and enhance passenger terminal capacity. These schemes have 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 2004.²⁷ The schemes taken into account in the present analysis 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.
- > Expansion of Terminal 2 Check-In Area, together with improvements to access to First Floor Departure Lounge and Outbound Security Controls.
- > Modification of Terminal 2 Frontage and Expansion of Terminal 2 to increase Departures and Arrivals capacity.

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

7.3.11 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.

7.3.12 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 maximum throughput of 15 million passengers p.a. by 2030.

Footnote 27: <http://www.bhx.co.uk/page.aspx>

Section Two

Landside Access

- 7.3.13** 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 DfT currently 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. Specific locations for vehicle set-down and pick-up may be required, rather than the current facilities where extensive kerbside vehicle set-down and pick-up is provided.
- 7.3.14** 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, Terminal 2 and the proposed Terminal 3. 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.
- 7.3.15** 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 and Terminal 2 with the Birmingham International Interchange), upgrades are proposed to provide additional capacity. It is also proposed that a new link would be provided from Terminal 3 to the Birmingham International Interchange. The exact form of the link, be it people mover, moving walkway or other system, would be assessed in the future, as technologies develop.

Car Parking

- 7.3.16** 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 staff to serve the Passenger Terminal Site. Some of the car parking capacity, and in particular short stay car parking, will need to be provided at the Passenger Terminal Site, and this will be achieved by providing additional multi storey car parking. However, some of the car parking capacity, and in particular the long stay car parking will have to be provided, remote from the Passenger Terminal Site, at new surface level car parks. The future requirements for car parking are set out in Chapter 9 on Surface Access, with future proposals for car parking shown in the Proposals Maps in Section 3.

Aprons and Aircraft Stands

- 7.3.17** 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.
- 7.3.18** 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 both the Passenger Terminals and to rationalise the use of the runways, particularly at peak times.
- 7.3.19** 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, 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 larger wide-bodied aircraft, including some stands which can accommodate Airbus A330, Airbus 340, Boeing 747 and Boeing 777 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 to the standards of safety and be in accordance with the design standards in Civil Aviation Publication 168 Licensing of Aerodromes (published by the CAA).
- 7.3.20** The forecasts of stand demand assume that the largest aircraft to be accommodated at Birmingham International Airport will be Boeing 777-300, Boeing 747-400 and Airbus A340-600. Larger aircraft, such as the Airbus A380, are not assumed to be operating at Birmingham International Airport on a scheduled basis.
- 7.3.21** 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 provide dual taxilanes for the proposed new apron areas, together with the provision of expanded areas for ground services equipment. In addition, in the future, approximately 30% of total aircraft stands will be remote and, therefore, adequate provision for bussing gates, bus parking and airside access roads will also be made.

Section Two

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 former NEC Western Car Park and the existing Long Stay Car Park 1 and the existing 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.

7.4 Elmdon Terminal Site

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

7.4.2 The Holiday Inn Hotel and the Gateway Estate are also at the Elmdon Terminal Site, but are located outside the Airport boundary. In addition, during the plan period for this Draft Master Plan, there will be some activities or functions which will need to be relocated to the Elmdon Terminal Site, i.e.

- > Aviation Fuel Facilities and Fuel Farm
- > Airport Fire and Rescue.

7.4.3 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 services.

7.4.4 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 ancillary services will depend on the commercial demand from airlines and the aviation support industry. Whilst general usage and zoning of the area is proposed in this Draft Master Plan, it is not practical to develop any detailed layouts.

Air Traffic Control

7.4.5 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 and a proposed new Second Runway. The Airport Company is therefore planning for a new ATC Tower as part of this Draft Master Plan.

7.4.6 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.
- > the 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.
- > between the existing and proposed new Second Runway.

Section Two

7.4.7 Locations at the Passenger Terminal Site would not allow unobstructed lines of sight to all aircraft manoeuvring areas, and in particular would not provide optimum visibility for the proposed new Second Runway. Therefore, the Airport Company proposes a new ATC Tower at the Elmdon Terminal Site (refer to the Proposals Map for 2015 in Section 3), which would be at a midpoint between the two runways (i.e. the Main Runway and the proposed new Second Runway), with its location, in part, being determined by the Transitional Obstacle Limitation Surfaces for both runways.

7.4.8 The height of the ATC Tower is primarily dependent on meeting the required visibility criteria. This would necessitate a higher ATC Tower than the existing ATC Tower 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 46 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

7.4.9 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 based at Birmingham, 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.

7.4.10 The aircraft hangarage and maintenance facilities at the 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 additional new aircraft hangarage and maintenance facilities at the Elmdon Terminal Site, including the replacement of the current Hangars 1 and 2, 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 the most favourable opportunity 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.

7.4.11 Aircraft engine ground running is normally 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; 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 undertook a study to examine the technical options to provide for aircraft engine ground running in the future.

7.4.12 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 issues 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.

Business and General Aviation

7.4.13 General Aviation is made up of public service aviation activities, certain commercial aviation activities and private aviation (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 West Midlands.

7.4.14 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.

7.4.15 Business Aviation is, however, 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.

7.4.16 Ideally, a Fuel Farm would be located close to the main aircraft aprons and with good landside access. The planned apron expansion at the Passenger Terminal Site, however, imposes constraints, particularly in terms of the availability of land. In the long term, the only substantial area of land available at the Passenger Terminal Site would be between the existing Secondary Runway and the Noise Bund (adjacent to Marston Green). Such a location is not considered suitable on environmental grounds for a large scale fuel farm. Consequently, a location at the Elmdon Terminal Site is proposed, west of the existing Secondary Runway. An alternative site, between the existing Main Runway and the proposed new Second Runway, was considered, but such a site would be contrary to IATA recommendations. The proposed location for a new Fuel Farm, at the Elmdon Terminal Site, is identified on the Master Plan Proposals Map for 2015 in Section 3. The proposed site is suitably remote from public roads with secure access via the Elmdon Terminal Site.

7.4.17 The number and size of tanks required in the proposed new Fuel Farm will need to be sufficient to provide adequate working capacity, taking into account peak period requirements, replenishment arrangements and emergency reserve requirements. The existing fuel supply pipeline will need to be diverted to serve the proposed new location.

7.4.18 At present, only stands at Terminal 2 can be served by a fuel hydrant delivery system and the majority of stands at the Passenger Terminal Site are 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 proposed new Fuel Farm and the Passenger Terminal Site. In order to reduce these movements, and eliminate the associated impacts, a Forward Fuel Area is also proposed at the Passenger Terminal Site, connected to the proposed new Fuel Farm by an underground delivery pipeline. The proposed new Forward Fuel Area would include storage for fuel bowsers and a small office, but no fuel storage tanks are proposed in this location.

Section Two

Fire and Rescue

7.4.19 There is an operational requirement on the Airport Company, set by the CAA in CAP 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 Company's fire fighting and rescue services, including utilising local authority fire fighting and rescue services, depending on the scale of any accident or incident.

7.4.20 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, it is estimated that the required response times can still be achieved from the existing Airport Fire Station. However, with the proposed new Second Runway, the most distant point on the airfield would be up to 4 kilometres south of the existing Airport Fire Station, and it is estimated that response times would exceed 3 minutes. Therefore, with the proposed new Second Runway, a new Airport Fire Station is proposed. The proposed new Airport Fire Station would replace the existing Airport Fire Station and be located between the existing Main Runway and the proposed new Second Runway Site (see Master Plan Proposals Map for 2020 in Section 3).

7.4.21 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. With the proposed new Second Runway, response times to the end of the proposed new Second Runway would also exceed three minutes and, therefore, a new Fire Training Ground is also proposed with the new Airport Fire Station, to replace the existing facilities.

Freight

7.4.22 Freight facilities for the Airport are currently concentrated at the Elmdon Terminal Site, using new purpose built facilities, such as the Argosy Building, British Airways Cargo Centre and the Express Freight Transit Shed, together with units in the Gateway Estate, and refurbished parts of the Elmdon Building. In the future, the Airport Company does not consider the development of further dedicated freight facilities to be a priority for Birmingham International Airport.

7.4.23 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 9,477 tonnes in 2004). 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 services, particularly in the long-haul sector. Therefore, the Airport Company will support the development of freight facilities for freight carried in the 'belly-holds' of scheduled passenger services.

7.4.24 Such freight activity, 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, therefore, the Airport Company anticipates that the Elmdon Building will not be used to process freight, and the Express Transit Shed (which is a temporary facility), the International Building and Link Block will be removed, and not be replaced by buildings to process freight. The British Airways Cargo Centre, however, will remain. Similarly, the Argosy Building will be retained, although it may not necessarily be dedicated to processing freight. In addition, it is anticipated that the Gateway Estate will continue to be used to provide facilities which could support freight activities at the Elmdon Terminal Site.

Apron and Taxiway Issues

7.4.25 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, freight and Business Aviation, with taxiway links to the runways. The apron hardstanding and network of taxiways will be designed in accordance with the design standards in Civil Aviation Publication 168 Licensing of Aerodromes, published by the CAA.

In-flight Catering

7.4.26 The Airport's in-flight catering facilities are based at the Elmdon Terminal Site, with additional support facilities within the Gateway Estate and off-site. The forecast growth in passenger activity at the Airport is anticipated to increase demand for in-flight catering. The Airport Company therefore 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 units.

Aviation Fuel Facilities and Fuel Farm

7.4.27 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.

7.4.28 Future expansion of the apron area at the Passenger Terminal Site will require the relocation of the existing Fuel Farm. In addition, the forecast growth in air traffic will necessitate a major increase in the storage and delivery capacity of the Fuel Farm facilities at Birmingham International Airport.

Section Two

Elmdon Terminal Building

7.4.29 As highlighted earlier, the Elmdon Building previously provided the Airport's passenger terminal facilities. The layout of the building still reflects that former use. Whilst the Airport Company does not propose to develop any 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

7.4.30 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.

7.4.31 In the future, the Airport Company will prioritise activities at the Elmdon Terminal Site that are 'airport' or 'airport related', including hotel development.

Elmdon Terminal Site Policies

ELM1 The Airport Company plans 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 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.

ELM3 The Airport Company will design the further development of the Elmdon Terminal Site in accordance with Civil Aviation Authority and Department for Transport standards.

ELM4 The Airport Company proposes to provide a new Air Traffic Control Tower at the Elmdon Terminal Site.

ELM5 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.

ELM6 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 at the Elmdon Building.

ELM7 The Airport Company proposes to relocate the Fuel Farm and Aviation Fuel Facilities to the Elmdon Terminal Site.

ELM8 The Airport Company proposes to relocate the Airport Fire Station and Fire Training Facilities to the Elmdon Terminal Site.

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 needs 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'. The Airport Company will be sensitive to strategic and local planning policies on their development, particularly relating 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, its agencies (the Control Authorities, including Customs, Immigration and the Police), or the 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 travellers. In addition to the accommodation provided for car hire companies within the Passenger Terminals (as desks and offices), the Airport Company also 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, within easy reach of 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.

Petrol Station

7.5.5 At many UK airports, there are now petrol filling stations and convenience stores 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.

Hotels

7.5.6 The Novotel Hotel was opened in 1991 at the Passenger Terminal Site. It now has a very high occupancy rate. A further budget hotel development is currently planned for 2006, to be located in part of the current Short Stay Car Park, to the rear of the Novotel.

7.5.7 Reflecting the forecast increase in passenger throughput to 2030, the Airport Company expects demand for further hotels (both budget and premium) to rise. It is not possible to identify specific hotel sites at this early stage, but they would be expected to be close to the Passenger Terminals with good access.

Section Two

Office Accommodation

7.5.8 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.

7.5.9 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

7.5.10 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.

7.5.11 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.

7.5.12 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, the facilities would be shielded from Marston Green by the existing Noise Bunds.

7.5.13 The future development of additional airside parking and storage areas for apron equipment and 'ramp' vehicles at the Elmdon Terminal Site will be accommodated within the further development of the Elmdon Terminal Site.

7.5.14 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/airline vehicle maintenance facilities, but, in the longer term, it is considered that these facilities would be better located at the Elmdon Terminal Site. A similar relocation, to the Elmdon Terminal Site, is proposed for the Airport Company's own snow clearance and other seasonal airfield vehicles and equipment.

Visitor Facilities

7.5.15 Airports attract a significant number of visitors, in addition to 'meeters and greeters', with enthusiasts viewing aircraft. The Airport Company provides a dedicated Visitors Centre in Terminal 1, the 'Aviation Experience', and intends to continue to provide such visitor facilities within the Passenger Terminals.

7.5.16 An external viewing site was previously located adjacent to the Fuel Farm opposite Terminal 2. This has been removed, to accommodate apron expansion.

7.5.17 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 plans 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 land at the Elmdon Terminal Site for future Airport vehicle maintenance facilities.

LAF3 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.

LAF4 The Airport Company will safeguard sites at the Passenger Terminal Site for further hotel development. The precise location, grade, phasing and size of any future new hotel development will be considered following further detailed study of the market for further hotel development at the Airport.

LAF5 The Airport Company will consider opportunities to provide for a landside petrol filling station and convenience store at the Passenger Terminal Site.

LAF6 The Airport Company will continue to provide facilities for spectators at the Airport.

Section Two

7.6 Services & Utilities

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

- > electricity
- > gas
- > water
- > telecommunications
- > 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 to ensure that the quality and supply 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. In addition, appropriate facilities will 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 Draft 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.

Services & Utilities Policies

SAU1 The Airport Company will liaise and work with external service and utility providers to ensure that adequate strategic supplies are available to 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, 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 system.

7.7 Phasing

7.7.1 The phasing of the proposals set out in this Draft 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 Draft 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, e.g. operate and develop the existing Main Runway, and associated taxiways, to their full capacity before considering the proposed new Second Runway.
- > incremental in terms of construction, i.e. only provide future facilities when they are required.
- > effective in mitigating environmental impact, in order 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 Draft Master Plan; not only in a way that is consistent with the developments proposed in the White Paper, but also in a way that is more sustainable than previously proposed.

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

- > Airport Layout 2005.
- > 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 as described earlier.

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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	Notes
Airfield		
2011	Extension Taxiway A	Improve existing Runway Capacity.
2010 – 2015	Extension to Main Runway	Demand for Long-haul Destinations and Larger Aircraft.
2013	Relocate Taxiway E	To facilitate Apron Expansion.
2020	Second Runway	Timing dependent on existing Main Runway Capacity in peak periods.
2020	Cross Taxiway Links to Second Runway	To provide access to Passenger Terminals.
2026 – 2030	Full Parallel Taxiway for Second Runway	To improve Second Runway Capacity.
Passenger Terminals		
2006 – 2015	Additions to T1 and T2, plus Replacement T1 International Pier and T1 Satellite/T2 Piers	To maximise capacity of existing Passenger Terminals.
2006 – 2030	Apron Development	Phased from 2006 onwards, dependent on forecasts of ATMs.
2016	Phase 1 of T3	To provide for passenger growth beyond T1/T2.
2021	Phase 2 of T3	To provide for passenger growth beyond T1/T2.
2025	Phase 3 of T3	To provide for passenger growth beyond T1/T2.
Elmdon Terminal Site		
2011	Engine Ground Running Area	To minimise Ground Noise impact.
2011 – 2015	New Fuel Farm	Timing dependent on future apron development.
2012	Air Traffic Control Tower	Required when Main Runway is extended.
2020	New Fire Station and Fire Training Area	Dependent on Second Runway.

Date	Project	Notes
Surface Access		
2010	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.
2005 – 030	Improvements to Rail Services & Infrastructure	Phased improvements in surface access by rail.
2005 – 030	Improvements to Coach Services	Phased improvements in surface access by coach.
2005 – 2030	Improvements to Bus Services	Phased improvements in surface access by bus.
2015	Midland Metro	New Birmingham – Airport/NEC Midland Metro to improve surface access by public transport.
2016	Extend Birmingham International Interchange	To improve surface access by public transport (with development of T3).
2005 – 2030	Additional Car Parking Capacity	Phased expansion of surface and multi-storey 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 adoption of this Draft Master Plan and, subsequently, the necessary Planning Approvals being obtained and the commercial viability of particular projects being confirmed.

Section Two

8. Airspace

- 8.1 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 airspace capacity”..... “This must be done without compromising the existing standards of safety, and must also take account of any environmental impacts.”²⁸

- 8.2 As a result, the White Paper tasks the CAA, with the involvement of National Air Traffic Services Limited (NATS) and the other major providers of air traffic services, to work up future proposals for the United Kingdom’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”²⁹

- 8.3 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 Draft Master Plan.

Local Airspace Capacity

- 8.4 In the United Kingdom, 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.
- 8.5 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.
- 8.6 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 Area. Such close proximity, combined with the conflicting alignment of the runways (approximately at right angles) 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 causes conflicts in demand for access to the same airspace. This currently results in delays to some air traffic at Birmingham International Airport (and Coventry Airport) in peak periods.

Footnote 28: http://www.dft.gov.uk/stellent/groups/dft_aviation/documents/page/dft_aviation_031505.hcsp

Footnote 29: http://www.dft.gov.uk/stellent/groups/dft_aviation/documents/page/dft_aviation_031505.hcsp

- 8.7 Birmingham International Airport will need to move to a ‘fully co-ordinated’ runway movement scheduling status in due course and need to increase the peak hour capacity of 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 of the day. This development of runway capacity is required to maximise the utilisation of the existing Main Runway, in accordance with the sustainable development policies set out in the White Paper, before any proposals for a new Second Runway are brought forward. In order that a sustainable operational and business case for the proposed new Second Runway can be developed, it will also be necessary to ensure that its full capacity can be used and is not constrained by airspace capacity restrictions.

- 8.8 The White Paper clarifies Government policy – that Birmingham International Airport should be developed as the Midlands’ principal passenger airport. Therefore, it is essential that adequate airspace capacity is preserved and protected so that both the existing Main Runway including its extension, and the proposed new Second Runway, can be effectively utilised.

- 8.9 The White Paper specifically notes, in the Executive Summary, that planning bodies will need to take into account the need to provide the necessary airspace, to enable the White Paper policies to be implemented.

- 8.10 A number of planning applications have been submitted to Warwick District Council (the local planning authority for Coventry Airport) over the last two years for the development of passenger terminal facilities at Coventry Airport. The Airport Company has objected to any proposals that could increase passenger activity and the associated air traffic movements in excess of 1 million passengers per annum because of the impact on future airspace capacity at Birmingham International Airport.

- 8.11 The Airport Company has investigated potential ways in which the impact of increasing passenger activity at Coventry Airport on Birmingham International Airport’s airspace capacity could be mitigated. However, to date, it has not been possible to identify any practical means to eliminate the critical interface of the flight paths from the two airports.

Figure 8.1 – Potential departure routes for 2010, 2015, 2020 and 2030



Key:

- Potential Main Runway (15L/33R) Routes (2015, 2020, 2030)
- Potential Second Runway (15R/33L) Routes (2015, 2020, 2030)
- 2004 Mean Departure Tracks (2010)

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Airspace Routes

- 8.12** In order to further assess the airspace implications of the development proposals, the Airport Company commissioned the Procedure Design Group of NATS to design appropriate future departure flight routes (i.e. Standard Instrument Departures (SIDS)).
- 8.13** The work was undertaken for the following scenarios:
- > 2015, with the proposed extension to the Main Runway.
 - > 2020, the first year of operation of the proposed new Second Runway.
 - > 2030, with the proposed new Second Runway in mixed mode operation.
- 8.14** The commissioning of this work from NATS, is based on the latest procedural requirements and supports a more detailed level of flight routes than the work for the White Paper. This, in turn, means that the work to prepare Noise Contours is more accurate.
- 8.15** It is important to note, however, that, whilst the work undertaken to produce the forecast SIDS for 2015, 2020 and 2030, together with the underlying assumptions, is sufficient to prepare this Draft Master Plan, the work would not be detailed enough for a formal consultation process by the CAA for changes to airspace and routes. The CAA would require more detailed design work for such a consultation process, based on CAA Publication CAP 725 “Airspace Change Process Guidance”³⁰.
- 8.16** The SIDS were designed using UK design policy on instrument departures and the Precision Area Navigation (P-RNAV) procedures. Where possible, the existing Noise Preferential Routes (NPRs) have also been followed as closely as possible in order to minimise the impact on local communities.
- 8.17** The conclusion of the work on SIDS was that all the instrument departing procedures for the proposed new Second Runway would be feasible – with some minor changes to some of the current routes. The introduction of P-RNAV procedures, as required, would, in itself, also require some minor changes to some of the current routes.
- 8.18** The main impact of the changes to the SIDS is that the proposed extension to the Main Runway would necessitate the discontinuance of the existing noise abatement procedures for Runway 15 departures. These were implemented prior to the elimination of noisier “Chapter 2” aircraft types (for instance, the BAC1-11 and Boeing 737-200, which were a mainstay of operations at Birmingham in the past), in accordance with European Union legislation. Abatement procedures include the ‘Hampton Turn’, where aircraft departing south turn right onto a 170 degrees track after 1 nautical mile. In future, aircraft would depart straight ahead on a 150 degrees track. With the provision of the proposed new Second Runway, the procedures would also require a 150 degrees track for southbound departures.
- 8.19** The SIDS, as shown in Figure 8.1, have also been used as the basis for the calculation of the Noise Contours, which are set out in Chapter 10 Environmental Impacts and Mitigation, with the exception of the Noise Contours for 2010, where the existing SIDS are assumed.

Footnote 30: <http://www.caa.co.uk/application.aspx?categoryid=33&pagetype=65&applicationid=11&mode=detail&id=395>

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Airspace Policies

- ASP1** 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.
- ASP2** The Airport Company will seek to preserve, protect and develop the necessary airspace capacity required to make maximum use of the existing runway and its proposed extension and also to support the further development of Birmingham International Airport as the West Midlands principal international airport.
- ASP3** The Airport Company will take account of the potential environmental impacts of airspace policies and develop procedures to mitigate these where practical.

9. Surface Access

Introduction

- 9.1** The development of a more extensive network of air services at Birmingham International Airport, able to serve an increasing proportion of the growing regional demand for air travel where it arises – within the Midlands, will reduce the overall volume of surface journeys in the UK. This is a key element of the White Paper strategy to ‘clawback’ aviation activity from the south-east, and to reduce the overall congestion and environmental impacts of unnecessary surface journeys.
- 9.2** Local to the Airport, however, and on key access routes within the West Midlands, the forecast growth of Birmingham International Airport will place increased demands on the surface transport network and systems.
- 9.3** One of the strategic strengths of Birmingham International Airport is its proximity to both the national road and rail networks and its ability to offer a truly integrated transport interchange. In recent years, the Airport Company has taken full advantage of this location and made significant investment in sustainable surface access improvements, including the Air-Rail Link and Birmingham International Interchange, (to provide a ‘seamless’ link between the Passenger Terminals and Birmingham International Railway Station), and a new dedicated Bus and Coach Terminus at the Passenger Terminal Site.
- 9.4** The further development of an integrated, multi-modal Surface Access Strategy will be essential to support and sustain the forecast growth in activity at the Airport. This will need to address the needs of passengers, staff and visitors alike and also ensure that the access needs of other organisations and facilities in the area, together with the local communities, are also addressed. A new, sustainable Surface Access Strategy is central to the Airport Company’s sustainability agenda.
- 9.5** 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. A successful Surface Access Strategy can therefore only be developed by working in partnership with all the other transport agencies. The need for this coordinated approach was highlighted in the White Paper, where joint reviews were proposed with the Highways Agency, Strategic Rail Authority (now subsumed back within the DfT) and other regional stakeholders. The White Paper³¹ also set a long-term target of 25% for Public Transport Modal Share.
- 9.6** Strategic reviews with the Highways Agency, Strategic Rail Authority and other transport agencies were initiated by the Airport Company in 2004 and have contributed to the emerging, long term Surface Access Strategy outlined in this Draft Master Plan. The work with the Highways Agency has been complicated by the Agency’s own work to review widening options for the M42. That review, in turn, has been further complicated by the need to review the performance of the Active Traffic Management (ATM)³² system currently being introduced and piloted on the M42 between Junctions 3 and 7. The Secretary of State for Transport’s statements, earlier in 2005, that it is the Government’s intention to give detailed consideration to the potential for road charging schemes will also need to be addressed in the ongoing reviews.
- 9.7** Some initial conclusions have been drawn from the work with the Highways Agency, regarding motorway and junction capacity, but it has not been possible yet to determine a detailed strategy in this area. Work with the Highways Agency and other key stakeholders, will continue in order to develop a Surface Access Strategy and that process will now be informed by this Draft Master Plan.

Footnote 31: http://www.dft.gov.uk/stellent/groups/dft_aviation/documents/page/dft_aviation_031502.hcsp

Footnote 32: http://www.highways.gov.uk/roads/projects/motorways/m42/atm_diversions/

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9.8 The Airport continues to have the broad support of regional stakeholders in developing and improving the surface access arrangements for the Airport. The West Midlands Regional Assembly Transport Delivery Plan published in March 2005³³ includes “Improve Access to Birmingham International Airport and the NEC” as one of its five transport priorities for the region. The West Midlands Business Transport Working 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

9.9 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.....”

9.10 In 2004, (when the Airport handled 8.8 million passengers) surveys as part of the Airport Company’s annual programme, identified the following modes of surface access for all users of the Airport (i.e. passengers, employees and visitors):

Private Car	69.4%
Taxi/Mini Cab	15.0%
Train	8.8%
Bus/Coach))
Charter Coach) 5.7%) Total 15.6% Public Transport
Courtesy Bus))
Other	1.1%)

9.11 For 2004, the modes of surface access for each category of user were:

	Passengers	Staff/Employees	Visitors
Private Car	55.3%	79.2%	47.4%
Taxi/Mini Cab	21.9%	2.2%	1.4%
Train	8.6%	5.8%	29.5%
Self Drive Hire Car	3.2%	N/A	N/A
Public Bus/Coach	0.8%	11.2%	18.6%
Charter Coach	0.4%	N/A	N/A
Courtesy Bus	8.9%	N/A	N/A
Other	0.8%	1.6%	3.1%

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

9.12 In the first two quarters of 2005, the annual rolling public transport modal share has increased to 16.7% and 18.0% respectively.

Footnote 33: http://www.wmra.gov.uk/regional_strategies.htm

Footnote 34: <http://home.bia.bhx.co.uk/home/wwwbhxcouk.htm>

Surface Access Strategy

9.13 In 2000, the Airport Company published its current Airport Surface Access Strategy³⁵, which given the unique local circumstances, was prepared jointly with the NEC. The primary objective of the Surface Access Strategy was to set a programme to maintain a continuing high quality of surface access, by all modes and for all users, for Birmingham International Airport and the NEC over the period from 2000 to 2005 (the plan period for the Airport Company’s previous Master Plan, “Vision 2005”).

9.14 A new Surface Access Strategy for the Airport will be prepared and it is intended that it should, again, be a joint Surface Access Strategy prepared with the NEC. The draft Surface Access Strategy is likely to consider a short term plan period (more similar to the current strategy) to 2011. The draft Surface Access Strategy is due to be published towards the end of 2005, for consultation with the Airport Consultative Committee, the Airport Transport Forum and key stakeholders.

Motorway & Roads

9.15 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 road access serving the catchment of some 9 million people within one hour’s drive-time and some 35 million people living within two hours’ drive-time. The excellent accessibility by motorway and 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. For access by bus and coach as well as by car.

9.16 Immediate access by motorway is via the M42 to Junction 6 (J6), and then via the A45 Coventry Road or the B4438 Bickenhill Lane. In 2002, the Airport Company provided dedicated new A45 Inbound/Outbound Access Roads for the Passenger Terminal Site in order to improve road access.

9.17 The Elmdon Terminal Site is connected to the local highway network via a separate junction onto the A45 Coventry Road at the Damson Parkway traffic signalled junction, some 2 kilometres west of the Passenger Terminal Site.

9.18 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 Highways’ for the purposes of the Road Traffic Act. They are therefore subject to the same Road Traffic legislation and enforcement by the Police as other public roads.

9.19 The internal landside circulatory roads at the Passenger Terminal Site were revised in 1991, as part of the “Eurohub” (now T2) 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 Facilities³⁶.

9.20 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 Gyrotory System, providing access to the Passenger Terminals and other facilities.

Footnote 35: <http://www.bhx.co.uk/Transportation/84.pdf>

Footnote 36: <http://www.bhx.co.uk/page.aspx?type=T0NaZj9WNNoU=&idQjpYu9cl5s4=>

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- 9.21** As already highlighted, good quality road access, for both cars and buses/coaches and particularly 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.
- 9.22** Currently, the M42 and J6 incur congestion at peak times (particularly when the NEC is busy), which affects access to and from the Airport. The Airport Company recognises the potential which the newly installed ATM system will provide in terms of additional capacity on the M42, when it is fully operational. However, it is currently a pilot scheme by the Highways Agency, the success of which will not be assessed until 2008. There are also some further improvements to J6 being considered, by the Agency, to increase the capacity and improve the junction performance.
- 9.23** In the longer term, beyond 2011, the M42 and J6 are expected to have insufficient 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 constraint measures are introduced. Therefore, additional link capacity on the M42 and a new or improved junction south of J6 is expected to be required in the future, together with new or improved link roads to the Passenger Terminal Site. Studies will continue with the Highways Agency and other interested parties to assess and develop potential phased schemes to improve capacity on the M42 and J6.
- 9.24** The proposed extension of the Main Runway would necessitate the local realignment of the A45 in a tunnel, for a short length, below the Runway End Safety Area (RESA). At a later stage, the proposed new Second Runway would also require some additional sections of tunnel to accommodate new taxiway links, together with a new junction to replace the existing A45/Damson Parkway Junction and the realignment of Damson Parkway.
- 9.25** Beyond 2015, it is estimated that the Clock Junction will have insufficient 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. This route will be maintained to provide access between North and South Solihull and access to Birmingham International Station and Trinity Park.
- 9.26** 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 Terminals 1 and 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, and also to support the development of public transport facilities and encourage modal shift.

Car and Vehicle Parking

- 9.27** Parking at the Airport includes facilities for passengers, staff, and visitors, together with areas for car hire 'pickup and return', buses and coaches. The on-site car parking is managed by National Car Parks, as a concession, on behalf of the Airport Company. There are also two '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.

- 9.28** 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 different types of air passenger – business/leisure, inbound/outbound, short/long stay etc. 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.

- 9.29** Indicative forecasts of parking demand have been prepared for this Draft Master Plan to give an indication of the potential land requirements for car parking. The actual demand over the 25 year plan period will continue to be monitored and adjusted through the period.

- 9.30** Based on the long term passenger forecasts and the 25% Public Transport Modal Share target set in the White Paper³⁷, the following parking demand is forecast for 2030:

Short Stay	12,200 spaces
Long Stay	22,300 spaces
Staff/Employees	5,600 spaces
Total	40,100 spaces
Car Hire	1,250 spaces
Total	41,350

- 9.31** The majority of car parking for the Passenger Terminal Site is currently provided within the Airport's 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

- 9.32** In order to meet the forecast growth in car parking demand for passengers and visitors, the Airport Company proposes, initially, to provide sufficient car parking spaces at the Passenger Terminal Site. This will require the safeguarding of the existing multi-storey car parks and 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 on the current NEC Western Car Park. The Airport Company will also need to provide for additional surface level car parking elsewhere, within the extended Operational Area, including land to the south of the existing alignment for the A45.

- 9.33** Additional 'off-site' car parking (i.e. by Airparks at Garretts Green and by APH at Hams Hall) is outside the control of the Airport Company. The development of these 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 local planning authorities to seek proper 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.

- 9.34** 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 (based on current forecasts, a maximum of 5,600 spaces by 2030, compared with the existing 1,850 spaces) and the Elmdon Terminal Site. Therefore, the Airport Company will continue to provide staff car parking in the future, but, through the Surface Access Strategy and 'Green Travel Plans', it intends to reduce the overall need for staff car parking.

Footnote 37: http://www.dft.gov.uk/stellent/groups/dft_aviation/documents/page/dft_aviation_031502.hcsp

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Public Transport

- 9.35** Although private cars are expected to continue as the largest mode of surface access for the Airport, in order to meet the White Paper target of 25% surface access by public transport and provide for the continuing and sustainable development of the Airport, there will need to be significantly greater use of public transport.
- 9.36** 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.
- 9.37** 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.

Public Transport Interchange

- 9.38** 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 Main Line). 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). It is the focus for surface access by public transport for the Passenger Terminal Site, along with the new bus and coach facilities on Concorde Road.
- 9.39** As further development of the Passenger Terminal Site, and its facilities, proceeds, the Airport Company proposes that surface access for the Passenger Terminal Site by public transport should be concentrated at the Birmingham International Interchange. To this end, the Interchange will need to expand in the future to cope with the additional demand, and to be connected to the proposed new Terminal 3 by a second dedicated people mover system.

Bus & Coach

- 9.40** 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 customers requirements, and in particular those of staff employed at the Airport.
- 9.41** 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. The Airport Company also promotes the use of bus through its support of the Travelwise Scheme.
- 9.42** The Airport Company has also provided financial support to the experimental demand responsive "Buster Werkenbak" service, which Merlin Venture began operating in 2003. The service operates 24 hours a day, seven days a week, for people living in parts of East Birmingham and North Solihull, who work at the Airport, when conventional public transport is not available. The service is primarily funded by Advantage West Midlands and the Urban Bus Challenge, attracting some 250 trips each week to and from the Airport, mainly in the early hours of the morning.

- 9.43** In 2004, a new Bus and Coach Terminus, funded by the Airport Company, was opened at the Passenger Terminal Site. Four new bus stands were provided, with improved standards of shelter, information and seating, all linked by a continuous covered walkway. A covered walkway link was also provided to Terminal 1, and a similar covered walkway link to Terminal 2, together with a fifth stand, will be provided, in 2006 to complete the scheme. In 2004, the Airport Company supported the West Midlands Local Transport Plan Annex E Bid³⁸ (submitted to the DfT by Solihull Metropolitan Borough Council) to further enhance the local bus network which serves Birmingham International Airport and the NEC.
- 9.44** 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 for 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 Parkway Railway Station.
 - > Staffordshire, including Tamworth.
- 9.45** 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 network, providing access to the Passenger and Elmdon Terminal Sites, including extending the period of operation for bus services to meet the various shift patterns operated at the Airport. In 2004, bus accounted for 11.2% of the Airport's employee surface access. The Airport Company will seek to increase this substantially as part of the Surface Access Strategy.
- 9.46** 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
- 9.47** 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 the Interchange, and use Air-Rail Link for access to the Passenger Terminal Site.

Footnote 38: http://www.wmra.gov.uk/documents/Item7_BIANEC.pdf

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Rail

- 9.48** As already highlighted, Birmingham International Airport is located adjacent to Birmingham International Station. The West Coast Main Line serves London (via Euston Station), together with the South, the North West, the North East and Scotland. The Airport is therefore 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.
- 9.49** The Airport Company believes that rail is ideally suited for surface access by passengers and intends to develop, in consultation with the DfT, 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 2004, rail accounted for 8.6% of the Airport's passenger surface access. The Airport Company will seek to increase this substantially, as part of the Surface Access Strategy and Air Rail Access Strategy.
- 9.50** The Airport Company recognised the importance of the West Midlands Route Utilisation Strategy,³⁹ and the forthcoming West Midlands Regional Planning Assessment,⁴⁰ to improving surface access by rail for the Airport and, therefore, engaged with the former SRA on the development of these strategic plans. Together with an Air Rail Access Strategy for the Airport, these regional rail strategies will be important in delivering improvements to rail infrastructure and rail services which can support an increase in access by rail.
- 9.51** In the longer term, the provision of additional capacity on the West Coast Main Line and the proposals for the 'International Connection' (a new rail line, using a now redundant route connecting the West Coast Main Line, near Birmingham International Station, with the Birmingham – Derby line, near Whitacre Junction) are considered desirable. However, in the shorter term, the proposed Coleshill Interchange will provide for significant improvements to access by rail. The Airport Company is particularly keen to see improvements in services and frequencies for the following rail corridors:
- > West Coast Main Line to London.
 - > West Coast Main Line to Milton Keynes.
 - > West Coast Main Line to Birmingham New Street Station, Coventry and Wolverhampton.
 - > Nuneaton, Hinckley and Leicester, Hinckley, via the proposed Coleshill Interchange.
 - > Tamworth, Burton, Derby, Nottingham, via the proposed Coleshill Interchange.
 - > Derby, Sheffield, Leeds, Newcastle (Virgin Cross Country).
 - > Cheltenham, Bristol, Cardiff (Virgin Cross Country).
 - > Coventry, Leamington, Oxford, Reading and the South Coast (Virgin Cross Country).
 - > Chiltern Line, via Solihull Station and a bus/coach connection service.

together with improvements to local rail services.

- 9.52** 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 particular, 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.

Footnote 39: <http://www.sra.gov.uk/publications>

Footnote 40: The West Midlands regional Planning Assessment is not yet published. It is likely to be available through the Department for Transport

Midland Metro

- 9.53** 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 Road.⁴¹
- 9.54** 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 such a future network. The network is likely to be used predominantly by staff working at the Airport (and NEC) and the route would need to have good connections into employee catchment areas such as the East Birmingham and North Solihull Regeneration Zone.
- 9.55** Given the proposed alterations to the A45 south of the current airfield, required to accommodate the proposed extension to the current runway and proposed new Second 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 diverted A45. This corridor will, however, require additional tunnelling under the proposed extension to the existing runway and taxiway links to the proposed new second runway.
- 9.56** The Airport Company proposes that the Midland Metro should terminate at the Birmingham International Interchange to take advantage and enhance the multi-modal interchange opportunities. This terminus would give excellent connections to both the Airport and NEC.
- 9.57** The Airport Company also believes that in the long term there is a case for a further Midland Metro route linking the Airport and 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 the City Centre and 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

- 9.58** 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. It is therefore essential to continue to provide facilities for taxis and private hire vehicles.

On-Site Transport

- 9.59** National Car Parks⁴² 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 local hotels with the Airport. Such facilities will continue to be accommodated in the future.

Footnote 41: <http://www.centro.org.uk/metrofuture/Airport/Airport%20index.asp>

Footnote 42: <http://www.bhx.co.uk/page.aspx?type=T0NaZj9WNoU=&id=/moU/U7LJP>

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Cycling & Pedestrian Links

- 9.60** 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).
- 9.61** 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 Marston Green and Bickenhill. The Airport Company provides footways along at least one side of its 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.
- 9.62** 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 Sites. The Airport Company also proposes to provide links between the Passenger Terminals and to the Birmingham International Interchange for pedestrian movements and passenger transfers.

Travelwise & Green Travel Plans

- 9.63** The Airport Company has a Green Commuter Plan⁴³ (“A Small Change can make a Big Difference”), which includes ‘Green Travel Plans’, and is a member of Travelwise⁴⁴ (the scheme operated in the West Midlands to encourage employees to use public transport through discounted passes and tickets). 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 25% Public Transport Modal Share target, unless it is combined with traffic restraint measures.
- 9.64** The further development of ‘Green Travel Plans’ will offer more sophisticated ways of marketing an increased use of public transport by passengers and employees. The Airport Company will examine ways in which passengers 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.
- 9.65** 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 seeks to work with Government, local authorities, and regional stakeholders to consider how such measures can be successfully applied in the West Midlands.

Footnote 43: <http://www.bhx.co.uk/Transportation/83.pdf>

Footnote 44: <http://www.centro.org.uk/source/TravelWise/usrTWHomea.asp>

Surface Access Policies

Surface Access Strategy

- SAP1** The Airport Company will produce a new
- > 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 or a new Junction 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).
 - > Realignment of the A45 and Improvements to the A45/Damson Parkway Junction to facilitate an Extension to the Airfield to include the proposed new Second Runway.
- SAP5** The Airport Company will seek to ensure that a route is safeguarded for a further realignment of the B 4438 Bickenhill Lane, in order to facilitate the potential expansion of the Passenger Terminal Site.

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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 type.
- SAP7** The Airport Company will safeguard land for new car parks, 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. The Airport Company will expect new development at the Elmdon Terminal Site to include appropriate provision for related car and vehicle parking.
- SAP9** 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.
- SAP10** 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

- SAP11** The Airport Company will encourage an increase in the use of public transport for surface access by passengers and staff.
- SAP12** The Airport Company will produce an Air Rail Access Strategy
- SAP13** 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 rail, bus, coach and Midland Metro.
- SAP14** The Airport Company will seek improvements, in terms of routes and frequencies, for rail, bus and coach services which serve the Airport.
- SAP15** The Airport Company supports the development of the Midland Metro network and a Midland Metro Route to serve the Airport and NEC.
- SAP16** 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.

Landside Circulation

- SAP17** The Airport Company will develop efficient and effective facilities for landside internal circulation within the Passenger Terminal Site, including landside roads and set-down and pick-up facilities for the Passenger Terminals.
- SAP18** 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.
- SAP19** The Airport Company will develop appropriate facilities for access by taxis, private hire vehicles and courtesy buses.

10. Environmental Impacts & Mitigation

Introduction

- 10.1** The Airport Company has now been operating a 'good neighbour' policy for over ten years, and is committed to mitigating 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.
- 10.2** 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. An assessment of the environmental impact will enable the Airport Company to develop a management policy and programme of mitigation as part of a 'balanced approach' to development.
- 10.3** As the first stage in determining a new policy, 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 Operational Area and the immediate surrounds.⁴⁵
- > Identify any significant environmental constraints in order to inform the Draft Master Plan.
- > Provide baseline information in sufficient detail to undertake an Environmental Assessment for the Draft Master Plan.
- > To identify any potentially significant environmental impacts with the Draft 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
- > Community Facilities

- 10.4** The environmental impact studies have been 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 within the vicinity of the Master Plan proposals is shown on the Airport Master Plan, Summary Environmental Features drawing in Section 3.

Footnote 45: <http://www.bhx.co.uk/Press/81.pdf>

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Air Noise

- 10.5 The Civil Aviation Authority's Environmental Research and Consultancy Department (ERCD) was commissioned to undertake an Air Noise Study, in order to assess the impact of the proposals in this Draft Master Plan. The work utilised ANCON, 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 contours were calculated for the peak period of airport operation.⁴⁶
- 10.6 The ERCD Study modelled the proposed development programme set out in this Draft Master Plan: the existing runway system in 2010; an extension to the Main Runway of 400 m with a 150 m Starter Extension in 2015; a new 2000 m, segregated mode Second Runway with Starter Extensions in 2020 and fully independent mixed mode operations on both runways in 2030.
- 10.7 The aircraft flight tracks and dispersions for 2010 were based on existing mean flight tracks, devised from an analysis of radar data. For 2015, 2020 and 2030, new departure routes were modelled by NATS as described in Chapter 8 modelled on P-RNAV procedures (an enhanced method of air navigation which enables aircraft to follow flight paths with greater accuracy). Radar data was also used to forecast average departure profiles of height, speed and thrust. To reflect a 'worst case scenario', reverse thrust is assumed for all day and night landings (current local instructions require a sympathetic use of reverse thrust and prohibit use during the Night Period).
- 10.8 The noise contours were produced assuming a long term average of runway splits for day and night. The daytime modal splits are 65% NW / 35% SE and nighttime 75% NW / 25%SE. The effects of surrounding topography were also included in the modelling.
- 10.9 The study assumed current aircraft types and noise assumptions in 2010, 2015 and 2020, but a 14dB improvement, relative to the 'Chapter 3' noise certification standard for aircraft types, is assumed in 2030 (the 14dB figure is the cumulative noise reduction achieved at the three noise measurement points used during noise certification). This assumption relates to the future noise improvements that are expected to be achieved from advances in aircraft engine technology. The ERCD study is rather cautious in its assumptions pre-2030. Although it is still not absolutely certain that all aircraft types would achieve the 'Chapter 3 14dB' improvement by 2020, many (or most) aircraft types will. Therefore this study represents a 'worst case Scenario' pre-2030.⁴⁷

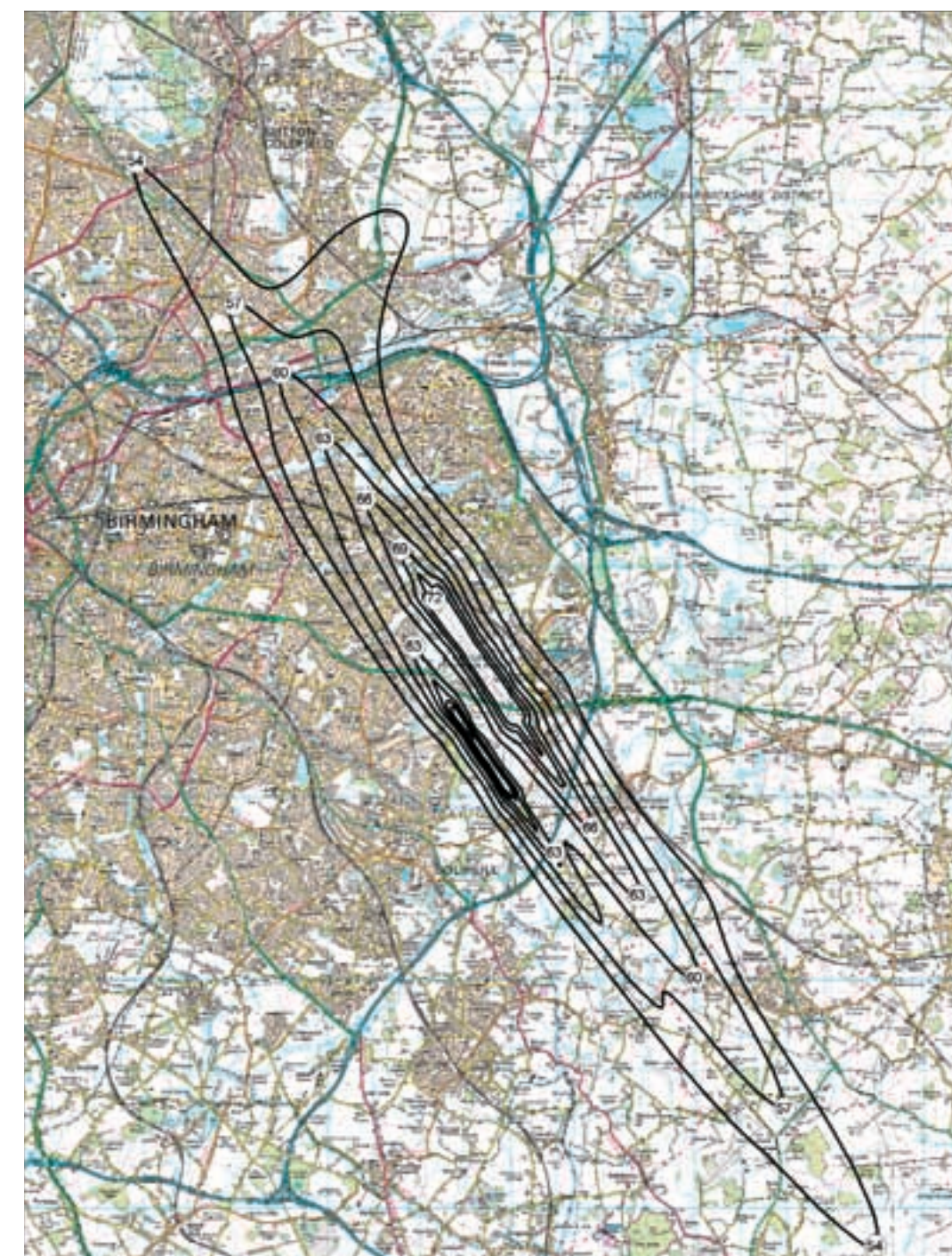
Footnote 46: i.e. the 92 day summer period from 16 June to 15 September. The forecast summer day period is calculated as 0700 to 2300 hours and the night time period is 2300 to 0700 hours.

Footnote 47: Advisory Council for Aeronautics in Europe (ACARE) and National Aeronautics and Space Administration (NASA) expects a 10dB reduction in take-off/landing noise by 2020

Figure 10.1 – Forecast Summer Day Air Noise Contours 2030

Key:

- Noise Contour
- Leq 16 Hour dB(A)



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- 10.10** Estimated areas, populations and households included within the contours were calculated for 2010, 2015, 2020 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 Alternative and the Government Consultation Document 'The Future of Air Transport in the United Kingdom : The Midlands'.

Contour Level Leq dB(A) 2030	Current Proposals & Study (Note 1) Population within Noise Contours	Birmingham Alternative Population within Noise Contours	Government (RASCO) Consultation Population within Noise Contours
57	67,950	102,750	117,400
63	12,900	35,150	40,700
66	3,650	11,900	14,700
69	250	2,900	3,300

Note 1 The population numbers for the proposed new Second Runway are included, but in detail are 69dBA zero; 66dBA zero; 63dBA 750. It is not possible to separate 57dBA.

- 10.11** The noise contours, therefore, show a significant decrease compared to both the 'Birmingham Alternative' and the original Government wide-spaced second runway option. This decrease is primarily driven by the forecast reduction in Air Transport Movements (ATMs) in this Draft Master Plan, compared to the White Paper, and the proposed usage of the new Second Runway for overspill operations only. The contours are set out in Figure 10.1.
- 10.12** The noise contours can also be compared over time as shown in the table below. The increase in ATMs from 2010 through to 2030 leads to an increase in populations exposed to corresponding day and night noise contours, although it should be noted that the proposed new Second Runway will not be operated during the Night Period.

Contour Level Leq dB(A)	Current Study 2010 Population within Noise Contours		Current Study 2015 Population within Noise Contours		Current Study 2020 Population within Noise Contours		Current Study 2030 Population within Noise Contours	
	Day	Night	Day	Night	Day	Night	Day	Night
57	38,600	4,650	43,450	5,900	51,550	7,650	67,950	9,700
63	7,100	0	8,500	0	9,150	<250	12,900	<250
66	2,00	0	2,150	0	2,500	0	3,650	0
69	<250	0	<250	0	<250	0	250	0

- 10.13** The 66dB(A) Leq contour for 2020, which is assumed as the first year of operation of the proposed new Second Runway, covers a lower population than the equivalent 2017 Leq 'Birmingham Alternative' noise contour (this was the assumed year of opening for the proposed new Second Runway in the White Paper). There are two reasons why the Draft Master Plan 2020 Leq noise contour is lower, namely a lower number of ATMs and the proposal that the Second Runway would be used in segregated 'overspill' mode in the early years of operation.
- 10.14** The White Paper stated that it would be necessary to limit the numbers of properties exposed to new noise impacts. The proposals in this Draft Master Plan show a significant reduction in noise impacts and the number of properties affected, compared to the White Paper forecasts.
- 10.15** The night noise contours reflect a growth in average noise over the period 2010 to 2030. The night Quota Count for 2030, however, would be within the current limit in the Night Flying Policy.

Noise Mitigation

- 10.16** The White Paper expects airport operators to offer noise mitigation measures to households experiencing 69dB(A) Leq or more, and assistance with relocation costs and acoustic insulation to noise sensitive buildings exposed to 63 dB(A) Leq or more. The White Paper commended the Airport Company for its existing noise mitigation programme for schools. The Airport Company's proposals for assistance with relocation are targeted to meet the Government's expectations and are set out in a separate consultation document, "Support & Guidance : Property Valuation Support Scheme".
- 10.17** To address the impacts of future growth, the White Paper expects that airport operators would purchase properties experiencing from 69 dB(A) Leq or more and offer acoustic insulation to properties experiencing 63dB(A) Leq or more. The acoustic insulation standard is accepted by the Airport Company and a scheme covering the more onerous 63dB(A) scheme has already been implemented for the existing Main Runway. The proposals for future purchase of properties are targeted to meet the Government's expectations and are set out in a separate consultation document, "Support & Guidance : Property Valuation Support Scheme".
- 10.18** The results of the air noise study show that, whilst the noise contours are forecast to increase with air traffic growth up to 2030, the calculated noise impact is much lower than in the Government Consultation document and in the 'Birmingham Alternative'. In particular, the impact of the proposed new Second Runway has been severely constrained by the Airport Company's proposals that the proposed new Second Runway be limited to quiet aircraft types only (QC count of 0.5 or below), the Second Runway only be used in overspill mode and the Second Runway be closed at night. In addition, the assumptions made with regard to future engine technology improvements have been conservative and the Airport Company is confident that the noise impact will be less than is demonstrated in the ERDC study.

Night Flying Policy

- 10.19** Birmingham International Airport has one of the most stringent Night Flying Policies of any UK Airport; . The Night Flying Policy is based on a Section 106 Planning Agreement with Solihull MBC and has 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.⁴⁸ 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.
- 10.20** The Airport Company recognises the importance of the Night Flying Policy as a key element in its overall programme of 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 MBC agree a revised basis for subsequent reviews, or new legislation is introduced with regard to night flying in the UK or Europe.
- 10.21** As previously highlighted, the noise impact of the proposed new Second Runway would be significantly mitigated by the Airport Company's proposals that the proposed new runway would not be used at night.

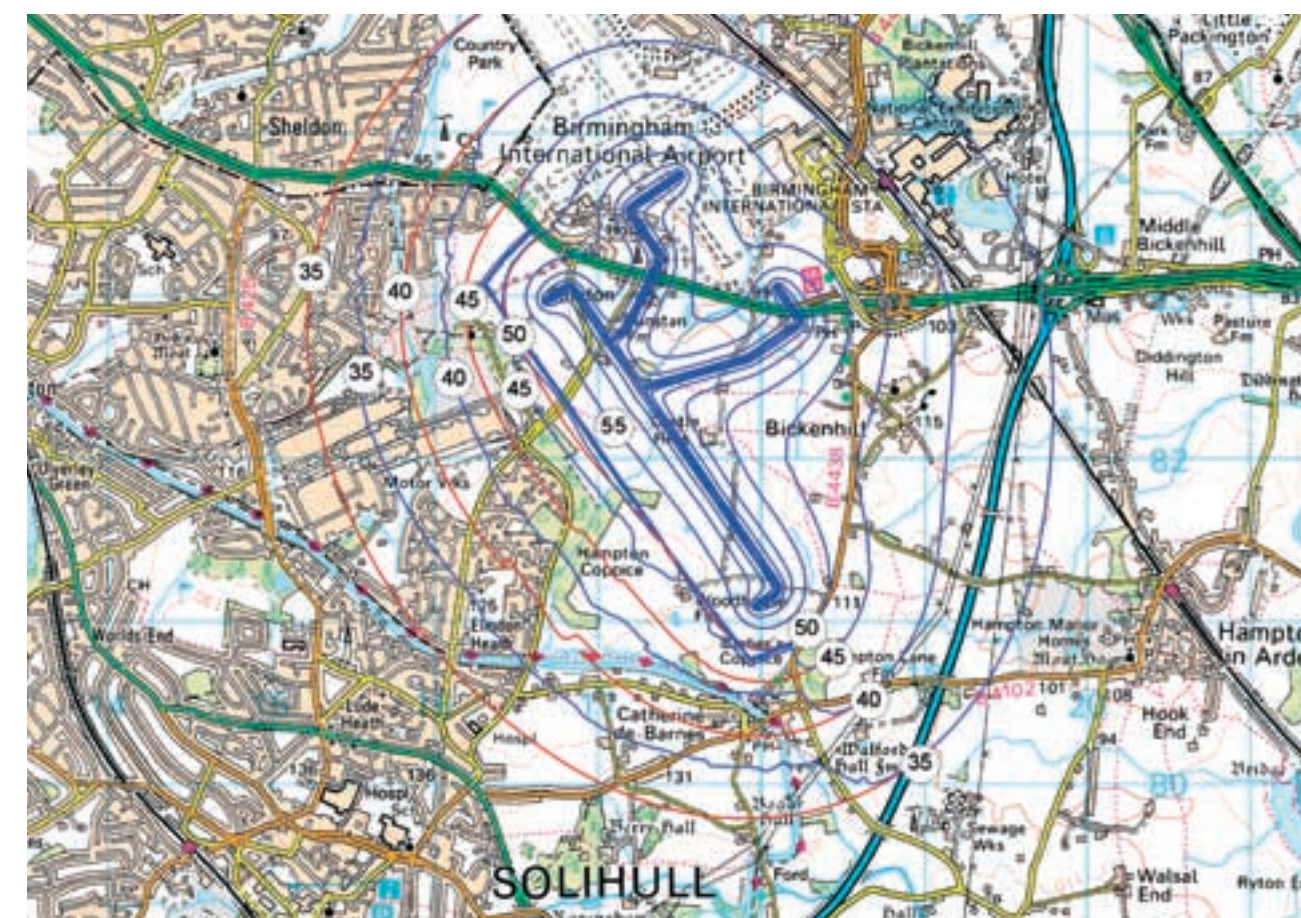
Footnote 48: In 2004, such exceedences totalled 17 or 0.4% of total night movements

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Ground Noise

- 10.22** 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).
- 10.23** Although there is no requirement in the DfT's guidance on the preparation of airport master plans to undertake a ground noise study, the Airport Company considers it is important that a study to assess the ground noise impact of the proposed new Second Runway and its taxiway links was undertaken. Consequently, a ground noise study was commissioned. The study also examined mitigation measures that could be put in place with specific reference to the proposed new Second Runway.
- 10.24** The existing Main Runway already has in place apron and parallel taxiway noise bunds that currently provide significant noise mitigation. As airport traffic using the existing Main Runway grows, these bunds will continue to provide important mitigation against ground noise.
- 10.25** 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. A dedicated Engine Ground Running facility at the Elmdon Terminal Site has therefore been proposed and is shown in the Proposals Map.
- 10.26** The ground noise study focussed on aircraft ground noise and did not specifically undertake a ground noise study of road noise. The re-alignment of the A45 is not expected to increase the overall noise impact because of its location within a tunnel and in cutting.
- 10.27** It should be noted that there are no definitive methods for the assessment of the impact of ground noise. The ground noise study results are presented in the form of ground noise contours, based on the '92 day summer period' as used for air noise contours. The assessment criterion has been considered in terms of LAeq,16h (dB) (0700 – 2300) daytime. Night noise contours have not been calculated as it is not proposed to operate the proposed new Second Runway at night.
- 10.28** In evaluating the impact, it could be compared to the predicted noise level against benchmark values, such as those proposed by World Health Organisation (WHO) 'Guidelines for Community Noise'. The WHO guidelines suggests that 'to protect the majority of people from being seriously annoyed during the day time the sound pressure level in outdoor living areas should not exceed 55 dB LAeq,16h'. It also suggests that 'to protect the majority of people from being moderately annoyed during the day time the sound pressure level in outdoor living areas should not exceed 50 dB LAeq,16h'. The guidelines are considered very onerous.
- 10.29** The results demonstrate that the unmitigated noise levels at the worst affected residential areas are all below the 'moderate annoyance' criterion. At worst, the noise levels are no higher than 48 dB LAeq,16h which is not substantial having regard to the predicted background noise levels.

Figure 10.2 – Forecast Summer Day Ground Noise Contours for Second Runway 2030



Key:

- Ground Noise Contour Leq 16 Hour dB(A) (with noise bund)
- Ground Noise Contour Leq 16 Hour dB(A) (without noise bund)

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10.30 The main method to mitigate against aircraft ground noise is by the provision of noise bunds. Two options were examined:

- > By means of an earth bund to the western perimeter of the proposed future Operational Area boundary, proposed to run along the full length of the proposed new Second Runway. It is not possible, for safety reasons, to locate the bund close to the taxiway as it would interfere with the runway, but it has been designed to be as close to the runway as safeguarded surfaces would allow. This is referred to as the 'parallel bund'.
- > An alternative of placing a number of bunds very close to residential properties was also examined. This bund is referred to as the 'idealised bund'.

10.31 The predicted improvement afforded by these bunds, compared to the unmitigated option is no more than 5 dB and is typically in the region of 3 dB. The 'idealised' bund typically provides up to 1 dB more attenuation than the 'parallel' bund.

10.32 If a bund were to be employed for the proposed new Second Runway, it is estimated that there would be an insignificant difference in ground noise terms between the two alternatives. Consequently, the location of the bund should be selected based upon its impact on visual amenity and ecology alone. The preferred option, therefore, is to provide a parallel bund that is contained within the proposed Airport boundary appropriately landscaped to provide visual amenity.

Air Quality

10.33 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 The Air Quality Strategy (DETR, 2000, DoE, 1997).⁴⁹ 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.

10.34 The important air pollutants are those which, for overall emissions from all sources, may lead to concentrations in the atmosphere which approach, or exceed, limits or guideline values set for the protection of the environment or human health. In the immediate vicinity of airports, emissions of oxides of nitrogen (NO_x, the sum of nitric oxide, (NO) and nitrogen dioxide, (NO₂)), sulphur dioxide (SO₂), carbon monoxide (CO), hydrocarbon (HC) compounds (especially benzene and toluene) and particulate matter (PM₁₀) are considered to be contributors to local air quality concerns.

10.35 Aircraft are not usually the major source of local emissions. Indeed, aircraft entering today's fleets are 70% more fuel efficient, emit 50% less CO, and 90% less unburnt HC and smoke, compared with the 'first generation' fleets of the 1960s.⁵⁰ Airports are a complex source of air pollutants. They are developing into major multimodal public transport hubs, accommodating air, rail, metro and road networks. In terms of local air quality, this increases the complexity of determining the contribution of various emission sources. It should be noted that, in general, airport related emissions are very low compared to other sectors in the UK, for example airport related emissions contributed less than 4% NO_x and less than 5% PM₁₀ in 2002.⁵¹ Research programmes aim to achieve a further 50% fuel saving by aircraft, and a consequent 80% reduction in NO_x, by 2020.⁵²

Footnote 49: <http://www.defra.gov.uk/environment/airquality/strategy/>

Footnote 50: IATA Environmental Review 2004 <http://www.iata.org/ps/publications/9486.htm>

Footnote 51: <http://www.naei.org.uk>

Footnote 52: ACARE & NASA goals

10.36 The Centre for Air Transport and the Environment (CATE) at Manchester Metropolitan University were commissioned to undertake an Air Quality Study to assess the impact of the proposals in this Draft Master Plan. The study assessed the effect of the Master Plan proposals on air quality in 2010, 2015, 2020 and 2030 compared to a base year of 2003. The study also examined the contribution of various sources to total air pollution concentrations. Total air pollution concentrations are also compared with UK Air Quality Standards.

10.37 Emissions of air pollutants from airport related sources arise principally from landside motor vehicles (e.g. passengers, airport employees, freight vehicles etc entering and leaving the Airport), airside support vehicles, aircraft engines, and other sources such as heating/power generation and plant and petrol storage).

10.38 In order to assess ambient air quality concentrations, emission data needs to be entered into a dispersion model. Emissions were therefore calculated from airport related sources (including the M42) and are summarised in the following table:

Emissions Source	2003	2010	2015	2020	2030
NO _x (Tonnes p.a.)	1055	1028	1098	1218	1605
CO (Tonnes p.a.)	2436	1827	1903	2132	2921
SO ₂ (Tonnes p.a.)	26	35	42	75	65
HC (Tonnes p.a.)	307	243	261	298	389
PM ₁₀ (Tonnes p.a.)	40	36	36	39	47

10.39 The results of the air quality study do not predict any future year exposure air quality standard exceedences. The results generally show increases in emissions, in line with expectations that would result from increased air and road traffic.

10.40 Although the study demonstrates that the 2030 position will be compliant, it is important to understand that the figures derived present a 'worst case' scenario regarding aircraft emissions. This is because the data was obtained by projecting forward an aircraft fleet mix based on current types. New aircraft types coming 'on stream' (for example the Embraer 195, Boeing 787, and Airbus A350) could generate less emissions and these reductions, along with other examples, have not been subtracted from the forecast fleet mixes (likewise, types likely to be 'retired', such as the MD87, have been left in the calculations). ICAO has recently established a new, more stringent, NO_x standard that will apply to all newly certified aircraft engines from 2008.⁵³ Also, there are ACARE targets of an 80% reduction in NO_x emissions for new aircraft in 2020 (relative to new aircraft in 2000).⁵⁴ None of these reduction standards or targets has specifically been built into this air quality study.

Footnote 53: IATA Environmental Review 2004 <http://www.iata.org/ps/publications/9486.htm>

Footnote 54: <http://www.acare4europe.com/docs/ASD-Annex-final-211004-out-asd.pdf>

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10.41 The Airport Company will undertake further analysis of revised fleet mixes and latest standards and targets, and undertake an additional air quality emissions scenario to assess the potential reduced impact. Nevertheless, it is reasonable to assume that the actual 2030 position will be one of lower emissions.

In order to manage air quality, the Airport Company will:

- > Continue to undertake 24 hour air pollution monitoring at its site.
- > Continue to raise general awareness of air quality issues.
- > Provide Fixed Electrical Ground Power on aircraft stands and restrict 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, visitors and staff.
- > Encourage and specify the use of emerging technologies

Energy Use and Climate Change

10.42 The Airport Company supports the position of Airports Council International (ACI) 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 objectives.⁵⁵

10.43 The Airport Company, through membership of ACI, recognises the role of ICAO in setting standards, and 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 Scheme.⁵⁶

10.44 Airports already have clearly-defined responsibilities with respect to the European Union emissions trading scheme. In effect, currently, where airports have energy infrastructure exceeding a 20-megawatt threshold, they will participate in the European Union Emissions Trading Scheme from 2005. Current usage at Birmingham International Airport is in the region of 7-megawatts, and it is anticipated that future capacity will cross the threshold, during the plan period for this Master Plan.

10.45 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, electric and hydrogen-powered vehicles and ancillaries.

Footnote 55: Airports Council Europe Position Paper 26 August 2005
<http://aci-europe.org/upload/ACI%20EUROPE's%20views%20on%20how%20to%20incorporate%20air%transport%20into%20an%20EU%20Emissions%20Trading%20Scheme%20-%20FINAL.pdf>

Footnote 56: Airports Council Europe Position Paper 26 August 2005
<http://aci-europe.org/upload/ACI%20EUROPE's%20views%20on%20how%20to%20incorporate%20air%transport%20into%20an%20EU%20Emissions%20Trading%20Scheme%20-%20FINAL.pdf>

Water Resources

10.46 The proposals in this Draft Master Plan have the potential to impact upon both surface and groundwater resources in the proposed future Operational Area. There are two surface watercourses likely to be affected by the proposals: Low Brook and Bickenhill Brook.

10.47 The bedrock underlying the Operational Area comprises the Mercia Mudstone, a formation classified as a Non Aquifer. The Alluvium within the valley floors of the Low Brook and Bickenhill Brook is classified as a Minor Aquifer. There is only one groundwater abstraction within 3 kilometres of the area. The area is not located within any current Groundwater Source Protection Zones.

10.48 Based on the environmental information on water resources collated to date, it is clear that the existing surface watercourses within the catchments affected by the proposals in this Draft Master Plan generally have good water quality. A number of factors, however, 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 generally 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 will require retention and treatment.
- > Accidental spillage.
- > Permanent diversions of Low Brook and Bickenhill Brook.
- > Relocation of the Fuel Farm.
- > 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 Low Brook and Bickenhill Brook.

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

10.50 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.

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Waste Management

10.51 The Airport Company already has measures in place to minimise waste and to recycle waste, wherever possible. It also encourages tenants to participate in waste recycling schemes. In 2005, the Airport Company will be developing 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

10.52 The proposed future Operational Area, and immediate environs, contains a number of sites of ecological interest. This includes the Bickenhill Meadows Site of Special Scientific Interest (SSSI) situated within the proposed future Operational Area, and the Shadowbrook Lane Meadows SSSI situated to the east of the proposed future Operational Area. There are also Sites of Importance for Nature Conservation (SINCs).

The full list of 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 not 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 meadow SINC Eco-site (county value).
- > Part of 'meadows to the east of the Jungle', i.e. parts not SINC Eco-site (county value).
- > Hampton and Elmdon coppice SINC (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).

10.53 During development of this Draft 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 both SSSIs is the potential for the hydrogeological regime to change due to surrounding infrastructure and changes in infiltration patterns. This could affect the structure of their flora.

10.54 Whilst the SSSIs are not directly affected, there will be areas of land take from the SINCs and Eco-sites. Preliminary indications of landtake include:

Site	Area of Landtake (Hectares) except where stated
2 (c) remaining parts of Shadowbrook Lane Meadows (i.e. Those parts not SSSI or SINC) Eco-site.	1
3 (a) Castle Hill Farm Meadows SINC	4.5
3 (b) Fields at Clock Lane Meadows (i.e. those not part of Castle Hills Meadow SINC) Eco-site.	52
3 (c) Part of 'meadows to the east of the Jungle' (i.e. Parts not SINC) Eco-site.	2.3
4. Hampton and Elmdon coppice SINC.	1.1
5. Elmdon Park Eco-site.	0.1
6. Elmdon grasslands Eco-site.	4.2
7. Low Brook and Kingshurst Brook Eco-site.	2.9km 'affected'
9. Elmdon Manor LNR / Eco-site.	0.25

10.55 The land take of designated sites will primarily result in a loss of nationally important grassland communities (National Vegetation Classification type MG4 and some small areas of MG5),⁵⁷ as well as some woodland (e.g. The Jungle) and significant lengths of hedgerow. This cumulative effect on designated sites across this area is significant. The initial estimate of land take from designated areas is 65.5ha. The loss, or alteration, of watercourses is also considered significant primarily due to the presence of water voles and native white-clawed crayfish.

10.56 In addition, some off-site areas, particularly Barber's Coppice, will be affected due to obstacle clearance issues, related to the proposed new Second Runway, which will result in some trees being cut in height.

Footnote 57: <http://www.jncc.gov.uk/page-2166>

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10.57 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. This would result in a compensation site (or sites) of somewhere in the region of 130 hectares being created.
- > Translocation of some of the habitats and species. Grassland habitats can be translocated directly, i.e. via cutting turfs. It may be better to accumulate seed from the areas to be lost, to use for sowing at the 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 this large compensation plan would have to happen several years 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's in order to detect any unforeseen changes in water tables as a result of the 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

10.58 There are a number of archaeological features within the proposed future Operational Area, including a variety of ridge and furrow features, relict stream courses, linear features and remains associated with existing built heritage. Based on the information collected to date, these features will not be significantly impacted by the proposal in this Draft Master Plan. There are no Scheduled Ancient Monuments (SAMs) within the proposed future Operational Area, 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.

10.59 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 Castle Hills, Elmdon Lodge and Bickenhill Village Conservation Area will be developed in liaison with English Heritage to mitigate these impacts.

10.60 In terms of Built Heritage, there are two Grade listed buildings (Castle Hills Farmhouse and Elmdon Hall Lodge), plus Hargrave Hall, within the proposed future Operational Area, which have the potential to be directly affected by this Draft Master Plan. There are a number of other important buildings adjacent to the proposed future Operational Area which may be indirectly affected. This includes the Bickenhill Village Conservation Area (including the grade listed buildings of St Peter's Church and Grange Farmhouse).

Landscape and Visual Impact

10.61 The landscape character of the proposed future Operational Area is principally a farmland plateau characterised by an enclosed and gently undulating landscape, defined by woodland edges and belts of trees and hedgerows. The proposals in this Draft Master Plan would directly change this landscape character through regrading of the site, loss of trees and airport development. Other areas of distinct landscape character surround the proposed future Operational Area (e.g. Bickenhill Village and Elmdon Park) and these would be affected indirectly to varying degrees.

10.62 Due to the relatively flat topography, hedges and woodland belts within the landscape, the Zone of Visual Influence is not likely to extend significantly beyond the proposed future Operational Area. The Zone of Visual Influence will extend to the Grand Union Canal to the south, Sheldon to the west, Lea Hall to the North, and Bickenhill to the East. The most significant visual impacts would result from the loss of agricultural land and the overall reduction of mature vegetation within the rural areas to the immediate south of the extended Airport boundary. The principal issue will be effects upon permanent views of residents. Transient views associated with footpath users, motorists and those in vehicles are less sensitive.

10.63 Therefore, the design will be developed to maximise the amenity of remaining resources and develop positive contributions to the conservation and enhancement of the wider landscape. Mitigatory screen planting will be necessary at key locations. In addition, appropriate landscape planting will be developed for noise bunds. In other areas, particularly off-site compensation areas, appropriate mitigation will be developed in concert with mitigation for ecological impacts.

10.64 There are no over-riding international or national designations associated with landscape or visual issues.

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Landscape Issues

- > Loss of existing trees, woodland copses and hedgerows over the proposed future Operational Area.
- > Indirect landscape impact at Bickenhill Village and sensitive parkland and residences at Elmdon Park.
- > Diversion of public rights of way across the proposed future Operational Area.
- > Loss of rural setting north of Grand Union Canal.
- > SSSIs and SINCs within the proposed future Operational Area are extremely sensitive to direct or indirect impacts resulting from the implementation of the Master Plan proposals.

Visual Issues

- > Views from the northwest, west and south, (Elmdon Park/Heath/Catherine de Barnes) will generally be affected by the loss of rural setting and introduction of Airport infrastructure. However, views will be screened and obscured to varying extents by existing planting.
- > Views from Bickenhill Village are likely to be mitigated to some extent by the dense nature of existing planting.
- > Implementation of the Master Plan proposals is likely to have a relatively limited effect on the urban area north of the existing Airport boundary by further extending the urban fringe into existing rural areas.
- > Views from public rights of way in rural areas between Catherine de Barnes Lane and the M42 will be affected by Master Plan proposals.
- > Longer distance views from the east and north-east to the proposed future Operational Area will also be affected to a lesser extent, due to the distance from site.
- > 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 vegetation. Views from footpaths within the proposed future Operational Area, which will need to be diverted, will clearly be affected.

Social and Community

- 10.65** The proposed future Operational Area has 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 Operational Area there are a number of residential areas including the villages of Bickenhill and Catherine de Barnes.
- 10.66** Extensive changes are likely to be made to the A45 in the vicinity of the Airport. This will include a southerly realignment to accommodate an extension to the existing Main Runway. However, the impacts will be temporary, occurring during construction only, which may cause delays.
- 10.67** Damson Parkway will be re-routed, to the west of the proposed Airport boundary, through Elmdon Park. Old Damson Lane will be lost to the development. This is not regarded as significant, since it is not a through road and the locations it serves will also be lost.
- 10.68** The track linking Woodhouse Farm to Catherine de Barnes Lane will be lost.

10.69 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. The only exception is the footpath between Bickenhill and Elmdon Park (SL6, M113 and M113A).⁵⁸ Footpaths SL5, SL6, M104, M105, M112, M113 and M113A will be lost or partly lost. Bridleway SL1 and footpath M106 will be lost for part of their lengths. Other Public Rights of Way in the area will remain in use. The effect on footpaths SL6, M113 and M113A is significant because these form part of the 'Solihull Way'. Other potentially significant losses include the footpaths linking Bickenhill with Elmdon Park (M112), along with the bridleway SL1, Elmdon Park to the A45.

10.70 Some residences, businesses and other amenities within the proposed future Operational Area will be lost to the proposed development. Significant losses to the proposed development include the three sports fields and the eastern portion of Elmdon Park.

10.71 The remaining area of Elmdon Park would be impacted by noise from the proposed new Second Runway. Solihull Borough Football Club would also experience impacts from noise. The proposed development has been specifically designed to avoid any land-take from Bickenhill itself. Some 390 hectares of agricultural land would be lost to the proposed development. Minor additional land-take from road improvements might also be expected.

10.72 Mitigation measures during the construction of the roads infrastructure 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, construction traffic routing.

Health Impact Assessment

10.73 The DfT 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 importance of a Health Impact Assessment and has had some discussion with an NHS Primary Care Trust on the most appropriate approach on this subject.

10.74 The Airport Company has concluded that it was not feasible to undertake a full scale Health Impact Assessment during the preparation of this Draft Master Plan, but is willing to discuss a study covering the major development proposals. The Airport Company would therefore support the setting up of a Health Impact Assessment Group. This Group could have membership drawn from a wide range of disciplines under an independent Chairman. As part of the consultation process on this Draft Master Plan, the Airport Company is therefore seeking views on the best approach to forming a Health Impact Assessment Group and ultimately preparing a Health Impact Assessment.

10.75 A previous study completed in 2000⁵⁹ concluded that there was no link between air quality at the Airport and respiratory disease in the local population.

Footnote 58 <http://www.bhx.co.uk/Press/81.pdf>

Footnote 59: 'Respiratory Disease around Birmingham International Airport', Final Study Report March 2000, Institute of Public and Environmental Health, University of Birmingham

Section Two

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.
- ENV2** The Airport Company will consult with the Airport Consultative Committee, and all other relevant bodies, during the development process 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 to provide a comprehensive noise and track monitoring, noise and track investigation and noise complaint service. The Airport Company will publish regularly a wide range of noise information and noise reports.
- 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 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.
- ENV7** The Airport Company will maintain its commitment to the Sound Insulation Scheme and, where appropriate, implement modifications or improvements.
- ENV8** The Airport Company will review and develop a system of preferred noise routes to mitigate where practical the impact of aircraft noise and operations on local communities.
- ENV9** The Airport Company will continue to monitor planning applications to highlight proposals for development which fall within sensitive noise contours.
- ENV10** The proposed new Second Runway will not normally be operated during the night period (23:00 to 06:00 local time), except when the Main Runway is closed for example for periods of refurbishment, repair or maintenance.
- ENV11** The use of the proposed new Second Runway will be limited to quieter aircraft types, of Noise Quota Count (QC) of 0.5 or less, except in circumstances when the Main Runway is closed for example for periods or refurbishment, repair or maintenance.
- ENV12** The Airport Company will provide a landscaped noise bund parallel to the proposed new Second Runway which will mitigate against ground noise resulting from the proposed new Second Runway, and taxiway infrastructure.

Air Quality, Energy Use and Climate Change

- ENV13** 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.
- ENV14** The Airport Company will monitor air quality, on a 24 hour basis, at and around the Airport, and provide regular reports on air quality and emission levels.

- ENV15** 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.
- ENV16** The Airport Company will promote the use of public transport for passengers, visitors and staff in order to mitigate emission levels.
- ENV17** The Airport Company will conserve energy use in buildings and will investigate the introduction of renewable energy and low emission technology where appropriate.
- ENV18** 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 CO₂ Emissions Trading Scheme.
- ENV19** The Airport Company will monitor its energy capacity and participate in the European Union CO₂ Emissions Trading Scheme when its energy infrastructure reaches the threshold capacity.

Water Quality

- ENV20** 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 and foul water discharges.
- ENV21** 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

- ENV22** The Airport Company will continue to develop detailed policies with regard to Airport waste, in order to mitigate the amount of waste and the disposal of waste resulting from the Airport's operations.

Ecology and Archaeology

- ENV23** The Airport Company will take full account of the effects of the Airport's operations and development on ecological areas and, where possible, will mitigate impacts on important ecological features, particularly SSSIs.
- ENV24** 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.
- ENV25** The Airport Company will ensure that sites of Archaeological Importance will be investigated, documented and exploratory excavation undertaken where appropriate.

Landscaping

- ENV26** 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

11. Compensation & Land Acquisition

Land Acquisition

- 11.1** The current Airport Operational Area is approximately 330 hectares. This Operational Area will need to be expanded in order to accommodate the forecast growth of the Airport set out in this Draft 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.
- 11.2** 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.

Voluntary Compensation Scheme

- 11.3** 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. The Airport Company has accepted the principle that the people most directly affected by the proposals in this Draft Master Plan should have some form of redress and has, therefore, developed draft Voluntary Compensation Schemes.
- 11.4** An initial consultation on such schemes was carried out by the Airport Company between July 2004 and January 2005. Consultation responses were received from a wide range of interested parties and individuals. The consultation process also included the establishment of a Compensation Working Group, to consider the draft Voluntary Compensation Schemes proposed, membership of which included representatives of the consultees and other interested parties. The Airport Company considered the comments raised during the initial consultation process and has amended the draft Voluntary Compensation Schemes for this Draft Master Plan.
- 11.5** The revised draft Voluntary Compensation Schemes have now been published for further consultation, in parallel with this Draft Master Plan. Details of the Voluntary Compensation Schemes are set out in a separate consultation document, "Property Valuation Support Scheme"⁶⁰, which can be obtained from the Airport Company and is also available on the Airport Company's website. The Airport Company would welcome separate consultation responses on the revised proposals for the draft Voluntary Compensation Schemes (although they can also be included as part of consultation responses on this Draft Master Plan), which should be sent to.

Airport Master Plan (Voluntary Compensation Schemes)
Birmingham International Airport Limited
Birmingham International Airport
Birmingham B26 3QJ

Telephone: 0121 767 8082

E-Mail: runway@bhx.co.uk

Footnote 60: <http://www.bhx.co.uk/page.aspx?type=T0NaZj9WN0U=&id=U9+kVfQ7hD0=>

Land Acquisition & Compensation Policies

- LAC1** The Airport Company proposes to acquire properties and land which are required for the safe, effective and appropriate operation and development of the Airport 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 if required.
- LAC2** The Airport Company proposes to provide Voluntary Compensation Schemes, to address the issue of 'Generalised Blight' associated with future airport development.

12. Consultation Process & Next Steps

Consultation Process

- 12.1** The publication of this Draft Master Plan is the start of a formal process of public consultation, leading towards the development and adoption of a new Airport Master Plan by the Airport Company. There will now follow an extensive programme of consultation and community engagement, to include public exhibitions, public meetings and formal dialogue with key stakeholders. Whether this Draft Master Plan has been sent to you formally, as a consultee, or is being read from the Airport Company's website, comments and responses are welcome as part of the consultation process, with the deadline for responses of 31 March 2006.
- 12.2** Following the publication of the White Paper "The Future of Air Transport" (in December 2003), the Airport Company committed to review the existing Airport Master Plan "Vision 2005" and to produce a new Draft Master Plan for public consultation. The review process leading to this new Draft Master Plan has been carried out over the last eighteen months in accordance with a detailed strategy and programme which reflects the context of the White Paper and also addresses the core issues in the Department for Transport's "Guidance for the Preparation of Airport Master Plans" (published in July 2004). The Master Plan Review process has included an extensive programme of survey work and dedicated studies, which were designed to inform the preparation of this Draft Master Plan.
- 12.3** The Airport Consultative Committee, Airport Transport Forum and the West Midlands Regional Assembly's Regional Transport Partnership have been kept informed on progress with the Master Plan Review process. On 25 May 2005, the Airport Company also held a Wider Reference Conference on the Review process, to which a range of stakeholders and interested parties were invited.
- 12.4** The Airport Company welcomes consultation responses to this Draft Master Plan from all parties, whether they be individuals (including local residents) or groups (including local community groups, local interest groups, government organisations, local authorities or businesses). Should organisations wish to meet with the Airport Company before making a response, the Airport Company would be happy to arrange a meeting, or a presentation, if it would be helpful. If you do not follow any aspects of this Draft Master Plan, or need any further information before making a response, then you can write a letter, send an e-mail or contact the helpline (details below).

Questions to Consultees

- 12.5** The Airport Company would be pleased to receive responses on any aspect of this Draft Master Plan, but it would particularly welcome answers to the following questions:

- Question 1** Do you agree with the overall structure, layout and content of this Draft Master Plan.
- Question 2** Do you agree with the Aims and Objectives of this Draft Master Plan
- Question 3** Do you agree with the Policy Context, as set out in this Draft Master Plan
- Question 4** Do you agree with the analysis of the Airport's current and future economic and social impact, as set out in this Draft Master Plan
- Question 5** Do you agree with the forecasts in this Draft Master Plan.
- Question 6** Do you agree with the proposals for an extension of the Main Runway as set out in this Draft Master Plan.
- Question 7** Do you agree with the proposals for a new Second Runway, as set out in this Draft Master Plan.
- Question 8** Do you agree with the proposals for additional Passenger Terminal Capacity, as set out in this Draft Master Plan.
- Question 9** Do you agree with the proposals for the Elmdon Terminal Site, as set out in this Draft Master Plan.
- Question 10** Do you agree that the proposals for Landside Support and Ancillary Facilities, as set out in this Draft Master Plan.
- Question 11** Do you agree with the assessment of surface access issues, as set out in this Draft Master Plan.
- Question 12** Do you believe that the Section on Environmental Impacts and Mitigation in this Draft Master Plan has appropriate balance in considering the environmental issues.

- 12.6** Should you not agree with any, or all, of the questions, the Airport Company would welcome an explanation for not supporting the question, together with any alternative proposals.

Analysis of Consultation Responses

- 12.7** Following the closure of the public consultation period on 31 March 2006, the Airport Company will carefully consider all of the comments and responses received, with a view to whether they can be included, or reflected, in the new Airport Master Plan. It may be necessary to meet with some consultees and respondents, in order to discuss their comments and explore how the Master Plan may be altered or its contents could be changed. If it is not possible to respond positively to the comments of consultees and respondents, then the Airport Company will endeavour to explain why the Master Plan cannot be altered or its contents changed. The Airport Company will also keep the Airport Consultative Committee, Airport Transport Forum and the West Midlands Regional Assembly's Regional Transport Partnership informed on progress with the analysis of the comments and responses received, and consider holding a further Wider Reference Conference before publishing the new Airport Master Plan.

Section Two

Next Steps

12.8 The provisional programme for the Master Plan Review process is:

- > Publish Draft Master Plan for Public Consultation : October 2005
- > Close Public Consultation process for Draft Master Plan : March 2006
- > Publish new Airport Master Plan : Late 2006

It is anticipated that the new Airport Master Plan could then be considered for inclusion in the Partial Review of the West Midlands Regional Spatial Strategy and the new Solihull Local Development Framework, together with any other relevant Local Development Frameworks, Development Plans, Economic Strategies and Environmental Strategies.

12.9 Response to:

Airport Master Plan
Birmingham International Airport Limited
Birmingham International Airport
Birmingham B26 3QJ

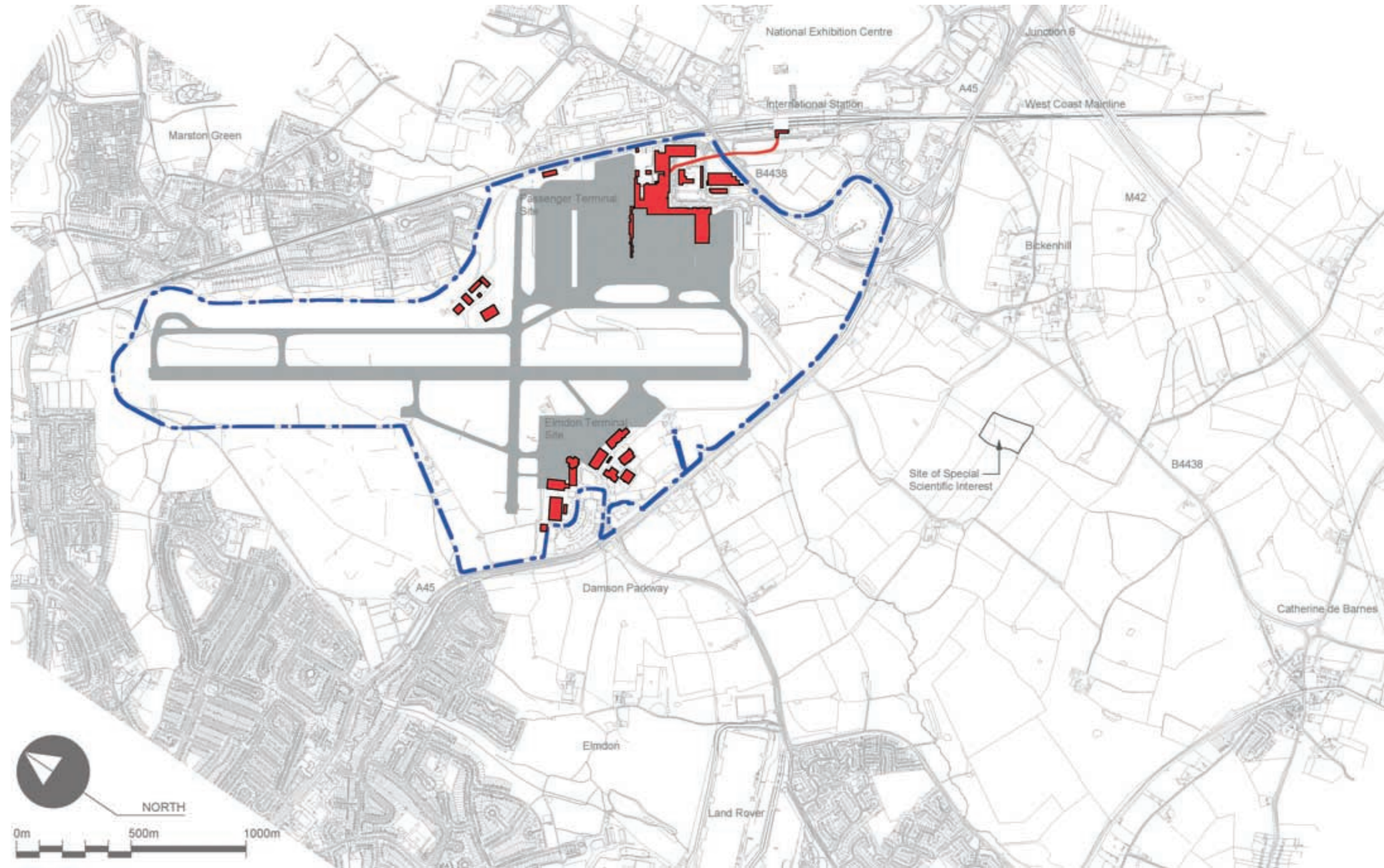
Telephone: 0121 767 7433

E-Mail: runway@bhx.co.uk

Section Three

Airport Layout 2005

- Key:
- Existing Airport Buildings
 - Aircraft Runways, Aprons & Taxiways
 - Operational Area & Airport Site Boundary



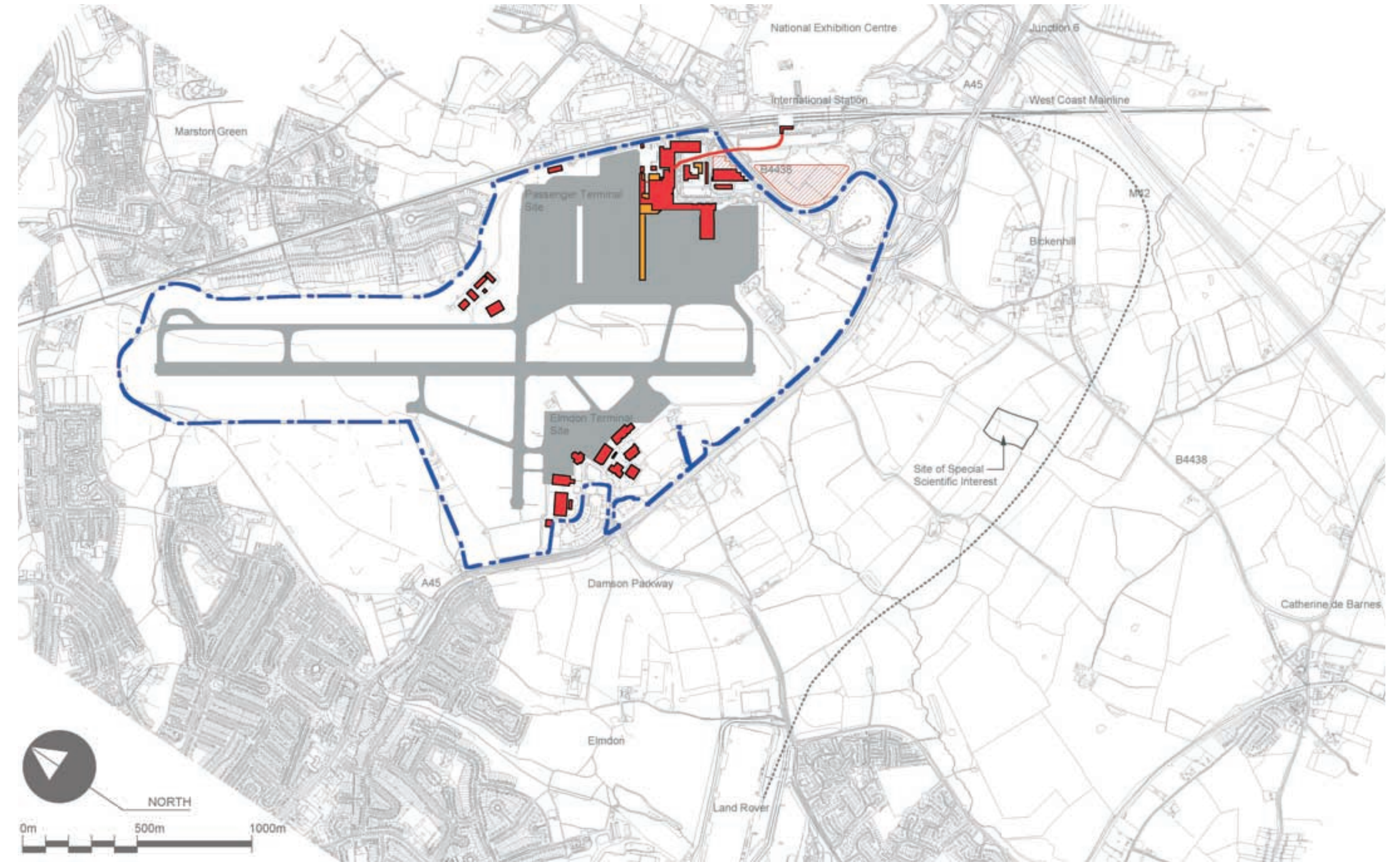
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Section Three

Airport Master Plan Proposals Map 2010

- Key:**
- Existing**
- Existing Airport Buildings Retained
- Proposals**
- New Buildings
 - Air Traffic Control Tower
 - Fire Station & Training Ground
 - Fuel Farm
 - Aircraft Runways, Aprons & Taxiways
 - Engine Ground Running Area
 - Apron Support Area
 - Safeguarded Site for Midfield Terminal
 - Ancillary Airport Development
 - RESA
 - Operational Area & Airport Site Boundary
 - Potential Noise Bund
 - People Mover
 - New Roads
 - Midland Metro Corridor
 - Potential Land Rover Rail Link
 - Improved Link to A45 & M42
 - Car Parking

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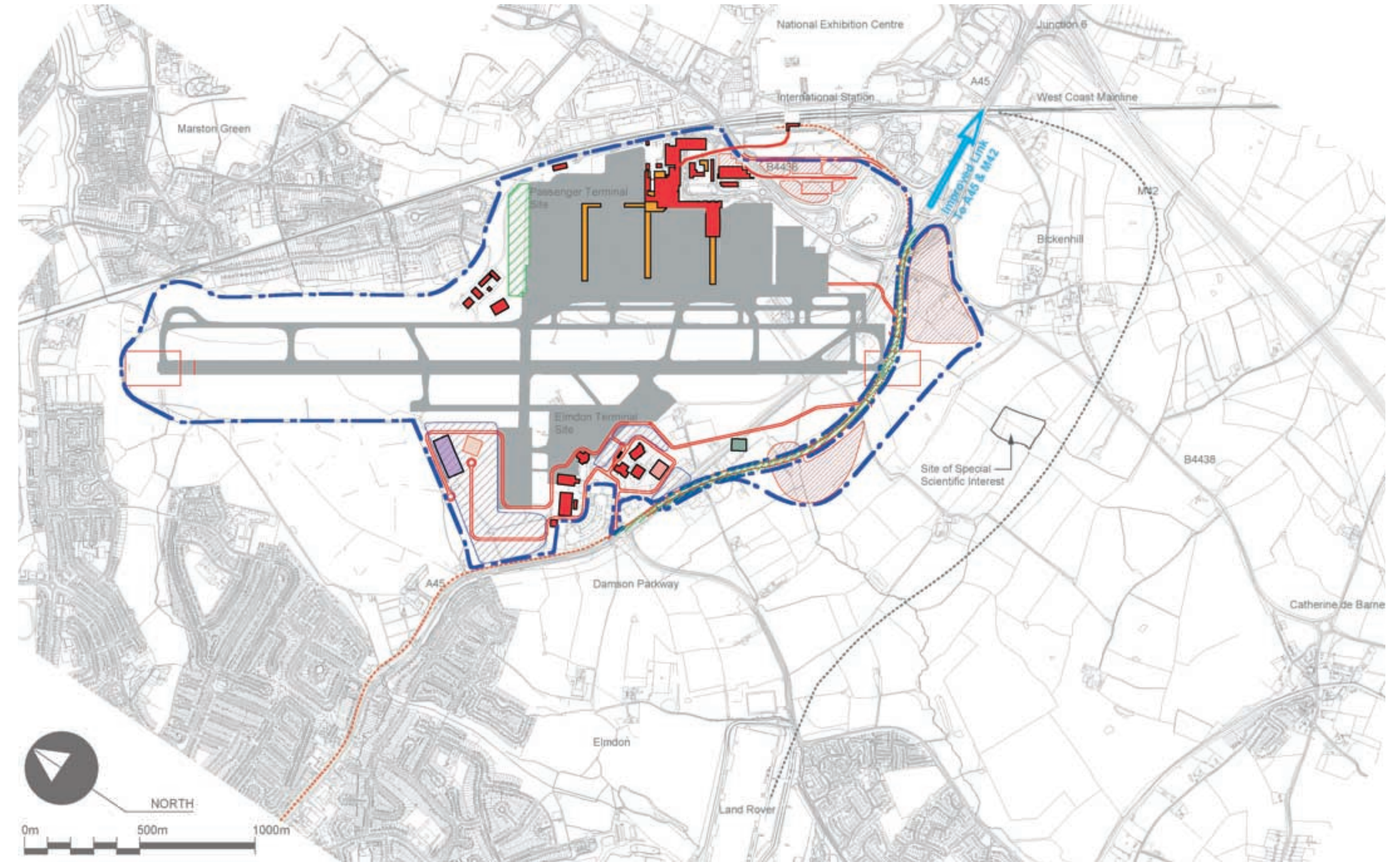


Section Three

Airport Master Plan Proposals Map 2015

- Key:**
- Existing**
- Existing Airport Buildings Retained
- Proposals**
- New Buildings
 - Fuel Farm
 - Apron Support Area
 - RESA
 - People Mover
 - Potential Land Rover Rail Link
 - Air Traffic Control Tower
 - Aircraft Runways, Aprons & Taxiways
 - Safeguarded Site for Midfield Terminal
 - Operational Area & Airport Site Boundary
 - New Roads
 - Improved Link to A45 & M42
 - Fire Station & Training Ground
 - Engine Ground Running Area
 - Ancillary Airport Development
 - Potential Noise Bund
 - Midland Metro Corridor
 - Car Parking

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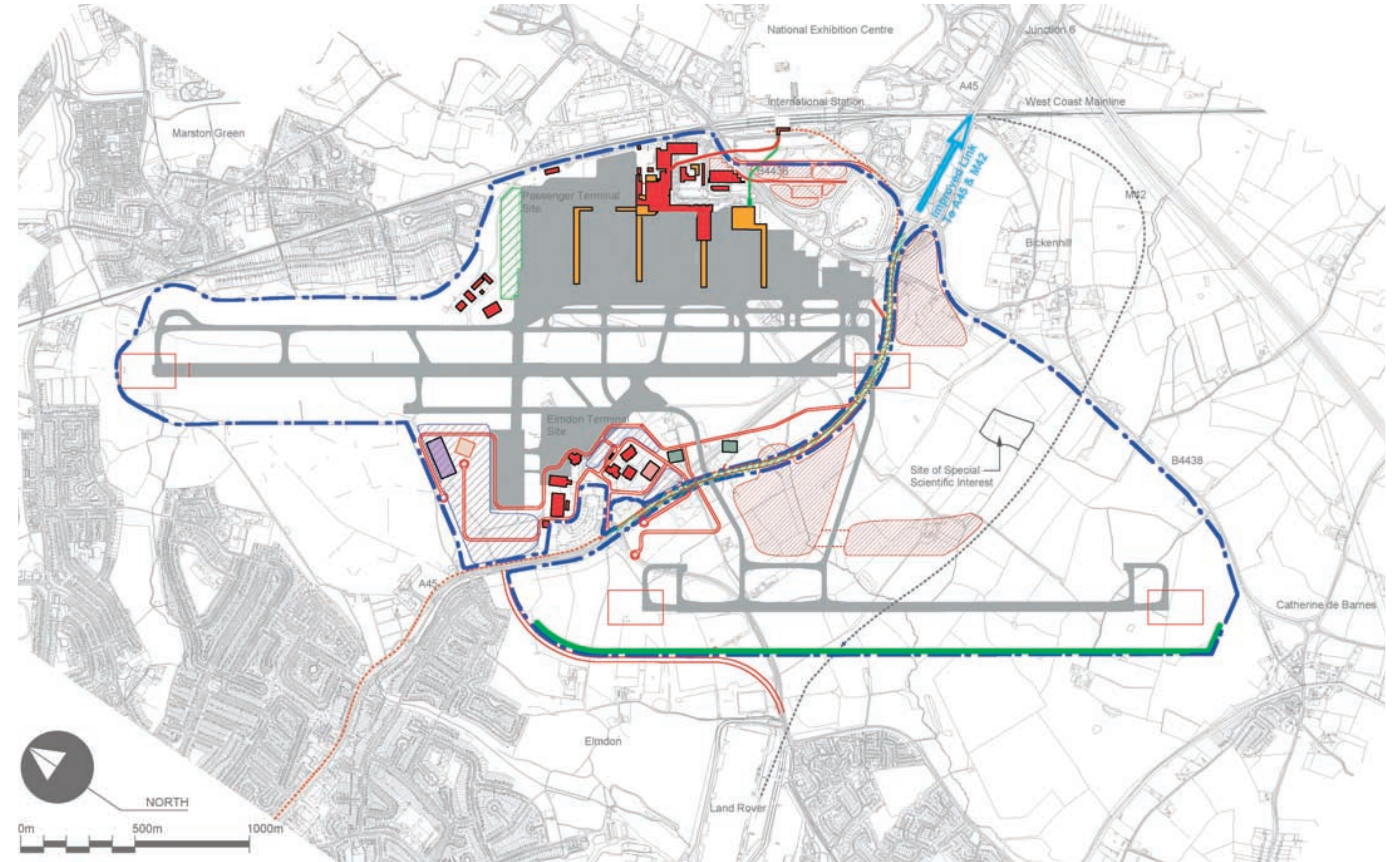


Section Three

Airport Master Plan Proposals Map 2020

- Key:**
- Existing**
- Existing Airport Buildings Retained
- Proposals**
- New Buildings
 - Fuel Farm
 - Apron Support Area
 - RESA
 - People Mover
 - Potential Land Rover Rail Link
 - Air Traffic Control Tower
 - Aircraft Runways, Aprons & Taxiways
 - Safeguarded Site for Midfield Terminal
 - Operational Area & Airport Site Boundary
 - New Roads
 - Improved Link to A45 & M42
 - Fire Station & Training Ground
 - Engine Ground Running Area
 - Ancillary Airport Development
 - Potential Noise Bund
 - Midland Metro Corridor
 - Car Parking

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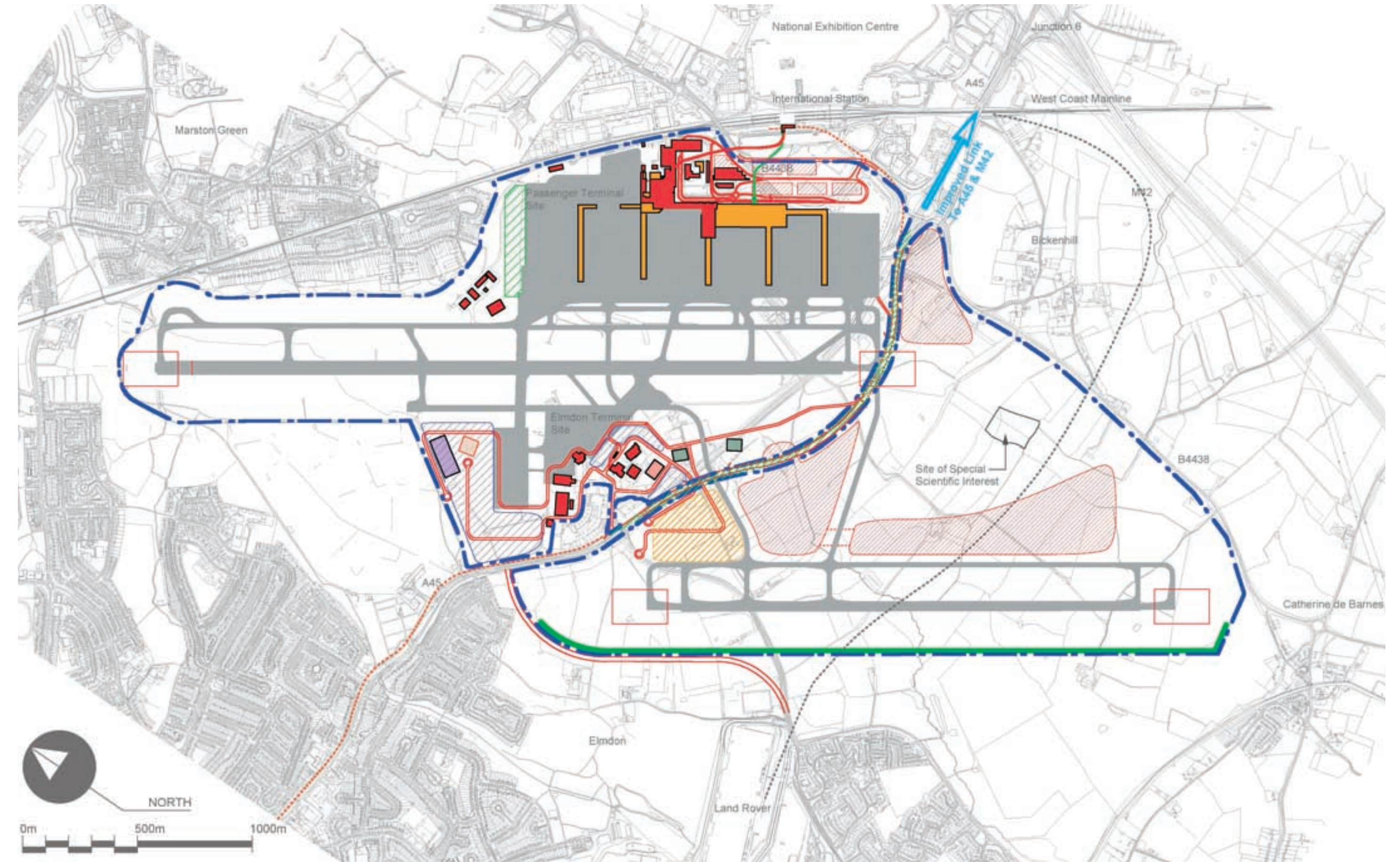


Section Three

Airport Master Plan Proposals Map 2030

- Key:**
- Existing**
- Existing Airport Buildings Retained
- Proposals**
- New Buildings
 - Fuel Farm
 - Apron Support Area
 - RESA
 - People Mover
 - Potential Land Rover Rail Link
 - Air Traffic Control Tower
 - Aircraft Runways, Aprons & Taxiways
 - Safeguarded Site for Midfield Terminal
 - Operational Area & Airport Site Boundary
 - New Roads
 - Improved Link to A45 & M42
 - Fire Station & Training Ground
 - Engine Ground Running Area
 - Ancillary Airport Development
 - Potential Noise Bund
 - Midland Metro Corridor
 - Car Parking

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Section Three

Airport Master Plan – Summary Environmental Features

Key:

Watercourse

Designated Sites

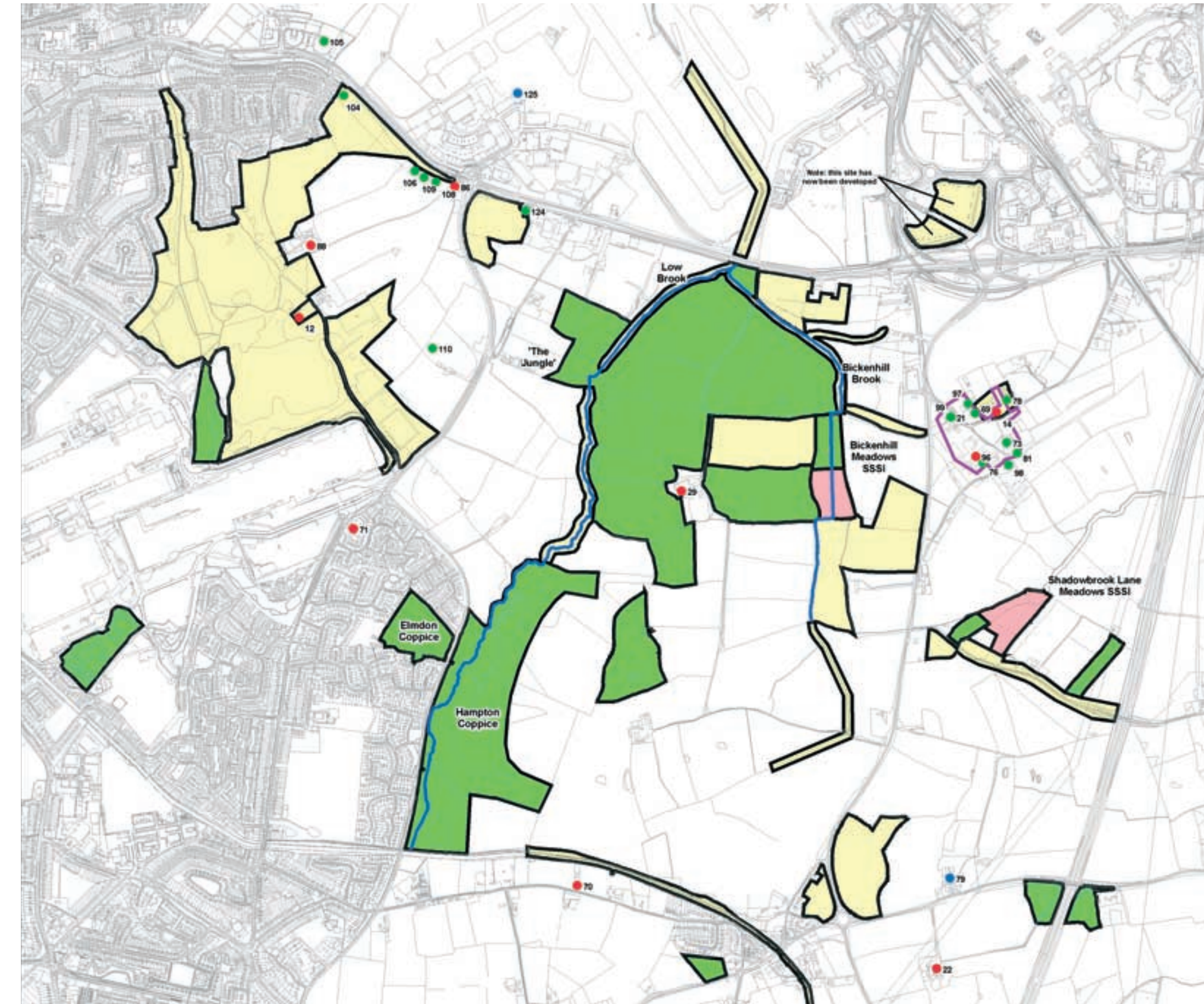
Ecosite
Site of Importance for Nature Conservation
Site of Special Scientific Interest

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)
- 69 – 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 – Hargford, Bickenhill
- 104 – Former Battle Headquarters, Elmdon
- 105 – Pilbox, 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

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Section Three



Section Four Appendices



Section Four

Existing Site & Facilities at Birmingham International Airport

1. The Airport has two runways:

- > Main Runway 15/33 (Instrument – Category III) 8,547 ft/2,605 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 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. T1 (formerly 'Main Terminal') opened in 1984, and T2 (formerly known as 'Eurohub') opened in 1991.

5. After a Public Inquiry in 1979, approval was given for a 'new' Passenger Terminal (now T1) and associated infrastructure. Construction of the "new" passenger terminal facilities began in 1981, and they were completed, ahead of schedule, in early 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 T2 (and previously referred to 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 T1, 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 current Master Plan "Vision 2005", the Airport Company submitted an Outline Planning Application for the "Expansion of the Passenger Terminal Facilities and its 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 T1
- > landside and airside extensions to T2
- > 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)	7,395
Multi Storey (Three Car Parks)	3,795
Short Stay	320
Staff/Employees	1,700
Total	13,210
Car Hire	345
Total	13,555

12. The Airport is connected to Birmingham International Station (via the Birmingham International Interchange) and the local and intercity rail networks, and the 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 T1 and at the Birmingham International Interchange with direct access to Birmingham International Station.

Section Four

13. In 1990, a Novotel Airport Hotel (with 196 bedrooms) was opened at the Passenger Terminal Site. The overall 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 T2.
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. The freight facilities are provided at the Elmdon Terminal Site, where they are 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 Freepport.
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 have provided further and more extensive 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 airbridges, 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 a permanent AVGAS facility, whilst an underground fuel pipeline has been constructed to the Airport. Hydrant refuelling was installed for the T2 aircraft stands, which could be extended to the T1 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 3 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 is designed to provide 36,000 square metres of office accommodation.

Air Transport Trends at Birmingham International Airport

1. The growth in passengers, freight and air transport movements since 1984 at Birmingham International Airport is given in Table 1.

Table 1: Passenger, Freight and Air Transport Movements 1984 – 2004

	Total Passengers	Total Flown Freight (Tonnes)	Air Transport Movements
2004	8,870,304	9,477	109,914
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
1985	1,696,490	5,526	35,363
1984	1,729,024	4,458	35,010

Source : Civil Aviation Authority

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

Section Four

2. The breakdown of passenger, freight and aircraft movements for 2004 is given below in the following tables:

Table 2A: Passengers

By Type		By Market Sector		By Terminal	
Terminal	8,804,466	International Scheduled (Terminal)	4,514,361	Terminal 1	7,158,583
Transit	65,838	International Charter (Terminal)	2,949,935	Terminal 2	1,711,721
Total	8,870,304	Domestic (Terminal)	1,340,170	Total	8,870,304
		Total	8,804,466		

Table 2B: Freight (Tonnes)

Total	9,477
-------	-------

Table 2C: Air Transport Movements

Passenger	109,538
Freight	376
Total	109,914

Table 2D: Total Aircraft Movements

Air Transport Movements	109,914
Other Commercial Movements	3,585
Non Commercial Movements	7,301
Total	120,800

Source : Birmingham International Airport Limited

Table 3: Monthly Terminal Passenger Traffic by Market Sector for 2004

	International Charter	International Scheduled	Domestic	Total
January	116,213	328,830	88,425	533,468
February	117,578	374,775	99,796	592,149
March	125,068	424,152	108,680	657,900
April	146,128	422,458	106,039	674,625
May	306,378	385,771	99,301	791,450
June	376,551	395,200	104,283	876,034
July	411,436	425,067	107,994	944,497
August	429,329	426,632	106,046	962,007
September	391,744	422,820	108,437	923,001
October	319,372	401,826	105,615	826,813
November	103,940	322,387	102,669	528,996
December	103,839	299,768	89,919	493,526

Source: Birmingham International Airport Limited

Glossary of Terms

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 take-off landing 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 users of the airport neighbouring local authorities and interests of 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 monitor the noise and tracks of Air Transport Movements.

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 the 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 2: Aircraft Noise Contour Model version 2.

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.

Section Four

CDA: Continuous Descent Approach – a procedure intended to minimise noise nuisance during the intermediate approach phase.

Chapter Aircraft: Aircraft are classified by ICAO's "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.

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.

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 planning permission 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, 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 the Airport to which the public have general access.

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

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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.

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

Lnight: Usually 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; 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 the 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 swathe.

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, 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.

Public Safety Zone: 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 these 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): The weighting attributed to the arrival or departure of a specified aircraft type by reference to its certificated noise performance.

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

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.

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.

SI: Statutory Instrument. 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.

SINC: Site of Importance for Nature Conservation.

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

SSSI: Site of Special Scientific Interest.

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

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.

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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 taxiway: 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: 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 to 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, 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.



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Other Publications:

Draft Master Plan Explained
Introducing Birmingham International Airport's Draft Master Plan:
Your questions answered

Draft Master Plan Executive Summary
Towards 2030: Planning a sustainable future for air transport
in the Midlands

Towards 2030
Property Valuation Support Scheme

Available from: www.bhx.co.uk, or contacts above.

Design

Designed by Switch Design Consultancy –
www.switch-design.co.uk

Material

Printed on: Cover – 300gsm Revive Silk (Fibre source 75%
de-inked post consumer waste, 25% mill broke/virgin fibre)
Text – 150gsm Revive Silk (Fibre source 75% de-inked post
consumer waste, 25% mill broke/virgin fibre)