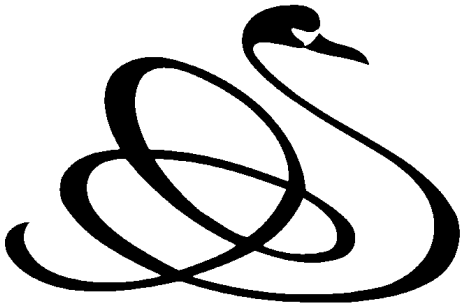


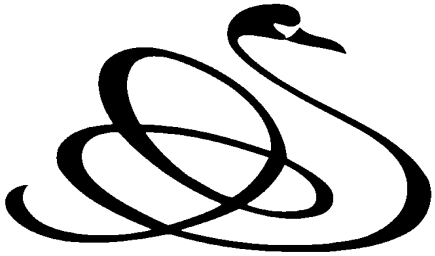
York Aviation

SCOTTISH ENTERPRISE & BAA EDINBURGH

THE ECONOMIC IMPACT OF EDINBURGH AIRPORT

Final Report

August 2009



York Aviation

Originated by: James Brass.....

Dated: 5th August 2009.....

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Scottish Enterprise & BAA Edinburgh

The Economic Impact of Edinburgh Airport

Contents

EXECUTIVE SUMMARY

Background and Introduction

In December 2008 Scottish Enterprise in conjunction with BAA commissioned York Aviation to undertake an economic impact assessment of Edinburgh Airport (EDI)[1], considering the current and future importance of the Airport to the Edinburgh City Region and Scotland as a whole. This report presents the findings from this assessment. The Study has been undertaken in the context of a number of key strategies including particularly the West Edinburgh Planning Framework.

EDI is the largest airport in Scotland and the seventh largest in the UK. In 2008 the Airport handled around 9.0 million passengers, 49,000 tonnes of cargo and 119,000 aircraft movements (ATMs). The Airport is one of the most important transport gateways in Scotland. There were 90 scheduled service destinations in 2008, of which 66 were international and 24 were domestic. All five London airports are in the top 10 destinations for EDI.

Passenger traffic at the Airport has grown by 20.3% over the past five years. As a whole Scottish airports have grown by 15.5% over the period and consequently EDI has increased its market share within Scotland from around 35.5% to around 36.9%.

UK nationals (84%) dominate passenger traffic at EDI. It is also noteworthy that the Airport handles a higher proportion of business passengers (43%) than many other major UK airports and around 97% of passengers are travelling on scheduled services.

The forecasts associated with the Airport Master Plan estimate that passenger throughput will grow to between 18.8 million passengers per annum (mppa) and 26 mppa by 2030 with a central forecast of 23.0 mppa. In order to facilitate this growth, for the next 10 year period BAA Edinburgh has committed to a significant £200m investment, the cost to be met entirely by BAA as the private airport operator. For the purposes of this economic impact assessment, York Aviation has also defined an alternate constrained scenario. This sees the Airport limited to around 12 mppa reflecting no further significant investment in infrastructure.

[1] EDI is the IATA code for Edinburgh Airport.

Policy Context

The Future of Air Transport White Paper, published in December 2003, recognises, in general, the important role that airports have to play in the future growth and prosperity of the regions they serve and offers support for the development of an additional runway at Edinburgh Airport.

The Scottish Government acknowledges that good air links support Scotland's economy, including the tourism industry, and aims to encourage the development of direct routes to Scotland to foster inward investment and tourism. However, airport expansion does also need to be viewed in the context of the Scottish Government's Climate Change Bill which establishes challenging targets for emissions reductions in the long term. While aviation is a relatively small contributor to the UK's total CO_2 emissions, around 6% according to the Department for Transport, the economic benefits need to be weighed against environmental costs and appropriate strategies for long term management of aviation's emissions must be implemented, most obviously through the sector's entry in to the EU Emissions Trading Scheme (ETS). Aviation's entry in to the EU ETS is supported by the Scottish Government as a key strategy for addressing carbon emissions from aviation.

The UK aviation industry's commitment to the sustainable development of air transport through its Sustainable Aviation strategy, to which BAA is a signatory, should also be noted. Signatories to the strategy are committed to delivering significant reductions in carbon dioxide emissions, nitrogen oxide emissions and aircraft noise over the next 15 years.

The Proposed National Planning Framework for Scotland articulates the role of airports as providing global connections that will underpin wider economic success within Scotland. A limited number of 'national developments' are identified in that Framework, including at Edinburgh Airport.

The West Edinburgh Planning Framework acknowledges that, to realise the area's full potential as a driver of the Scottish economy and high quality gateway to the world, the Airport's growth must be matched with the provision of sustainable transport infrastructure. The Planning Framework also provides explicit support for the safeguarding of development land at Edinburgh Airport.

The continued development of Edinburgh Airport is therefore of critical importance in national, regional and local policy to the achievement of Edinburgh's role as a globally connected world city and the consequent economic and social benefits for its City-Region and for Scotland as a whole.

Economic Context

The Edinburgh City Region is a significant driver of the Scottish economy. It is not only one of the largest centres of economic activity but also one of the most dynamic. Since 2001 the Edinburgh City Region economy has accounted for between 34% and 38% of Scotland's GVA. This City has a high GVA per capita reflecting its position as a centre for high value added economic activities, particularly in areas such as financial services and knowledge based industries, and its highly skilled workforce.

The latest Cambridge Econometrics forecasts suggest that Scotland is, as a whole, underperforming and that if it is to improve its prospects for the future it needs to maximise the assets available to it. It is in this context that the future development of EDI needs to be considered. A 'healthy', growing EDI can help to redress this growth gap to the rest of the UK through its role as an economic driver.

Driver of the Edinburgh City Region

Edinburgh's Global Economy

Edinburgh as the capital of Scotland has traditionally had a strong international presence. It has performed strongly both in terms of attracting foreign direct investment (FDI) and in nurturing indigenous companies that have successfully entered global markets. FDI Magazine in 2008 identified Edinburgh as the most attractive small European city in which to locate and the sixth most attractive across all European cities. Between 1997 and 2008, the key sectors investing in the Edinburgh City region were Electronics (55 projects), Software (28 projects), Pharmaceuticals (19 projects), Financial Intermediation (18 projects) and Chemicals (15 projects).

Air services and indeed EDI are particularly important in supporting key sectors participating in the global economy. Air services provide:

- access to other parts of the organisation, particularly headquarters functions, for inward investors;
- access to markets for indigenous companies and for inward investors seeking to use a region as a base of operations within a world area;
- access to suppliers of goods and services from around the world;
- access to knowledge partners and complementary businesses.

At present EDI is viewed by stakeholders as an important factor firstly in attracting investment to the Edinburgh City Region and secondly in allowing firms within the City Region to operate effectively in world markets. Of particular importance are the links to London, the UK capital, and one of the world's leading business centres. However, the expansion in the range of international destinations has also been seen as an important factor in expanding Edinburgh's image as an international business destination.

The future growth of EDI is seen as being of considerable importance in the context of Edinburgh's position in the global economy. It will be difficult for Edinburgh to maintain and enhance its position as an international business centre without a growing international airport.

Connectivity as an Indicator of Catalytic Impact

The connectivity of the airport is central to EDI's ability to deliver benefit to the city region and to the wider economy of Scotland as a whole. York Aviation's Value Connectivity Index (VCI) allows examination of Edinburgh's position in relation to a number of the City's key competitors in terms of the business connectivity on offer to it.

This analysis confirms that EDI is an essential tool for the Edinburgh City Region's significant international economy. It is the most important provider of business focussed connectivity in the vicinity. The Airport is also the most important provider of business focussed connectivity for Scotland as a whole. However, it should also be noted that the Airport does currently lag behind many of the City's main rivals in terms of its connectivity offer. While this is partially ameliorated by the strong links EDI provides to London Heathrow, it will be vitally important for Edinburgh's international aspirations that EDI continues to grow and close the gap on its European rivals in terms of the its direct connections. Our analysis suggests that implementation of the Airport Master Plan will enable EDI to achieve this required growth.

Edinburgh Airport and the City's Key Sectors

In 2005 a study was undertaken by Scottish Financial Enterprise on the Connectivity Needs of Scotland's Financial Services Industry, which confirms the importance of air services to the sector. A survey of Scottish Financial Services' members was conducted as part of this study found that:

"From the SFE Survey, the top three specific transport development priorities are concerned with air connectivity and include, in order of importance: the Edinburgh city centre-airport rail link, the Glasgow city centre-airport rail link and more direct international flights from Scotland."

Edinburgh is one of Europe's leading financial centres and the second largest financial hub in the UK, after the City of London. The sector encompasses a wide range of financial services including banking, life assurance and pensions, investment management, asset servicing, customer contact centres, and shared services centres, along with a range of supporting and supply chain functions such as IT, consultancy and training.

The 2008/09 recession has hit the financial services sector hard. There is a strong feeling amongst key stakeholders that in such circumstances the City Region needs to maximise the advantages available to it, included within this is EDI. The Airport needs to continue to expand so that Edinburgh keeps pace with competitors and assists in maximising the competitiveness of the City Region to assist the financial services sector in coming out of the downturn. It should, however, be noted that there is likely to be some prolonged impact on the level of corporate travel following the recent difficulties at RBS and HBOS.

Other key sectors that are heavily reliant on the connectivity offered by EDI include life sciences, chemicals, energy, electronics, property development, pharmaceuticals and the creative industries. Many of these sectors are considered to be essential to Edinburgh and Scotland's future prosperity.

Impact on Inbound Tourism

There are a number of key statistics in relation to overseas tourism to Scotland in 2007 that are worth setting out here:

- 16 million tourists took overnight trips to Scotland;
- the USA is biggest overseas market and accounts for 19% of overseas spend;
- 10% of all tourists to Scotland arrive by air with 88% of all overseas tourists arriving by air;
- tourism supports over 9% of all employment in Scotland, with almost 220,000 full or part time job positions in the industry (2006 figures).

Tourism to Edinburgh generates around £1.7 billion for the Edinburgh economy[2] and the industry employs around 31,000 people or 10% of the workforce.

It is clear that Edinburgh Airport plays a significant role as a facilitator of tourism activity, especially as an international air gateway to Scotland. Based on the CAA Passenger Survey for 2005, passenger throughput at EDI in 2008, we estimate that EDI brought around 520,000 leisure visitors and around 210,000 business visitors from overseas and a further 1,110,000 leisure visitors and 440,000 business visitors from the rest of the UK to Scotland and to Edinburgh. Based on average spend figures from VisitScotland for 2007, we estimate that these visitors supported around £800 million of expenditure in the Scottish economy.

With expansion of the Airport as planned under the Master Plan Scenario, an even wider range of destinations can be developed over time, enabling access to a wider range of tourism markets. For instance, more long haul connections to the US in the future would provide a key link to the highly important US tourism market. Without expansion, there will be limited network growth and a tendency to focus primarily on high yielding business-focussed routes, particularly to London. Such a scenario would undoubtedly be sub-optimal and would lead to higher fares that will impact on both inbound and outbound discretionary travel.

Direct, Indirect and Induced Impacts of EDI

In addition to it's role as a facilitator of activity across the wider economy, EDI is a substantial generator of employment and prosperity in its own right. In 2008, we estimate that the Airport supported 3,530 full time equivalent jobs (ftes) directly on-site, a further 290 ftes through direct off-site effects and a further 1,520 ftes in the City Region and 2,370 ftes across Scotland through indirect and induced impacts. In total, EDI contributed around £118.4 million of GVA to the City Region and £146.2 million across Scotland.

If the Airport is able to develop as per its Master Plan, we estimate that the number of jobs supported in the Edinburgh City Region will rise to around 12,790 ftes and to around 16,040 ftes in Scotland in 2030. The Airport will make a corresponding contribution to GVA of around £702.3 million per annum in the Edinburgh City Region and £867.2 million of GVA per annum in Scotland as a whole.

[2] Edinburgh Inspiring Tourism, Annual Report 2008.

The Master Plan offers substantial additional gross benefits to the Constrained Scenario, where EDI is constrained to around 12 mppa. In 2030, EDI would deliver £448.1 million of GVA per annum and 6,680 ftes in the Edinburgh City Region and £553.3 million of GVA per annum and 8,760 ftes in Scotland as a whole. Adjusting for displacement effects, we estimate that the net additional impact of the Master Plan in 2030 would be around £160.5 million of GVA per annum and 1,820 ftes in the City Region and between £138.3 million and £553.3 million of GVA per annum and between 2,190 ftes and 8,760 ftes across Scotland as a whole depending what is assumed about project displacement.

In addition to the GVA and employment impacts stemming from the operation of the Airport, a substantial investment programme such as that envisaged by the Master Plan will support GVA and employment through construction activity. We estimate that this investment will support around £319.1 million of additional GVA over the life of the project and around 830 ftes in the Edinburgh City Region. Across Scotland as a whole we estimate that the investment will support around £414.9 million of GVA and 1,130 ftes over the lifetime of the Master Plan. Adjusting for displacement, we estimate that the Master Plan will support around 420 ftes and £159.6 million of GVA in the Edinburgh City Region. Across Scotland our estimates remain the same. It should, however, be noted that these impacts are transient and do not sustain beyond the construction phase.

Cost Benefit Analysis

In addition to considering the GVA and employment effects of EDI, we have also considered the net economic benefits of EDI in terms of the effect on overall economic welfare. This type of approach is central to the economy objective of a wide range of appraisal frameworks recommended for use by UK government agencies including the New Approach to Appraisal (NATA) and the Scottish Transport Appraisal Guidance (STAG).

In terms of the issues we are considering in this report, this approach seeks to explore the benefits to users from the expansion of EDI and hence enables a quantitative assessment of a proportion of the benefits to the wider economy, particularly those relating to improved productivity.

We have quantified a number of economic costs and benefits associated with the development of EDI:

- Journey Time Savings;
- Air Fare Savings;

- Government Revenue;
- Producer Benefits;
- Construction Costs;
- Aircraft Emissions Costs.

If carbon costs are included within the assessment, we have estimated net present values of between £3.8 billion and £7.0 billion and benefit cost ratios of between 2.4 and 3.6 for all users for the Master Plan compared to the constrained development scenario.

If carbon costs are excluded from the assessment, we have estimated net present value of between £5.8 billion and £9.2 billion and benefit cost ratios of between 12.0 and 18.2 for all users for the Master Plan compared to the constrained development scenario.

This analysis suggests that the economic benefits to Scotland and the UK as whole substantially outweigh the costs, including carbon costs, associated with the development. Hence, in economic welfare terms, society will be better off if EDI is able to develop in line with its Master Plan and, conversely, worse off should the Airport be constrained.

Maximising the Potential of Edinburgh Airport

Key agencies within the Edinburgh City Region are already placing a strong focus on EDI as a key driver of both the City Region and national economy. As such, action is already being taken or has been taken in many areas, including surface access, policy frameworks and support, joint marketing and route development.

Looking forward there are perhaps two main areas in which public sector stakeholders should be considering action over and above what is already being done:

- Labour and Skills – the Airport's labour requirements are likely to expand considerably in the future as it continues to grow. This increasing demand for labour will come against a backdrop of seems likely to be a tightening labour market around the Airport. The public sector should be working with the Airport now to consider the nature and volume of its labour requirements in the future and how these requirements can be met;

- Route Development – EDI's current business focussed connectivity offer still lags behind a significant number of its comparators despite recent

improvements. At the same time the Scottish Route Development Fund has now been closed. Stakeholders might wish to consider how this work could be continued via other mechanisms.

1 INTRODUCTION

Background

1.1 In December 2008 Scottish Enterprise in conjunction with BAA commissioned York Aviation to undertake an economic impact assessment of Edinburgh Airport (EDI)[3], considering the current and future importance of the Airport to the Edinburgh City Region[4] and Scotland as a whole. This report presents the findings from this assessment.

1.2 EDI is the largest airport in Scotland and the seventh largest in the UK. In 2008 the Airport handled around 9.0 million passengers, 49,000 tonnes of cargo and 119,000 aircraft movements (ATMs). The Airport is one of the most important transport gateways in Scotland.

1.3 The Airport has a wide range of scheduled services to international destinations, provided by a number of full fare carriers such as British Airways, bmi, Lufthansa, SAS, Air France and KLM, as well as low fares carriers including easyJet, Flybe, Flyglobespan, Jet2, and Ryanair. Transatlantic services to New York are operated by Continental. Edinburgh also has a significant domestic network with over 300 flights a week to London alone.

1.4 In July 2006 Edinburgh Airport published its Master Plan setting out a framework for the development of the Airport through to 2030. The Master Plan envisages substantial growth in passenger throughput, up to around 26 million passengers per annum (mppa) by 2030, and explains how the Airport's infrastructure will develop to meet this demand. This includes provision for a second main runway at the Airport some time after 2020.

[3] EDI is the IATA code for Edinburgh Airport.

[4] For the purposes of this report the Edinburgh City Region can be broadly defined as Clackmannanshire, East Lothian, City of Edinburgh, Falkirk, Fife, Midlothian, Scottish Borders, West Lothian.

1.5 The Study has been undertaken in the context of a number of key strategies including particularly the West Edinburgh Planning Framework. West Edinburgh, which is the area around Edinburgh Airport and the A8 corridor, is identified in the National Planning Framework and the West Edinburgh Planning Framework 2008 as being a strategic economic development opportunity where co-ordinated action is required in the national interest. This report will support the development of a West Edinburgh Implementation Plan that will be presented to Scottish Ministers.

Study Aims and Objectives

1.6 The aim of the Study is to provide an overall assessment of the impact of Edinburgh Airport and its future growth plans on the economic performance of the Edinburgh City Region and Scotland. Within this, the main objective of the study is the quantitative and qualitative measurement of the impact of various phases of growth of the Airport, set against a 2008 Gross Value Added (GVA) baseline.

1.7 More specifically, the Study has addressed the following key issues and questions:

- the collective economic impact of Scotland's airports;
- a consideration of EDI's catchment and the socio-economic baseline;
- the current direct employment, indirect and induced employment, multiplier benchmarking, displacement effects, leakage, and supply chain effects;
- the connectivity provided by EDI and its usefulness to the indigenous business base served by the Airport. This analysis acts as a proxy measure for the Airport's importance as an influence on company location investment decisions, productivity and the ability of its catchment area to partake in the global economy;
- the pattern of inward investment into the Edinburgh city region in recent years and the role played by EDI in influencing this pattern;
- the importance of EDI in supporting inbound tourism to the city region and to Scotland;

- the impacts upon other priority and growth sectors in the Edinburgh city region economy and benefits arising to travel intensive businesses;
- the contribution that the expanding airport makes in securing greater accessibility to the whole of Scotland coupled to the improvements to the image of the Edinburgh city region;
- consideration of user benefits and costs associated with the future expansion of EDI;
- analysis and accounting of the environmental cost of aviation and estimation of journey time savings;
- how the potential and longer term impacts of the growth of the Airport can be fully maximised and an outline analysis of potential negative impacts of failure to develop the airport to its potential.

Source: BAA.

Structure of this Report

1.8 The report is structured as follows:

- in **Section 2** we set out a profile of EDI, consider the position of the Airport in the wider Scottish aviation market and outline the growth forecasts for EDI used in the Study;
- in **Section 3** we consider the strategic and policy context in which EDI operates and will operate in the future. We also present an overview of the Airport's catchment area economy;
- in **Section 4** we establish the framework for our analysis of the gross value added and employment impacts of EDI and consider the Airport's catalytic impact;
- in **Section 5** we present our estimates of the direct, indirect and induced impact of EDI on employment and GVA;
- in **Section 6** we set out a cost benefit analysis of EDI's expansion to enable consideration of the economic welfare implications;
- in **Section 7** we examine how the potential economic impact of the Airport can be maximised;
- in **Section 8** we present our conclusions from the economic impact assessment.

2 PROFILE OF EDINBURGH AIRPORT

Key Points

- EDI is the largest airport in Scotland. In 2008 it served over 100 scheduled and charter destinations, handled around 9.0 mppa and 49,000 tonnes of freight.
- Passenger traffic has grown 20.3% over the last five years, resulting in the Airport overtaking Glasgow in terms of passenger throughput and increasing its share of the Scottish market.
- EDI draws nearly 50% of its passenger traffic from the City of Edinburgh and a further 12% from rest of the Lothian area.
- Domestic passengers make up nearly 60% of traffic at EDI. All the London airports are within the top 10 destinations for the Airport.
- The airport is dominated by scheduled services, which account for around 97% of passenger traffic. In addition, the Airport has a high percentage of business traffic (43%) compared to other UK airports.
- The forecasts associated with the Master Plan estimate that passenger throughput will grow to between 18.8 mppa and 26 mppa by 2030 with a central forecast of 23.0 mppa.

Introduction

2.1 In this Section, we provide a brief profile of EDI organised under the following main headings:

- 2008 Overview;
- Passenger Traffic;
- Cargo;
- Future Traffic Growth.

2008 Overview

2.2 More than 40 airlines serve over 100 scheduled and charter destinations from EDI. In 2007 BAA Edinburgh, the Airport operator, had a total turnover of around £87.2 million.

2.3 **Table 2.1** summarises the performance of EDI in 2008 in terms of the number of terminal and transit passengers, aircraft movements and the volume of flown freight.

Table 2.1: Profile of Edinburgh Airport in 2008					
	Passengers			Aircraft Movements	Flown Freight (tonnes)
	Terminal	Transit	Total		
Scheduled	8,675,539	13,172	8,688,711	105,644	203
Charter	316,639	1,352	317,991	13,255	48,929
Total	**8,992,178**	**14,524**	**9,006,702**	**118,899**	**49,132**
Source: Civil Aviation Authority.					

2.4 Table 2.1 shows that in 2008 the Airport handled around:

- 9.0 million passengers, of which around 96% were on scheduled services and almost all, 8,992,178, were terminal passengers. This equates to an average of over 170,000 passengers per week;
- 118,900 aircraft movements. This equates to an average of around 2,300 movements per week;
- 49,100 tonnes of flown freight.

2.5 At peak times, the Airport currently operates at around 33 to 34 movements per hour. The Airport currently has a declared capacity of 38 movements per hour and potential future enhancements to the existing runway infrastructure could increase this to up to 50 movements per hour.

Passenger Traffic

Scottish and UK Context

2.6 **Table 2.2** places EDI in the context of other Scottish airports with more than 100,000 terminal passengers in 2008. This shows that EDI was the largest airport in Scotland in 2008, just ahead of Glasgow in terms of terminal passengers. EDI is substantially larger than Aberdeen, the next largest Scottish airport after Glasgow.

Table 2.2:
Terminal Passengers at Scottish Airports in 2003 and 2008

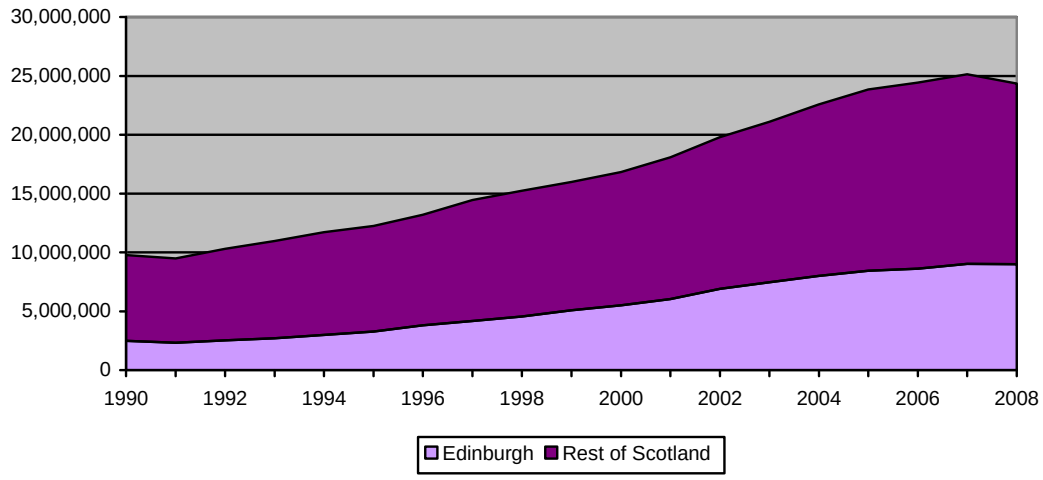
Airport	2003		2008		Growth 2003-2008
	Terminal Passengers (millions)	Scottish Airports Traffic	Terminal Passengers (millions)	Scottish Airports Traffic	
Edinburgh	7,476,357	35.5%	8,992,178	36.9%	20.3%
Glasgow	8,115,322	38.5%	8,135,260	33.4%	0.2%
Aberdeen	2,507,878	11.9%	3,290,236	13.5%	31.2%
Prestwick	1,854,484	8.8%	2,414,019	9.9%	30.2%
Inverness	434,644	2.1%	670,752	2.8%	54.3%
Scatsta	229,558	1.1%	243,041	1.0%	5.9%
Sumburgh	110,482	0.5%	154,011	0.6%	39.4%
Kirkwall	102,716	0.5%	137,616	0.6%	34.0%
Stornoway	106,233	0.5%	130,888	0.5%	23.2%
Scotland Total	**21,081,435**	**100.0%**	**24,343,305**	**100.0%**	**15.5%**

Source:
Civil Aviation Authority.

2.7 Passenger traffic at the Airport has grown by 20.3% over the past five years. As a whole Scottish airports have grown by 15.5% over the period and consequently EDI has increased its market share within Scotland from around 35.5% to around 36.9%.

2.8 This expansion of EDI's market share in Scotland can further be seen in **Figure 2.1**, which shows the size of the Scottish passenger market since 1990. This also demonstrates how EDI has grown substantially over time from a relatively low base.

Figure 2.1:
Scottish Air Passenger Market 1990 to 2008



Source: CAA Statistics.

2.9 **Table 2.3** sets out EDI's position in the broader context of UK regional airports handling in excess of 5 mppa. This analysis identifies EDI as the third largest regional airport in the UK. EDI has grown slightly more slowly than the UK's regional airports as a whole, but unlike a number of the larger regional airports has largely maintained its market share. Edinburgh handled around 9% of passengers at UK regional airports in both 2003 and 2008, while Manchester's market share has declined from 25% in 2003 to 21% in 2008 and Birmingham's market share has declined from 11% in 2003 to 10% in 2008.

2.10 In summary, Edinburgh is the largest airport in Scotland in terms of passenger throughput and has grown substantially in the last five years. It is also a significant airport in UK terms. It is the third largest airport in the UK outside the London system, only preceded by Manchester and Birmingham.

Table 2.3:
Terminal Passengers at Selected UK Airports in 2003 and 2008

Airport	2003		2008		Growth 2003-2008
	Terminal Passengers (millions)	Regional Airports Traffic	Terminal Passengers (millions)	Regional Airports Traffic	
Manchester	19,519,895	25%	21,062,949	21%	7.9%
Birmingham	8,923,902	11%	9,576,700	10%	7.3%
Edinburgh	7,476,357	9%	8,992,178	9%	20.3%
Glasgow	8,115,322	10%	8,135,260	8%	0.2%
Bristol	3,886,740	5%	6,228,656	6%	60.3%
East Midlands Int.	4,253,684	5%	5,616,278	6%	32.0%
Liverpool	3,175,343	4%	5,329,826	5%	67.9%
Belfast International	3,954,432	5%	5,222,839	5%	32.1%
Newcastle	3,903,340	5%	5,016,640	5%	28.5%
Other Regional Airports	15,928,411	20%	23,334,565	24%	46.5%
Total Regional Airports	**79,137,426**	**100%**	**98,515,891**	**100%**	**24.5%**
London Airports	120,073,839		136,843,470		
Total	**199,211,265**		**235,359,361**		

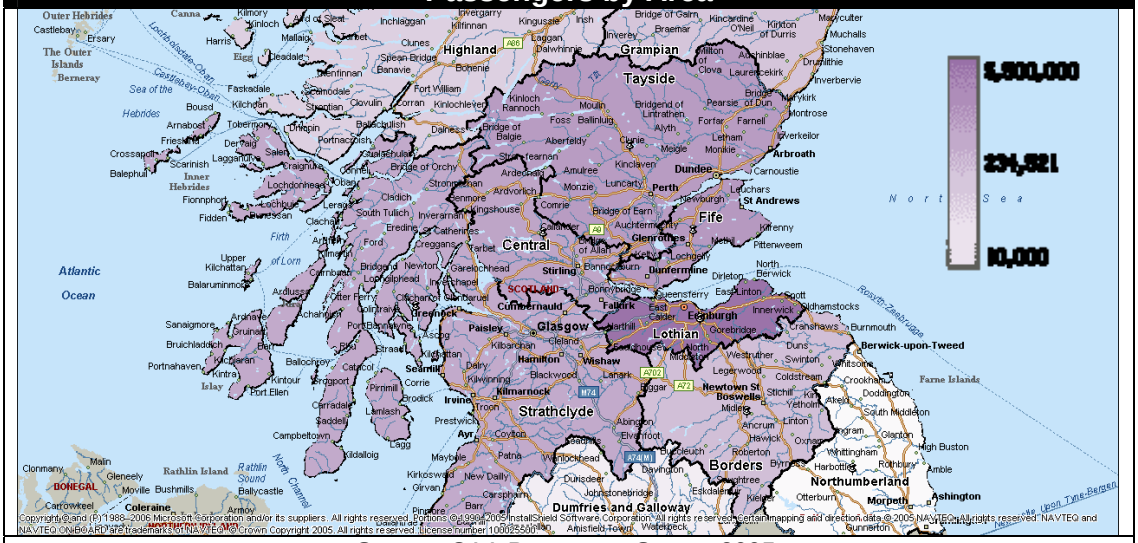
Source:
Civil Aviation Authority.

Passenger Catchment Area

2.11 In **Figure 2.2** we have set out an analysis of EDI's catchment area based on the 2005 CAA Passenger Survey. The map shows the percentage of total passenger traffic drawn from the areas that make up 99% of Edinburgh's traffic.

2.12 EDI draws nearly 50% of its passenger traffic from the City of Edinburgh and a further 12% from rest of the Lothian area. The Airport also draws significant numbers of passengers (in excess of 0.5 mppa in 2005) from Fife (11%), Tayside (9%) and the Central Region (7%). However, EDI currently only draws around 2% of its traffic from the City of Glasgow.

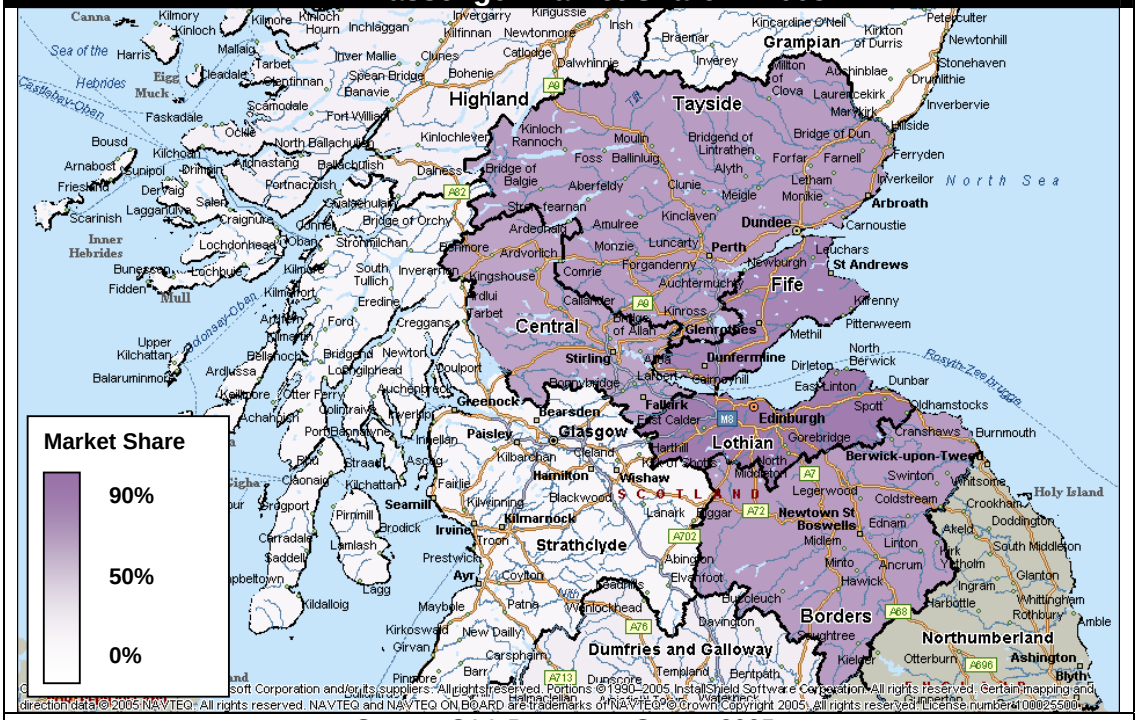
Figure 2.2:
Edinburgh Airport Catchment Area
Passengers by Area



Source: CAA Passenger Survey 2005.

2.13 **Figure 2.3** shows the extent of EDI's market share within Scotland. This demonstrates that EDI holds a dominant position in most markets in the Eastern Lowlands of Scotland. It has an 83% market share in Lothian, a 78% market share in Fife, a 63% market share in Borders and Tayside and a 58% market share in the Central Belt.

Figure 2.3:
EDI Passenger Market Share in 2005



Source: CAA Passenger Survey 2005.

Structure of Passenger Traffic

2.14 **Table 2.4** shows the structure of passenger traffic at EDI in 2006, in terms of the total number of passengers on scheduled and charter and international and domestic services.

2.15 International services accounted for around 41% of the passengers handled by EDI in 2008. EDI is below the average for the proportion of international traffic compared to the main Scottish airports (46%), all UK airports (81%) and UK regional airports (68%), and slightly below its main competitor, Glasgow (48%). EDI was the second largest airport in Scotland and the 11th largest airport in the UK in terms of the number of passengers on international services in 2008.

Table 2.4: The Structure Of Passenger Traffic at Edinburgh Airport in 2008						
	Scheduled		Charter		Total	
	Millions	%	Millions	%	Millions	%
Irish Republic	563,046	6%	836	0%	563,882	6%
Other International	2,836,156	32%	312,822	3%	3,148,978	35%
Total International	**3,399,202**	**38%**	**313,658**	**3%**	**3,712,860**	**41%**
London Airports	3,156,654	35%	166	0%	3,156,820	35%
Other Domestic	2,125,855	24%	710	0%	2,126,565	24%
Total Domestic	**5,282,509**	**59%**	**876**	**0%**	**5,283,385**	**59%**
Total	**8,681,711**	**97%**	**314,534**	**3%**	**8,996,245**	**100%**
Sources: Civil Aviation Authority.						

2.16 There are two other key points to note from Table 2.4:

- the great majority of passengers are travelling on scheduled services (97%);
- connections to the London airports make up 35% of total traffic.

2.17 **Table 2.5** looks at the structure of passenger traffic at EDI in terms of the types of passengers (UK/foreign and business/leisure) based on the CAA Passenger Survey in 2005. UK nationals (84%) dominate passenger traffic at EDI. It is also noteworthy that around 43% of passengers were travelling on business. This is a high proportion. Across all the airports surveyed in 2005, business passengers accounted for only 27% of travellers.

Table 2.5: Passenger Types at Edinburgh Airport in 2005						
	Business		Leisure		Total	
	UK	Foreign	UK	Foreign	UK	Foreign
International Scheduled	16.7%	10.3%	46.4%	26.5%	63.1%	36.9%
International Charter	1.1%	0.0%	89.4%	9.5%	90.5%	9.5%
Domestic	47.9%	3.0%	42.2%	6.9%	90.1%	9.9%
Total	**38.8%**	**4.6%**	**45.1%**	**11.5%**	**83.9%**	**16.1%**
Source: Civil Aviation Authority.						

2.18 For the purpose of comparison, **Table 2.6** sets out the same information for both Glasgow and Aberdeen airports. Both airports are again dominated by UK travellers but the proportion of business travellers is different in both cases. It is lower than EDI at Glasgow by some margin (30% versus 43%) but substantially higher at Aberdeen (56% versus 43%). The particular role played by Aberdeen in relation to the off-shore oil industry should however be remembered and in terms of actual passenger numbers EDI transports a considerably higher number.

Table 2.6:
Passenger Types at Glasgow and Aberdeen Airports in 2005

	Business		Leisure		Total	
	UK	Foreign	UK	Foreign	UK	Foreign
Glasgow						
International Scheduled	10.1%	5.9%	58.9%	25.1%	69.0%	31.0%
International Charter	0.6%	0.0%	98.6%	0.8%	99.2%	0.8%
Domestic	46.9%	3.1%	43.5%	6.6%	90.3%	9.7%
Total	**27.4%**	**2.9%**	**60.5%**	**9.2%**	**87.9%**	**12.1%**
Aberdeen						
International Scheduled	27.9%	32.0%	26.7%	13.5%	54.6%	45.4%
International Charter	1.0%	0.0%	99.0%	0.0%	100.0%	0.0%
Domestic	49.2%	7.3%	38.0%	5.5%	87.2%	12.8%
Total	**42.2%**	**13.5%**	**36.9%**	**7.4%**	**79.1%**	**20.9%**

Source:
Civil Aviation Authority.

Destinations

2.19 **Table 2.7** shows the top ten destinations served by EDI in 2008. There were 90 scheduled service destinations in 2008, of which 66 were international and 24 were domestic. This again demonstrates the importance of the London connections to EDI. All five London airports are in the top 10 destinations for EDI. More broadly, domestic destinations make up seven of the top 10 destinations. It should also be noted that a number of these destinations are major international hub airports and consequently some passengers on these services will be travelling to destinations beyond these airports.

2.20 In the context of EDI's focus on domestic connections, particularly to London, it is worth noting that in the future such services could find themselves in competition with high speed rail (HSR) services. However, with a UK wide HSR network not anticipated prior to 2030, it is unlikely that this will become an issue within the timeframe of this study.

2.21 The Airport has continued to expand its network in 2009, with 20 new services added to date.

Table 2.7:
Top Ten Destinations
from Edinburgh Airport in 2008

	Destination	No.	%
1	Heathrow	1,318,962	14.7%
2	Gatwick	704,891	7.8%
3	Amsterdam	465,510	5.2%
4	Dublin	449,102	5.0%
5	Stansted	401,797	4.5%
6	Birmingham	401,106	4.5%
7	London City	371,507	4.1%
8	Luton	359,497	4.0%
9	Paris (Charles De Gaulle)	275,583	3.1%
10	Bristol	249,766	2.8%
	Other routes	5,001,643	55.6%
	Total	**8,996,245**	**100.0%**

Source:
CAA Statistics.

Flown Freight

2.22 **Table 2.8** places EDI in the context of other Scottish and UK regional airports that handled more than 3,000 tonnes of flown freight in 2008. It shows that, in terms of the volume of flown freight handled, EDI is the largest freight airport in Scotland. It was also the third largest regional airport in the UK in 2008. It is, however, notable that freight tonnage has declined by around 5% since 2003. This is against a trend at all UK regional airports that has seen growth of around 3.9% over the period. It should be noted that mail makes up a high proportion of EDI's 'flown freight' and in 2008 constituted around three quarters of the Airport's total flown freight.

2.23 There has been a noticeable decline in the volume of flown freight at EDI in the last two years. Some of this is accounted for by the general economic slowdown, which has affected the throughput of mainstream freight. The volume of flow mail has also exhibited a tendency to decline in recent times, although the value of the mail throughput has been maintained.

2.24 In recent years, the only major UK regional airports that have grown their freight business significantly in volume terms are East Midlands, which was specifically targeting this market, and Manchester (based on the growth of its long haul traffic).

Table 2.8:
Flown Freight from Selected UK Airports in 2003 and 2008

Airport	2003		2008		Growth 2003-2008
	Flown Freight (tonnes)	Share of Regional Airports Traffic	Flown Freight (tonnes)	Share of Regional Airports Traffic	
East Midlands Int.	237,344	37.0%	292,372	43.9%	23.2%
Manchester	125,731	19.6%	142,594	21.4%	13.4%
Edinburgh	51,567	8.0%	49,132	7.4%	-4.7%
Belfast International	40,807	6.4%	48,085	7.2%	17.8%
Kent International	43,026	6.7%	25,673	3.9%	-40.3%
Prestwick	39,995	6.2%	22,966	3.4%	-42.6%
Birmingham	12,346	1.9%	12,213	1.8%	-1.1%
Guernsey	6,521	1.0%	6,233	0.9%	-4.4%
Jersey	5,681	0.9%	6,175	0.9%	8.7%
Coventry	3,314	0.5%	5,921	0.9%	78.7%
Aberdeen	3,996	0.6%	4,107	0.6%	2.8%
Liverpool	24,253	3.8%	3,743	0.6%	-84.6%
Glasgow	5,791	0.9%	3,625	0.5%	-37.4%
Other Regional Airports	40,728	6.4%	43,512	6.5%	6.8%
Total Regional	**641,101**	**100.0%**	**666,351**	**100.0%**	**3.9%**
London Area Airports	1,759,447	-	1,826,924	-	3.8%
Total	**2,400,548**	**-**	**2,493,275**	**-**	**3.9%**

Source:
Civil Aviation Authority.

Forecasts

2.25 The Edinburgh Airport Master Plan published in July 2006 set out forecasts for passenger and freight growth through to 2030. These forecasts are set out in **Table 2.9**. The central forecast forms the basis for this economic impact assessment.

Table 2.9:
Passenger and Freight Forecasts for Edinburgh Airport

	Passengers (mppa)			Freight (Tonnes)		
	Low	Central	High	Cargo	Mail	Total
2008 (Actual)		9.0		12,418	36,714	49,132
2013	11.9	12.7	13.7	31,000	35,600	66,600
2020	14.8	17.6	18.1	38,800	41,600	80,400
2030	18.8	23.0	26.0	53,300	44,700	98,000

Source: BAA Edinburgh.

2.26 The forecasts associated with the Master Plan estimate that passenger throughput will grow to between 18.8 mppa and 26 mppa by 2030 with a central forecast of 23.0 mppa. In order to facilitate this growth, for the next 10 year period BAA Edinburgh has committed to a significant £200m investment, the cost to be met entirely by BAA as the private airport operator.

2.27 For the purposes of this economic impact assessment, York Aviation has also defined an alternate constrained scenario. This is designed to reflect the growth of EDI if the infrastructure developments set out in the Master Plan are not delivered. This sees the Airport limited to around 12 mppa, which is reached in around 2012.

Conclusions

2.28 EDI is the largest airport in Scotland in terms of both passenger and freight throughput. More broadly it is also one of the UK's largest and most important regional airports.

2.29 The Airport has an extensive range of short haul European connections, but nearly 60% of passengers are travelling on domestic connections. Of these, the London services make up over half of these passengers. The Airport also has a small number of long-haul connections, most notably services to New York and Toronto.

2.30 The Airport is forecast to grow substantially through to 2030. Passenger throughput is expected to grow to around 23 mppa (Central Case) and freight to around 98,000 tonnes. This will require substantial investment at the Airport, including potentially the building of a second main runway in the longer term.

3 ECONOMIC AND POLICY CONTEXT

Key Points

- The Future of Air Transport White Paper clearly acknowledges the economic importance of airports and provides policy support for a second main runway at EDI.
- The importance of transport infrastructure in generating improved connectivity to and from Scotland, in support of sustainable economic growth, is recognised in the Scottish Government's Economic Strategy and National Transport Strategy.
- The continued development of Edinburgh Airport is of critical importance in national, regional and local policy to the achievement of Edinburgh's role as a globally connected world city.
- EDI currently operates within a highly prosperous City Region that is central to the long term prosperity of Scotland as a whole.
- EDI should have a strong demand base from which to expand and be operating in conjunction with an economy that will be increasingly reliant on its services.
- The primary difficulty for EDI may be securing the labour necessary to facilitate its expansion in a relatively constrained labour market with strong competition for resources.

Introduction

3.1 In this section we consider the economic and policy context in which Edinburgh Airport is operating now and will operate in the future. This discussion is organised under the following main headings:

- Aviation Policy;
- Economic and Planning Policy;
- Economic Context.

3.2 This section provides an overview of these issues. A more detailed analysis is included within **Appendix A**.

Aviation Policy

European Policy

3.3 The role of air transport as a substantial employer and direct generator of economic prosperity is widely acknowledged at a European level, as is the industry's ability to facilitate and drive wider economic activity through the connectivity it provides. This role is consistent with the objectives of the single market to create an area without internal frontiers, and of the more recent Lisbon Agenda with its emphasis on competitiveness, productivity, and the creation of jobs.

3.4 The single market for air transport in Europe was implemented gradually in three 'packages' during the course of the late 1980s and early 1990s. This liberalised market has, in particular, made possible the emergence of low cost airlines, which have since grown to represent around 30% of intra-European point-to-point scheduled passengers.

3.5 More recently the EU has focused its attention on issues such as the Single European Sky initiative, by which the design, management and regulation of airspace will be harmonised throughout the EU, and on the inclusion of aviation in to the European Emissions Trading Scheme from 2012.

3.6 The European Commission has also adopted an 'airports package' which focuses on the role of airports in the further development and competitiveness of the European internal aviation market and will ensure regulatory convergence between Member States. The package consists of three key initiatives:

- a proposal for a directive on airport charges by requiring total transparency, user-consultation and the application of the principles of non-discrimination;
- a communication on airport capacity, efficiency and safety in Europe detailing a coherent strategy for responsibly tackling congestion at European airports in an environmentally sustainable manner; and
- a report on the initial phase of the liberalisation of ground handling markets at European airports and proposals for further changes.

UK Policy

3.7 The Future of Air Transport White Paper, published in December 2003, recognizes, in general, the important role that airports have to play in the future growth and prosperity of the regions they serve and offers support for the development of an additional runway at Edinburgh Airport.

3.8 The key messages from the White Paper were reiterated in *The Future of Air Transport Progress Report* published in December 2006. This document gives continued support for the role played by air transport in supporting the UK economy, while re-emphasizing the need to balance these benefits against the environmental costs of the growth in air transport.

3.9 The White Paper also lent explicit support to the setting up of route development funds. The Scottish Route Development Fund (RDF) was established in November 2002 in partnership among The Scottish Government, Scottish Enterprise, Highlands and Islands Enterprise and VisitScotland to improve business connectivity and inbound tourism access all year round. The Fund has contributed to a dramatic improvement in Scotland's direct international air network by concentrating only on those routes that helped business and in-bound tourism. 35 services are currently operating that are either currently receiving RDF support or have done in the past. The RDF ceased in its current form at the end of May 2007, although routes that started by that date were permitted to continue with RDF funding for the completion of the agreed support period.

3.10 The Scottish Government acknowledges that good air links support Scotland's economy, including the tourism industry, and aims to encourage the development of direct routes to Scotland to foster inward investment and tourism. The Scottish Government engages with the UK Government, the European Commission and other stakeholders on the implementation and development of policies that have implications for air transport in Scotland.

Economic and Planning Policy

3.11 The Scottish Government’s overarching purpose is defined as being:

"To focus government and public services on creating a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth."[5]

3.12 The Government's Economic Strategy sets out to deliver this purpose and to secure Scottish success over the long term. Higher sustainable economic growth is identified as the key which can unlock Scotland's full potential and create benefits for its people. The Strategy identifies five strategic priority areas that are critical to sustainable economic growth:

- Learning, Skills and Well-being;
- Supportive Business Environment;
- Infrastructure Development and Place;
- Effective Government; and
- Equity.

3.13 In the context of the focus of the Government Economic Strategy on sustainable development, airport development needs to be considered particularly carefully. Impacts on issues such as climate change, noise and local air quality need to be balanced against the economic benefits that air travel can bring and the contribution it can make towards goals around business environment and infrastructure development. At this point, it is worth noting EDI's relatively strong performance in this area. The Airport has a relatively small population within its noise footprint and research undertaken by the government as part of the development of the Airport Master Plan[6] indicated that its impact on local air quality is unlikely to be significantly detrimental. In fact the majority of the impact on air quality around the Airport comes not in fact from air transport operations but from road traffic.

3.14 The importance of transport infrastructure in generating improved connectivity to and from Scotland, in support of sustainable economic growth, is recognised in the Scottish Government's Economic Strategy and National Transport Strategy.

[5] *Moving Scotland Forward*, the Government's Programme for Scotland 2008/9, September 2008, Section 2, page 9.
[6] *Edinburgh Airport Master Plan* – BAA Edinburgh (2006). Page 7.

3.15 The Proposed National Planning Framework 2 for Scotland articulates the role of airports as providing global connections that will underpin wider economic success within Scotland. There is also clear recognition of the way in which the Airport can support investment in West Edinburgh as a business location. A limited number of 'national developments' are included in that Framework, but there is support for strategic airport enhancements as 'national developments', including at Edinburgh Airport, placing particular emphasis on improved surface access. The Edinburgh and Lothians Structure Plan supports the safeguarding of land at Edinburgh Airport for strategic transportation infrastructure and for future Airport expansion.

3.16 In parallel with and in support of NPF2, Transport Scotland has undertaken the Strategic Transport Projects Review (STPR) to define the most appropriate strategic investments in Scotland's national transport network from 2012. The provision of a rail station at Gogar is included in the Edinburgh to Glasgow rail improvement programme, which is a priority project in the STPR. However, the provision of a road link from the Airport to the M8 has not been included in the short list of projects as it was felt that more sustainable transport access to the Airport could be utilised.

3.17 Issues around airport growth and sustainable development also need to be considered in the context of the Scottish Government's Climate Change Bill, which was published in December 2008.

3.18 The Bill is intended to create a long term framework that will:

- introduce a statutory target to reduce Scotland's greenhouse gas emissions by at least 80 per cent by 2050
- establish an interim target of a reduction of at least 34 per cent by 2020;
- establish a framework of annual targets; and
- include emissions from international aviation and international shipping.

3.19 Aviation is at present a relatively minor contributor to total emissions in the UK, accounting for around 6% of the whole according to UK Air Passenger Demand and CO2 Forecasts 2009 published by the Department for Transport[7] earlier this year. However, it must be recognised that air transport demand is forecast to grow substantially both at EDI and more generally and this will lead to ongoing growth in aviation's carbon emissions. It will be important therefore that increasing emissions from aviation are appropriately addressed within an overall sustainable development framework.

3.20 Overall, it seems clear that a balance needs to be struck whereby aviation is able to grow and bring with it the economic benefits that Scotland needs while at the same time ensuring that this growth is sustainable and that the impact on overall carbon emissions is minimised. This goal will be greatly assisted by aviation's entry into the European Union Emissions Trading Scheme (EU ETS) in 2012.

3.21 The EU ETS will essentially cap total carbon emissions from aviation activities to or from EU airports, initially at 97% of the average of these emissions between 2004 and 2006. The cap will be divided between airlines operating at the beginning of the 2012 trading period. Each airline will then have to surrender sufficient allowances to cover their total carbon emissions in any given year. This means that the only way in which airlines can grow their businesses is either via becoming more carbon efficient or by purchasing carbon allowances from other airlines or sectors within the EU ETS. Therefore, any increase in aviation's carbon emissions will have to be matched by a decrease in carbon emissions in other sectors. It essentially creates a market in which the economic cost of carbon is internalised within the pricing decisions of airlines, which should ultimately lead to sustainable growth in the sector. The EU ETS has been broadly recognised by governments across Europe as the most effective method of addressing aviation's carbon emissions.

3.22 Future growth at EDI therefore needs to be seen within the context of both Scottish Government's aspirations around climate change and the broader EU policy approach embodied by the EU ETS.

[7] UK Air Passenger and CO2 Forecasts 2009 – Department for Transport.

3.23 At this point it is also worth noting the UK aviation industry's sustainable aviation strategy, to which BAA is a signatory. Sustainable Aviation sets out the industry's vision for a sustainable future through a series of eight goals and 34 commitments, relating to economic, environmental and social aspects of aviation. Specifically, these include:

- limiting climate change impact by improving fuel efficiency and CO2 emissions by 50 per cent per seat kilometre by 2020 compared with 2000 levels;
- improving air quality by reducing nitrogen oxide (NOx) emissions by 80 per cent over the same period;
- lowering the perceived external noise of new aircraft by 50 per cent by 2020 compared with their 2000 equivalents;
- establishing a common system for the reporting of total CO2 emissions and fleet fuel efficiency by the end of 2005, and pressing for aviation's inclusion in the EU emissions trading scheme at the earliest possible date;
- new airport plans for community-related noise limitations, including landing and take-off restrictions where necessary.

Source: BAA.

3.24 The aviation industry's commitment to this strategy also sets a context for the future development of airports such as Edinburgh. It demonstrates clearly that the industry as a whole is committed to playing its part in the sustainable development of air transport.

3.25 At a regional level, the West Edinburgh Planning Framework[8] acknowledges that, to realize the area's full potential as a driver of the Scottish economy and high quality gateway to the world, the Airport's growth must be matched with the provision of sustainable transport infrastructure. A key investment is the planned delivery of a new Gogar rail station to improve accessibility from other parts of Scotland and the UK and reduce journey times. This will also incorporate a high quality public transport interchange to the Edinburgh Tram and the delivery of the Edinburgh Tram connection to Edinburgh Airport. For reference, we have included the West Edinburgh Planning Framework Vision Map in **Appendix B**.

3.26 The Edinburgh Tram Project includes a number of stops/halts within the west Edinburgh area, including a halt which will serve EDI's airport terminal. It is expected that both the tram network and the new rail station will become fully operational by the end of 2011. The Planning Framework also provides explicit support for the safeguarding of development land at Edinburgh Airport. An alteration to the Rural West Edinburgh Local Plan, consistent with the West Edinburgh Planning Framework, is currently out to consultation.

3.27 The City of Edinburgh Council Economic Development Plan 2009-2012 identifies a number of challenges for Edinburgh in the near future which have arisen in the context of the current economic crisis, not least the impact on the City's financial services sector. The role of the Airport in supporting the needs of this sector will continue to be important. The Vision for Edinburgh remains that by 2015 the City will lead the most successful and sustainable city region in Northern Europe, and the Plan acknowledges the Airport's role in supporting the achievement of this Vision.

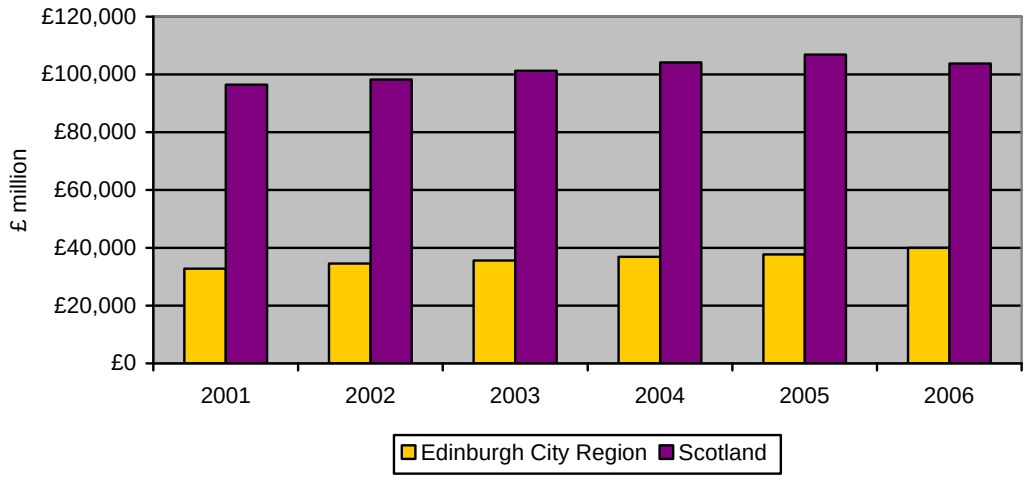
[8] The West Edinburgh Planning Framework was published by the Scottish Government in May 2008, and provides a detailed basis for future investment. The Framework sets out a long-term strategic vision for the area, which is considered nationally important in terms of economic development, global connectivity, transport and the environment. It has the status of a Scottish Planning Policy (SPP).

3.28 The continued development of Edinburgh Airport is therefore of critical importance in national, regional and local policy to the achievement of Edinburgh's role as a globally connected world city and the consequent economic and social benefits for its City-Region and for Scotland as a whole. This will be supported through the air links the Airport provides and the role it can play in attracting inward investment, fostering international trade, stimulating inbound tourism and enhancing cultural links.

Economic Context

3.29 The Edinburgh City Region is a significant driver of the Scottish economy. It is not only one of the largest centres of economic activity but also one of the most dynamic. In **Figure 3.1** we set out the GVA of the City Region and that of Scotland as a whole. This demonstrates that since 2001 the Edinburgh City Region economy has accounted for between 34% and 38% of Scotland's GVA. This share has also increased in recent years as the region has been growing substantially faster (4.1%) than Scotland (1.5%) as a whole.

Figure 3.1:
Real GVA in the Edinburgh City Region and Scotland



Source: Eurostat and HM Treasury.

3.30 In **Table 3.1** we set out the GVA per head for Edinburgh and a number of other comparators areas. This demonstrates Edinburgh's competitive advantage, with a GVA per head substantially above the Scottish and UK average. It is also significantly above Glasgow. This reflects the City's position as a centre for high value added economic activities, particularly in areas such as financial services and knowledge based industries, and its highly skilled workforce.

Table 3.1:
GVA per Head in 2006

Area	£ (2006 prices)
Edinburgh	£35,654
Glasgow	£29,042
Scotland	£20,997
United Kingdom	£21,815

Source: Eurostat.

3.31 The success of the Edinburgh City Region has been built on a number of key sectors. Edinburgh City Council has identified the following sectors as being of central importance to the region's economy:

- creative industries;
- financial services;
- life sciences;
- property development;
- retail;
- tourism;
- small businesses;
- the public sector.

3.32 These sectors are reflected in the employment structure of the City Region as shown in **Table 3.2**. This identifies that there are around 730,000 people employed in the Edinburgh City Region, while the largest individual employment sector is financial and business services (21.4%) followed by Public Services (15.3%). Overall, the City Region's employment structure is similar to that of Scotland as a whole, but the greater focus on financial and business services is noticeable.

Table 3.2:
Employment Structure of the Edinburgh City Region

Sector	Edinburgh City Region		Scotland		United Kingdom	
		%		%		%
Agriculture, Forestry and Fishing	3,200	0.4%	39,200	1.6%	248,500	0.9%
Mining	1,300	0.2%	26,000	1.1%	57,400	0.2%
Manufacturing	64,100	8.8%	219,500	9.1%	2,796,800	10.5%
Energy Processing & Supply	4,600	0.6%	17,900	0.7%	139,600	0.5%
Construction	40,400	5.5%	137,600	5.7%	1,291,300	4.9%
Wholesale, Retail, Distribution	106,000	14.5%	354,400	14.7%	4,415,900	16.6%
Hotels and catering	51,500	7.1%	174,300	7.2%	1,783,900	6.7%
Transport, Storage and Communications	35,300	4.8%	130,300	5.4%	1,557,700	5.9%
Financial and Business Services	155,900	21.4%	451,500	18.8%	5,758,500	21.6%
Public Services, Admin and Defence	112,000	15.3%	357,400	14.8%	3,933,000	14.8%
Health and Social Work	110,900	15.2%	372,300	15.5%	3,230,200	12.1%
Other Service Activities	44,900	6.2%	127,300	5.3%	1,386,500	5.2%
Total	**730,000**	**100%**	**2,407,700**	**100%**	**26,599,200**	**100%**

Source: NOMIS.

3.33 **Table 3.3** sets out the claimant count unemployment rates for the component parts of the Edinburgh City Region, Glasgow and Scotland as whole. This reiterates that the Edinburgh City Region is a key driver of the Scottish economy. The area has an unemployment rate below that of Scotland as a whole and there are areas within the City Region that are substantially below the average rate across Scotland, such as East Lothian (2.8%) and the City of Edinburgh (2.8%). It is also noticeable that the unemployment rate in Edinburgh is substantially lower than in Glasgow, the other major city in lowlands Scotland.

Table 3.3: Claimant Count Unemployment in Scotland in February 2009			
Area	**Claimants**	**Population**	**%**
Clackmannanshire	1,504	31,333	4.8
East Lothian	1,575	56,250	2.8
Edinburgh, City of	8,850	316,071	2.8
Falkirk	3,902	95,171	4.1
Fife	9,701	220,477	4.4
Midlothian	1,587	48,091	3.3
Scottish Borders	1,932	66,621	2.9
Stirling	1,766	55,188	3.2
West Lothian	4,309	107,725	4.0
Edinburgh City Region	**35,126**	**996,927**	**3.5**
Glasgow City	20,276	389,923	5.2
Scotland	**121,930**	**3,208,684**	**3.8**
Source: NOMIS.			

3.34 **Table 3.4** summarises the Cambridge Econometrics economic forecasts for the UK by region. This shows that Scotland's economy is expected to grow by around 2.1% per annum between now and 2020, while employment is forecast to grow by around 0.2% per annum. GVA is a particular concern as this is the joint lowest forecast in the UK, significantly below the UK average. This suggests that Scotland is, as a whole, underperforming and that if it is to improve its prospects for the future it needs to maximise the assets available to it. It is in this context that the future development of EDI needs to be considered. A 'healthy', growing EDI can help to redress this growth gap to the rest of the UK through its role as an economic driver.

3.35 It should also be noted that these are long term forecasts and consequently some further consideration needs to be given to the context provided by the current downturn and how this affects the issues around this economic impact assessment. In our view this is very much a matter of time periods. Undoubtedly the current recession will have a serious impact on the economy that is served by EDI and this will most likely knock on to the Airport in the short and possibly medium term. However, the purpose of this study is to consider the long term impact of the airport. In demand forecast terms this means to 2030 and in terms of some elements of the assessment the timeframe is even longer. Therefore, the weight given to current events should be limited unless there are particular elements where there is expected to be a longer term impact.

Table 3.4: GVA and Employment Prospects for UK Regions 2010 to 2020 (% per annum)		
	GVA	**Employment**
London	2.9%	0.7%
South East	2.9%	0.7%
East of England	2.8%	0.6%
South West	2.6%	0.4%
West Midlands	2.3%	0.2%
East Midlands	2.4%	0.4%
Yorks & the Humber	2.2%	0.4%
North West	2.3%	0.3%
North East	2.1%	0.1%
Wales	2.2%	0.4%
Scotland	2.1%	0.2%
Northern Ireland	2.3%	0.5%
United Kingdom	**2.6%**	**0.5%**
Source: Cambridge Econometrics.		

3.36 In summary, it seems clear that EDI currently operates within a highly prosperous City Region that is central to the long term prosperity of Scotland as a whole. The region is expected to grow faster than Scotland as a whole and, consequently, is likely to become even more significant in economic terms. Combined with Edinburgh's position as an attractive inbound tourist and business destination, this means that EDI should have a solid demand base from which to expand and be operating in conjunction with an economy that will be increasingly reliant on its services. The primary difficulty for EDI may be securing the labour necessary to facilitate its expansion in a relatively constrained labour market with strong competition for resources.

4 DRIVER OF THE EDINBURGH CITY REGION

Key Points

- Edinburgh as the capital of Scotland has traditionally had a strong international presence. It has performed strongly both in terms of attracting foreign direct investment (FDI) and in nurturing indigenous companies that have successfully entered global markets.
- EDI is viewed as an important factor in attracting investment to the Edinburgh City Region and in allowing firms within the City Region to operate effectively in world markets.
- Of particular importance are the links to London. However, the expansion in the range of international destinations has been seen an important factor in expanding Edinburgh's image as an international business destination.
- The future growth of EDI is of considerable importance in the context of Edinburgh's position in the global economy. It will be difficult for Edinburgh to maintain and enhance its position as an international business centre without a growing international airport.
- Key sectors such as financial services, life sciences, chemicals, energy, electronics, pharmaceuticals and creative industries are heavily reliant on the international connectivity provided by EDI. These sectors are amongst those that are expected to drive the Edinburgh City region's future growth.
- Tourism to Edinburgh generates around £1.7 billion for the Edinburgh economy[9] and the industry employs around 31,000 people or 10% of the workforce. EDI is the key international gateway for this industry.

Introduction

4.1 In this section we initially consider the framework of effects through which Edinburgh Airport impacts on its catchment area economy and then move on to consider specifically the role the Airport plays in supporting GVA and employment in the wider economy and how this will change as EDI grows in the future.

4.2 We have organised this discussion under the following main headings:

- Economic Impact Framework;
- Overview of Catalytic Impact;
- Edinburgh City Region and the Global Economy;
- Connectivity as an Indicator of Catalytic Impact;
- Edinburgh Airport and the Financial Services Sector;
- The Importance of EDI to Other Key Sectors;
- Impact on Inbound Tourism.

[9] Edinburgh Inspiring Tourism, Annual Report 2008 – Edinburgh City Council.

Economic Impact Framework

4.3 The overall approach that we have adopted in order to consider the economic impact of EDI is based on a framework of five categories of effect as set out in **Table 4.1**. This is the standard framework for analysis advocated by ACI EUROPE, the trade body for European airports, and is commonly used in a wide range of economic impact assessments.

4.4 It is possible to generate robust quantitative estimates of the first four categories of impact shown in Table 4.1 (direct on-site, direct off-site, indirect and induced). These represent the employment and GVA supported through the operation of the airport as an economic activity. We present our estimates in relation to these impacts in Section 5.

Table 4.1:
Framework of Economic Impact Analysis

Impact Category	Definition	Examples
Direct On-Site	Employment and income and wholly or largely related to the operation of the airport and generated within the Airport Operational Area	Airport operator, airlines, handling agents, control authorities, concessions, freight agents, flight caterers, hotels, car parking, aircraft servicing, fuel storage
Direct Off-Site	Employment and income wholly or largely related to the operation of the airport and generated within an approximate 20-minute drive-time of the Airport	Airlines, freight agents, flight caterers, hotels, car parking
Indirect	Employment and income generated in the chain of suppliers of goods and services to the direct activities	Utilities, retailing, advertising, cleaning, food, construction
Induced	Employment and income generated by the spending of incomes earned in the direct and indirect activities	Retailing, restaurants and entertainment
Catalytic	Employment and income generated by the attraction, retention or expansion of economic activity as a result of connectivity via the airport	Inward investors, exporting companies and visitor attractions

Source:
York Aviation LLP.

4.5 The issue of catalytic or wider benefits is, however, considerably more complex. The impact of the airport in this case is accrued by users of the services. The ability to travel or the connectivity offered by the airport enables sectors that use air services to operate more effectively, increasing productivity and output and thereby supporting GVA and employment in the wider economy. In the context of a modern developed economy, it is our view that these wider impacts are of considerably greater importance than the direct, indirect and induced impacts described in Section 5.

4.6 However, quantification of this impact in terms of GVA and employment is not possible. The relationship between air travel and economic activity is an indirect one. It is not possible to say that, for instance, a 10% increase in business passengers leads to a corresponding increase in GVA and employment through inward investment or greater productivity. It is therefore necessary to consider these issues through qualitative analysis and the use of broader indicators of an airport's impact.

4.7 The remainder of this section focuses on presenting a range of information and evidence in relation to:

- the mechanisms of catalytic impact;
- the ability of EDI to deliver wider economic benefits through an analysis of the business focussed connectivity offered;
- the link between air services and competitiveness;
- a series of issues of particular relevance to EDI and the City Region including the importance of air services for financial services, other key sectors such as life sciences, chemicals and energy, tourism and the West Edinburgh development aspirations.

Overview of Catalytic Impact

4.8 This wider economic and social role of airports is called the catalytic impact. The mechanisms through which this catalytic impact can operate include the following:

- as an important element in **company location decisions**, the presence of an international airport can be an important factor in:

  - attracting new investment from outside the area, and especially companies from overseas;
  - retaining existing companies in the area, whether they had previously been inward investors or indigenous operations;
  - securing the expansion of existing companies in the face of competition with other areas;

- promoting the **export success** of companies located in the area by the provision of passenger and freight links to key markets;
- enhancing the **competitiveness** of the economy, and the companies in it, through its fast and efficient passenger and freight services;
- attracting **inbound tourism**, including both business and leisure visitors, to the area.

4.9 There is a significant body of research that has articulated the role of services in relation to these issues. We have not sought to revisit these issues here but consider the role of EDI specifically and present the broad arguments in relation to these points.

4.10 The way in which an Airport can act as a facilitator of wider business activity is also demonstrated through the 'Airport City' concept. Amsterdam Schiphol Airport was one of the first airports to promote this concept, by which an explicit link is made between the Airport and the business connectivity it provides to companies that locate either on the Airport site itself or in close proximity to it. Such businesses might include hotels and conference facilities as well as business parks. West Edinburgh already demonstrates some of these characteristics in its ability to attract major firms to locations very near to the Airport.

Edinburgh City Region and the Global Economy

4.11 Edinburgh as the capital of Scotland has traditionally had a strong international presence. It has performed strongly both in terms of attracting foreign direct investment (FDI) and in nurturing indigenous companies that have successfully entered global markets.

4.12 FDI Magazine in 2008 identified Edinburgh as the most attractive small European city in which to locate and the sixth most attractive across all European cities. This is to a large extent reflected in the available statistics on inward investment held by Scottish Development International and set out in **Table 4.2**.

Table 4.2:
Inward Investment in the Edinburgh City Region and Scotland

	2003		2004		2005		2006		2007		2008	
	Projects	Employment	Projects	Employment	Projects	Employment	Projects	Employment	Projects	Employment	Projects	Employment
City of Edinburgh	2	400	7	338	4	130	9	396	14	494	6	123
Rest of Edinburgh City Region	4	246	11	760	7	1,096	16	471	7	248	6	289
Edinburgh City Region	*6*	*646*	*18*	*1,098*	*11*	*1,226*	*25*	*867*	*21*	*742*	*12*	*412*
City of Glasgow	7	528	9	784	9	972	17	2,186	21	1,730	8	196
Rest of Glasgow City Region	11	789	11	962	5	211	9	533	11	550	9	222
Glasgow City Region	*18*	*1,317*	*20*	*1,746*	*14*	*1,183*	*26*	*2,719*	*32*	*2,280*	*17*	*418*
Rest of Scotland	15	1,955	26	574	8	301	11	925	16	1,178	10	121
Total Scotland	**39**	**3,918**	**64**	**3,418**	**33**	**2,710**	**62**	**4,511**	**69**	**4,200**	**39**	**951**

Source: Scottish Development International.

4.13 This shows that over the last five years there have been around 93 inward investment projects recorded in the Edinburgh City Region that have created or safeguarded around 4,990 jobs. Around 45% of these projects were in the City of Edinburgh itself. The Edinburgh City Region accounted for around 30% of the projects across Scotland as a whole. It should however be noted that the City of Edinburgh and the Edinburgh City Region do however lag behind the City of Glasgow and the Glasgow City Region. Over the same period the Glasgow City Region attracted around 127 projects creating or safeguarding around 9,660 jobs. This pattern reflects the additional advantage for the region provided by Regional Selective Assistance.

4.14 It should also be noted that FDI projects often involve substantial capital investment. Since 2003, the projects identified in Table 4.2 have accounted for US$ 1.1 billion in capital investment[10], including around US$ 286 million in 2008.

4.15 Between 1997 and 2008, the key sectors investing in the Edinburgh City region were Electronics (55 projects), Software (28 projects), Pharmaceuticals (19 projects), Financial Intermediation (18 projects) and Chemicals (15 projects). To a large extent this reflects the pattern of investment across Scotland but there is a greater concentration on Financial Intermediation in particular.

4.16 However, it is also important to recognise the nature of inward investment in Edinburgh and Scotland. Analysis undertaken by DTZ[11] in 2008 identified that:

"From just over 200 areas across the UK. Edinburgh, Glasgow and Aberdeen appear in the top ten. The top three Scottish cities are beaten only by areas in London and the South East of England and are well ahead of city regions like Manchester, Leeds, Birmingham and Bristol.

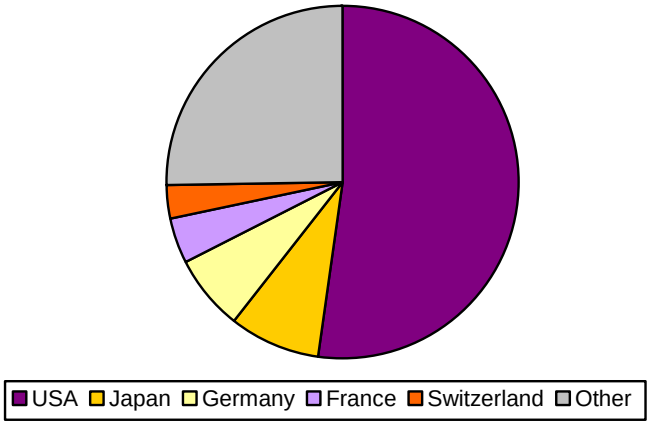
Taken together, Edinburgh and Glasgow are only second to Westminster in terms of the number of decision making operations. These operations account for just over 2,000 jobs and around three quarters of these are in Glasgow City Centre."

4.17 This role as a centre for decision makers is likely to drive up the requirement for air services as travel for internal management activities is likely to be higher.

4.18 It is also useful to consider the origins of these inward investment projects. In **Figure 4.1** we outline the proportion of projects by origin country in the Edinburgh City Region. The USA is by some margin the largest source of investment, accounting for around 120 projects since 2003 or 52% of the total. Japan, Germany France and Switzerland make up the remainder of the Top 5 and together around for a further 52 projects or 23% of the total.

[10] Includes only projects where a capital investment value is known.
[11] Unpublished DTZ Report (August 2008).

Figure 4.1:
Sources of Inward Investment in the Edinburgh City Region



Source: Scottish Development International.

4.19 It is also interesting to note the significant numbers of major international companies that have a representation in Edinburgh. Based on information within Edinburgh City Council's *Edinburgh by Numbers 2008* publication, we have set out in **Table 4.3** a list of some of these major companies along with the number of employees. This has been split between companies with headquarters in Scotland and those with headquarters elsewhere. It is particularly interesting to note the high proportion of firms within the financial services sector within this group. The sector is a traditional strength for the City and we consider the particular importance of EDI to this industry in more depth below.

Table 4.3:
Major International Companies Located in Edinburgh in 2007

Headquarters in Edinburgh	Headquarters elsewhere
Royal Bank of Scotland (9,100)	BT Group (1,900)
Halifax Bank of Scotland (6,500)	Tesco (1,800)
Standard Life (5,900)	Sainsbury's (1,400)
Scottish Widows (3,700)	Marks & Spencer (1,300)
AEGON UK (2,600)	
Lloyds TSB Scotland (2,300)	
Scottish Gas (1,500)	

Source: Edinburgh by Numbers 2008 - Edinburgh City Council.

4.20 In recent years the City has sought to build on this strong global image by further developing the Edinburgh 'brand'. In May 2005 the *Edinburgh Inspiring Capital* brand was launched. The project focuses on developing Edinburgh's image as a place both to visit and do business. The project has secured considerable support from a wide range of economic sectors, including property development, retail and tourism. The establishment of the *Edinburgh Inspiring Capital* project reflects the ambitions of key stakeholders in the City to ensure that Edinburgh maintains and enhances its position in the global economy.

4.21 In parallel with this brand promotion, the Destination Edinburgh Marketing Alliance (DEMA) is working as an industry-led collaboration of private and public sectors in Edinburgh which seeks to ensure that Edinburgh has a co-ordinated and targeted approach to marketing itself as a leading global destination for visitors, investors and talented people. The Airport is one of the Alliance partners. DEMA is currently completing its Marketing Strategy which will set out key markets for Edinburgh to target and to market itself to. EDI will be a key contributor and beneficiary in this regard.

4.22 The importance of air services, and by extension EDI, in supporting a global economy is clear. Air services provide:

- ✈ access to other parts of the organisation, particularly headquarters functions, for inward investors;
- ✈ access to markets for indigenous companies and for inward investors seeking to use a region as a base of operations within a world area;
- ✈ access to suppliers of goods and services from around the world;
- ✈ access to knowledge partners and complementary businesses.

4.23 These external links are vitally important in allowing a city or region to compete as a global business centre. Many of the knowledge based sectors upon which modern economies are built, including the Edinburgh City Region, are highly mobile and consequently are continually evaluating the optimal places for their location. While it would be wrong to say that air services are the determining factor in such decisions, there is significant evidence to suggest that air access is an important consideration.

4.24 One of the most recognised pieces of research in this area is the annual European Cities Monitor produced by Cushman & Wakefield. This research surveys senior executives from 500 major European companies, focussing on issues around location decisions and inward investment. *Easy access to markets, customers or clients* (2nd) and *Transport links with other cities and internationally* (4th) were both identified in the top 4 most important factors in determining business locations in 2008. This is a well established pattern. These key factors, which provide proxies for the importance of air service access, have been amongst the top four factors for many years.

4.25 At present EDI is viewed by stakeholders as an important factor firstly in attracting investment to the Edinburgh City Region and secondly in allowing firms within the City Region to operate effectively in world markets. Of particular importance are the links to London, the UK capital, and one of the world's leading business centres. However, the expansion in the range of international destinations has also been seen as an important factor in expanding Edinburgh's image as an international business destination.

4.26 The future growth of EDI is seen as being of considerable importance in the context of Edinburgh's position in the global economy. It will be difficult for Edinburgh to maintain and enhance its position as an international business centre without a growing international airport. Broadly, we have summarised the impact of our two growth scenarios for EDI below:

- **Master Plan Scenario** – with EDI growing as outlined in its Master Plan the Edinburgh City Region should at least maintain parity with competitor regions in terms of connectivity. If the growth of recent years can be maintained then there is a real chance of enhancing the City's position. Therefore, the further development of the Airport must be seen in the context of a competitive market for future new FDI or expansion of existing investment. It is part of building a City Region product that will bring in the types of new investment that are central to the City's overall development strategy and long-run prosperity;

- **Constrained Scenario** – if EDI is not able to expand as per the Master Plan the Airport's ability to expand its offer will be impaired. The route network and the level of frequency on offer is likely to stagnate. Airlines are unlikely to expand their presence at the Airport significantly as there will be an ultimate 'cap' on their ability to expand and realise economies of scale. However, this does not mean that there will necessarily be a decline in the importance of EDI as a provider of connectivity. The business focussed services already in existence are likely to be amongst those that are higher yielding and therefore likely to remain. Consequently, EDI's ability to act as economic driver for the international business economy is likely to remain largely as it is currently. However, in terms of the City Region this could still have a negative effect as competitor cities and regions will continue to improve their offer. Edinburgh will therefore become a less attractive place to locate or do business in comparison. It will become harder to attract investment, particularly of the 'right' type.

Connectivity as an Indicator of Catalytic Impact

4.27 Above we have considered the role of EDI as a facilitator of Edinburgh's international economy in broad terms. What is clear is that central to EDI's ability to deliver benefit to the City Region, and to the wider economy of Scotland as a whole, is the connectivity offered by the Airport. Therefore, to provide a more quantified assessment of EDI's importance as a provider of catalytic benefits in the City Region economy, we have used York Aviation's Value Connectivity Index (VCI) to examine the Edinburgh City Region's position in relation to a number of the City's key competitors.

4.28 Traditionally an airport's connectivity has been considered in terms of either the number of destinations or the number of frequencies. However, these measures are relatively crude. In terms of considering the role of an airport and the economic benefit it offers to its catchment area, these measures ignore the nature of the destinations that are served by the airport's route network. For instance, a flight to a major business city such as Paris has considerably more value to the business community than a flight to a primarily leisure destination such as Alicante. In recent years York Aviation has developed a tool, the Value Connectivity Index, which is designed to address this issue.

4.29 The VCI assesses the value to businesses of an airport's destinations based on research undertaken by the Globalisation and World City network. This research has identified a hierarchy of world cities based on the location decisions of 175 advanced service firms. A summary of the results of this research are shown in **Table 4.4**. Each city shown within this hierarchy is assigned a score of between 1 and 10 based on its ranking. Any destination not included within the list is assumed to score 0. The score for the destination is then weighted depending on the number of weekly frequencies offered to that destination[12].

4.30 The final result of this process is a score for the airport's route network that reflects the value of its connectivity to business users that can be compared to either other airports or to the past or to future development scenarios. [NB* The VCI scores are a relative measure designed to allow comparisons between airports – it is not designed to make any commentary on employment or GVA].

4.31 In this analysis we have considered:

- the role EDI plays in providing business focussed connectivity to the Edinburgh City Region;
- how Edinburgh compares in terms of the quantum of connectivity available to some of its key comparator cities and consequently how important further expansion is in terms of Edinburgh's long term competitive position. It is important to note that this is about comparator cities rather than necessarily comparator airports as it is the connectivity available to similar status cities that is of interest. Following discussions with Scottish Enterprise, cities that are felt to be of a similar status, have a similar economic base and that compete with Edinburgh for investment have been chosen;
- how Edinburgh compares to the average connectivity available to a broader basket of European cities;
- how EDI's connectivity might develop by around 2015 if the Airport is able to develop in line with the Master Plan.

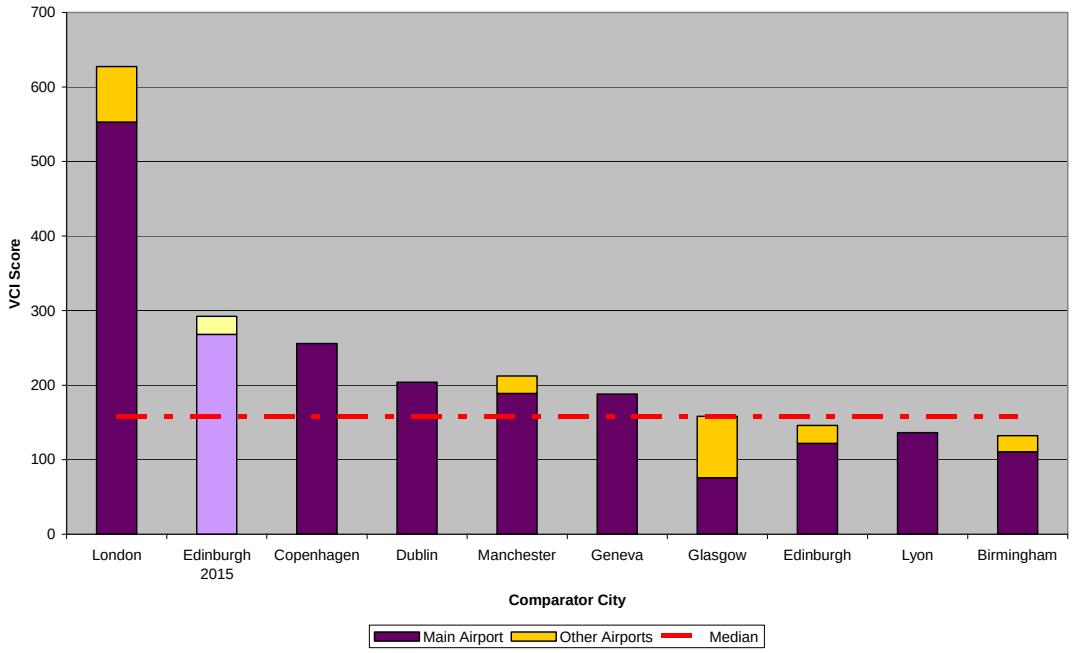
[12] More information on the calculation of the Value Connectivity Index can be found in **Appendix C**.

Table 4.4: Globalisation and World Cities Network Inventory of World Cities 2008
Alpha ++ World Cities
New York, London
Alpha + World Cities
Hong Kong, Paris, Singapore, Tokyo, Sydney, Beijing, Shanghai
Alpha World Cities
Milan, Madrid, Seoul, Moscow, Toronto, Brussels, Mumbai, Buenos Aires, Kuala Lumpur
Alpha – World Cities
Warsaw, Sao Paulo, Jakarta, Zurich, Mexico City, Amsterdam, Bangkok, Dublin, Taipei, Rome, Istanbul, Chicago, Lisbon, Frankfurt, Stockholm, Vienna, Budapest, Prague, Athens, Caracas, Auckland, Santiago
Beta + World Cities
Melbourne, Los Angeles, Barcelona, Johannesburg, Washington, Manila, Atlanta, Bogota, Delhi, San Francisco, Tel Aviv, Bucharest, Berlin, Helsinki, Oslo, Dubai, Geneva, Copenhagen, Riyadh, Hamburg, Cairo
Beta World Cities
Bangalore, Luxembourg, Jeddah, Munich, Kuwait, Dallas, Boston, Kiev, Lima, Miami
Beta – World Cities
Houston, Guangzhou, Düsseldorf, Sofia, Beirut, Nicosia, Karachi, Montevideo, Rio De Janeiro, Montreal, Bratislava, Nairobi, Ho Chi Minh City
Gamma + World Cities
Panama City, Chennai, Casablanca, Brisbane, Denver, Vancouver, Stuttgart, Quito, Zagreb, Guatemala City, Cape Town, Minneapolis, San Jose, Santo Domingo, Ljubljana, Seattle, Shenzhen, Manama
Gamma World Cities
Guadalajara, Antwerp, Philadelphia, Rotterdam, Perth, Lagos, Manchester, Amman, Portland, Riga, Wellington, Detroit, Guayaquil
Gamma – World Cities
Porto, St Petersburg, **Edinburgh**, Tallinn, San Salvador, San Diego, Port Louis, Calgary, Birmingham (UK), Almaty, Islamabad, Doha, Vilnius, Colombo
Evidence of World City Formation
High Sufficiency
Columbus, Phoenix, Cleveland, Adelaide, Tegucigalpa, **Glasgow**, Monterrey, Dhaka, Hyderabad, San Juan, Hanoi, Lahore, Tunis, Lyon, Leeds, Kansas City, Tampa, Pittsburgh, Orlando, Belgrade, Charlotte, Indianapolis, La Paz, Osaka, Canberra, Georgetown, Managua, Asuncion, Baltimore, Bristol, St Louis, Bologna, Accra, Nassau, Ottawa, Cologne, Lausanne, Medellin, Sacramento, San Jose, Milwaukee, Richmond, Las Vegas
Sufficiency
Christchurch, Memphis, Hamilton, Jerusalem, Krakow, Belfast, Porto Alegre, Chengdu, Nashville, Basle, Honolulu, Pune, Omaha, Raleigh, Reykjavik, Newcastle, Dar es Salaam, Macau, Valencia, Hartford, Lusaka, Durban, Curitiba, Leipzig, Aberdeen, Marseille, Baku, Cali, Dresden, Liverpool, Ankara, Penang, Salt Lake City, Muscat, Austin, Gabarone, Tianjin, Puebla, Winnipeg, Harare, Nagoya, Nanjing, Tashkent, Dalian, Southampton, Tijuana, Kaohsiung City, Tulsa, Rochester, Seville, Edmonton, Skopje, Strasbourg, Halifax, Labuan, Kingston, Birmingham, Utrecht, Genoa, Cincinnati, Johor Baharu, Tbilisi, Bremen, Nantes, Cardiff, Aarhus, Abu Dhabi, New Orleans, Chihuahua, Hanover, Queretaro, Buffalo, Quebec, Turin, Cebu, Bilbao, Libreville, Bordeaux, Poznan
Source: *"The World According to GaWC 2008"* – Globalisation and World Cities Network.

4.32 The results of this analysis are set out in **Figure 4.2**. There are a number of key points to note from these results:

- ✈ currently Edinburgh is slightly below the median level of connectivity available to a broad basket of European cities;
- ✈ EDI is by far the most important provider of connectivity for the City Region. Glasgow Airport is within a typical one-hour business travel catchment from Edinburgh city centre but offers little in terms of additional VCI connectivity over and above that offered by EDI[13];

Figure 4.2:
Value Connectivity Index Results for Edinburgh and Comparator Cities



Source: York Aviation.

[13] Glasgow does offer connections to Philadelphia, Lahore and Dubai but together these do not score highly within the analysis (with the exception of Dubai).

- compared to the comparator cities shown in Figure 4.2, which have been picked to reflect cities of a similar status and nature to Edinburgh (the exception is London that has been included to provide an overall scale context), the City Region currently lags behind most in terms of the business focussed connectivity available to it. This suggests that growth of EDI will be important in the future if Edinburgh is to remain in this company and will be very important if it wishes to move up the ranks of international business centres;

- London has been included in the analysis firstly to provide scale but also secondly to highlight the importance of EDI in providing connections to Heathrow. Currently, the VCI suggests that London is the best city in the world for business connectivity. In terms of the VCI, it is over four times better connected than Edinburgh and over twice as well connected as Copenhagen, the best connected of the comparator group identified. London's score is primarily driven by Heathrow, which is, in turn, the best connected airport in the world in terms of the VCI. EDI's links to Heathrow therefore have a particular value for the City Region. EDI provides easy and quick access to the best connected hub airport in the world. This is perhaps one of the factors that allows Edinburgh as a City to compete effectively amongst this group of cities despite its relatively low connectivity score. However, while this link to Heathrow is important for connections and as a direct link to London, improvement of EDI's other direct connectivity will be important to the City's offer as a business centre;

- based on the Master Plan forecasts and an assessment of key business focussed routes that might be served by 2015, we have estimated the likely impact on the VCI. This suggests that EDI will considerably improve the business focussed connectivity on offer, reaching a level similar to that of Copenhagen at present. The connectivity of the other cities will also improve but this analysis suggests that the Edinburgh City Region should at least maintain its current position if not improve it. In contrast, the constrained scenario is unlikely to see a significant difference over current levels of connectivity and, as a consequence, the City is likely to fall further behind its rivals.

4.33 Overall, this analysis confirms the findings of our qualitative research with key stakeholders. EDI is an essential tool for the Edinburgh City Region's significant international economy. It is the most important provider of business focussed connectivity in the vicinity. The Airport is also the most important provider of business focussed connectivity for Scotland as a whole, providing as it does a significant tranche of the connectivity available to Glasgow. However, it should also be noted that Edinburgh currently lags behind many of the City's main rivals in terms of its connectivity offer. While this is partially ameliorated by the strong links EDI provides to London Heathrow, it will be vitally important for Edinburgh's international aspirations that EDI continues to grow and close the gap on its European rivals. Our analysis suggests that implementation of the Master Plan will enable EDI to achieve this required growth.

Edinburgh Airport and the Financial Services Sector

The importance of air services to the financial services sector

4.34 Air services are known to be of great importance to the financial services sector, which demonstrates a high propensity to make use of them. Two pieces of research demonstrated this: first, a study by MDS Transmodal Study for the UK Air Freight industry, which analysed the purchases of air transport services by the sector based on 1996 input-output tables; and second, data collected by Oxford Economic Forecasting in 1999 in the course of a study on the contribution of the aviation industry to the UK economy. Below, we have updated the analyses undertaken in these studies to reaffirm this position.

4.35 In **Table 4.5** we set out a refreshed version of the analysis undertaken by MDS Transmodal based on the 2004 UK input-output tables.

4.36 This shows the 10 sectors that accounted for nearly two-thirds (67.1%) of the overall sector demand for air transport. Banking & Finance and Insurance & Pension Funds are shown as accounting together for over a fifth of the total demand.

Table 4.5: Sector Breakdown of the Purchases of Air Transport in the UK	
Sector	**% of air transport purchases**
Banking & finance	11.9%
Insurance & pension funds	10.0%
Air transport	9.8%
Ancillary transport services	7.9%
Postal & courier services	7.1%
Wholesale distribution	5.8%
Other business services	5.7%
Recreational services	3.4%
Motor vehicle distribution & repair, fuel	3.0%
Hotels, catering, pubs etc.	2.6%
Total	**67.1%**
Source: MDS Transmodal – 'UK Air Freight Study'.	

4.37 In 1996 a study by Oxford Economic Forecasting 'The Contribution of the Aviation Industry to the UK Economy' analysed the proportion of the total transport inputs of economic sectors that is accounted for by aviation (including both air freight and passenger travel) and their expenditure on air transport services per employee. In **Table 4.6**, we set out a refreshed version of this analysis. These have been identified using the 2004 UK Input/Output tables and on the basis of similar criteria to those used by Oxford Economic Forecasting in their 1999 report. The list includes sectors which either spend more than 20% of their total transport budget on air travel or where spend per employee on air transport is in excess of £1,000[14]. This group has been termed 'air intensive' in that their spending patterns on air services suggest that there locations will be particularly influenced by the availability of air transport services.

4.38 Again, this data shows that the financial services sector accounts for a high degree of air travel usage, with air travel accounting for 68% of the Banking & Finance sector's travel demand, and 56% of the Insurance sector's demand.

[14] This has been increased from the original £500 per head used by OEF in 1999 to reflect inflation and changes in the market since the 1996 Input Output tables.

Table 4.6:
Air Intensive Sectors of the UK Economy in 2004

Sector	% of Transport Spend	Spend per employee	Sector	% of Transport Spend	Spend per employee
Air transport	92.5%	£7,668.59	Research & development	32.8%	£131.62
Banking & finance	68.4%	£1,305.50	Ancillary transport services	32.6%	£1,172.69
Market research, management consultancy, etc.	67.2%	£327.18	Other service activities	31.9%	£138.71
Membership organisations	65.3%	£121.70	Telecommunications	30.1%	£365.94
Other business services	63.9%	£219.26	Other transport equipment	29.7%	£944.85
Owning & dealing in real estate	61.9%	£321.20	Oil & gas extraction	28.3%	£3,740.47
Recreational services	55.9%	£310.21	Weapons & ammunition	24.1%	£214.15
Insurance & pension funds	55.8%	£3,592.28	Hotels, catering, pubs etc.	23.5%	£96.56
Aircraft & spacecraft	49.0%	£698.74	Estate agent activities	23.5%	£40.82
Postal & courier services	47.4%	£1,602.51	Iron & steel	20.7%	£1,852.17
Letting of dwellings	44.8%	£173.43	Architectural activities & technical consultancy	20.4%	£142.06
Legal activities	42.6%	£349.00	Tobacco products	19.0%	£1,757.08
Accountancy services	41.2%	£343.24	Inorganic chemicals	7.5%	£1,692.02
Advertising	40.9%	£590.77	Water transport	6.1%	£2,571.17
Computer services	40.4%	£210.25	Fertilisers	4.2%	£1,750.02
Auxiliary financial services	40.2%	£216.49	Other mining & quarrying	2.7%	£1,030.24

Source: York Aviation analysis of UK Input/Output Tables 2004.

4.39 In 2005 a study was undertaken by Scottish Financial Enterprise on the Connectivity Needs of Scotland's Financial Services Industry, which also confirms the importance of air services to the sector. A survey of Scottish Financial Services' members was conducted as part of this study found that:

"From the SFE Survey, the top three specific transport development priorities are concerned with air connectivity and include, in order of importance: the Edinburgh city centre-airport rail link, the Glasgow city centre-airport rail link and more direct international flights from Scotland."[15]

[15] The Connectivity Needs of Scotland's Financial Services Industry, Scottish Financial Enterprise, April 2005, paragraph 5.3.3.

The Importance of the Financial Service Sector to Scotland

4.40 Scotland is one of Europe's leading financial centres and the second largest financial hub in the UK, after the City of London. The sector encompasses a wide range of financial services including banking, life assurance and pensions, investment management, asset servicing, customer contact centres, and shared services centres, along with a range of supporting and supply chain functions such as IT, consultancy and training.

4.41 The Financial Services Advisory Board (FiSAB) summarises the impact of the sector on the Scottish economy as follows:

"The financial services industry in Scotland contributes around £7 billion to Scottish Gross Domestic Product (GDP). Since the start of 1998, Scotland's financial services industry has grown by 96%, compared to growth of 22% in the economy as a whole, and 84% across UK financial services as a whole…. Employment in Scotland's financial services industry was estimated at 86,000 in 2006…… In addition to those directly employed within financial services, the industry is estimated to also support indirect employment of around 70,000 across a range of other industries in Scotland."[16]

4.42 In addition to the above, Scottish Enterprise identified that over the period 1998-2007, GDP in Scotland's financial services industry has grown by 96%, compared with 22% in the economy as a whole, and 84% across UK financial services as a whole.

4.43 SDI identified the primary selling points for Scotland in terms of attracting and retaining investment in Financial Services as:

- property availability;
- labour and skills availability;
- surface and air connectivity;
- telecoms infrastructure;
- quality of life.

[16] The Strategy for the Financial Services Industry in Scotland 2008 Annual Report

4.44 The Scottish Government has also recognised the importance of the financial services sector through its commitment to the FiSAB, which is chaired by Scotland's First Minister. The Board is a partnership between the public sector and the industry, and includes the Scottish Government, Scottish Enterprise, Universities Scotland, and trade unions. The Strategy for the Financial Services Industry in Scotland was launched in 2005, and sets out a Vision for the industry of:

"An innovative, competitive and thriving international financial service industry in Scotland, underpinned by world class infrastructure and universally recognised as a leader on the global stage."[17]

4.45 Three strategic aims support the Vision and are built on promoting competitiveness. These are to:

- *"Exploit market opportunities through innovative products and services;*
- strengthen the world-class workforce;
- Build the industry's profile within and beyond Scotland, by influencing, marketing and communicating effectively;
- *improve the business infrastructure."*[18]

4.46 In the context of the importance of air services to the sector, it is noteworthy that the vision and strategic aims place an emphasis on the global dimension of the sector, articulating the need to earn recognition for the industry on a global stage and build the industry's profile beyond Scotland. The Scottish Government believes that this was reflected in the setting of an early target, within the context of the overall Strategy, to secure more direct air services from Scotland. This was initially achieved through the Scottish Air Route Development Fund.

[17] A Strategy for the Financial Services Sector in Scotland, 2008 Annual Report, page 6.
[18] Ibid: page 6.

4.47 Stakeholders also clearly identified that, in terms of attracting and retaining investment in the financial services industry, the strategy was to *"sell Scotland first"* and then to sell specific locations within Scotland, depending on the nature of the business requirement. Although Edinburgh and Glasgow are seen as high profile locations, and account for over two thirds of the financial services sector jobs in Scotland, there are a number of other key locations for the industry (e.g. Aberdeen for Aberdeen Asset Management, Perth for Norwich Union/Aviva) and air access via Edinburgh and Glasgow Airports could indirectly support other locations in Scotland as well.

Financial Services in Edinburgh

4.48 Edinburgh is the second largest financial centre in the UK after the City of London and is ranked as the fourth largest financial centre in Europe, when measured in terms of equity assets.[19] Edinburgh has been a centre of the banking industry for over 300 years, with the Bank of Scotland founded in Edinburgh in 1695 and the Royal Bank of Scotland in 1727. Standard Life and Scottish Widows are two major indigenous players in the life and pensions sector.

4.49 There are several key financial services locations across the Edinburgh City Region. For example, 'The Exchange' on Lothian Road has been particularly successful as a key location for many specialist players including Standard Life and Scottish Widows. West Edinburgh is also a key location for financial services, with the area around Gogarburn, where RBS located its £400m headquarters in 2005, along with Edinburgh Park, located just south of the A8 and in close proximity to the Airport. Edinburgh Park is Scotland's largest business park and home to the divisions of a number of large global financial services firms and other companies, including HSBC, HBOS, Aegon, JP Morgan, Oracle and BT. Some 25,000 people work on the site, which is still growing and has plans for an additional 2 million square feet of accommodation over the next 15 to 20 years.

[19] Scottish Financial Enterprise website, accessed March 2009.

4.50 Although Edinburgh and Glasgow do not necessarily compete directly against each other to attract financial services, they each have different strengths which are increasingly being seen as a combined strength. For example, although Edinburgh has a generally higher profile in financial services, especially in banking, fund and investment management, and specialist services such as risk management, Glasgow has a surplus of Grade A office property, a larger catchment area, and a better developed public transport network.

4.51 A Glasgow-Edinburgh Prospectus for Action is currently under development and contains a suite of measures, jointly identified by Glasgow and Edinburgh, which offer the greatest potential for useful collaboration. The three areas which are seen as offering the greatest potential are transport connectivity, support for key sectors, and attracting new investment. Direct rail links to both airports, as well as increased direct air service to European cities are identified as key actions in support of improved connectivity. Support for the implementation of the Financial Services Strategy in collaboration with FiSAB is also identified as an action in support of key sectors.

The Impact of the Current Downturn

4.52 The global economy is experiencing financial challenges on a scale unprecedented in the last 60 years. It is now clear that Edinburgh will be impacted directly as RBS and other banks announce significant job losses, although at the time of writing this report it is unclear exactly how many jobs will be affected in Edinburgh itself, or in which locations in Edinburgh.

4.53 Edinburgh is now ranked 20th in the March 2009 Global Financial Centres Index (GFCI), prepared twice yearly by the City of London. The GFCI also allows for an analysis of the centres that have the most volatile competitiveness and the latest report[20] now positions Edinburgh as 'unpredictable', whereas the same report for March 2008 ranked Edinburgh as broadly stable. This clearly reflects the current economic crisis and Edinburgh's role as a financial centre, although we were told that not every part of the financial services sector is struggling and some areas such as insurance and pensions were generally not impacted to the same degree.

[20] Global Financial Centres Index, City of London Corporation, March 2009

4.54 Edinburgh City Council has already prepared an initial action plan to identify potential preventative, mitigating and remedial actions that could be taken to help the Council, the City and key business sectors to chart a route successfully through the difficult circumstances currently being experienced in the global economy, including, for example, a campaign in conjunction with SDI to differentiate Edinburgh's offer, which is unique in Scotland and, with the exception of London, unique in the UK.[21].

4.55 In this context there is a strong feeling amongst key stakeholders that in such circumstances the City Region needs to maximise the advantages available to it, included within this is EDI. The Airport needs to continue to expand so that Edinburgh keeps pace with competitors and assists in maximising the competitiveness of the City Region to assist the financial services sector in coming out of the downturn.

The Importance of Edinburgh Airport to Other Key Sectors

4.56 Although we have focused in particular on the financial services sector and the importance of Edinburgh Airport in supporting this key business sector, it is important to note that there are other key sectors that are likely to benefit from the existence of EDI as a provider of global connectivity. Recent research undertaken by Oxford Economic Forecasting on the Economic Contribution of the Aviation Industry in the UK[22] identified that many of the sectors that are expected to be central to UK economic growth in the future are heavily dependent on air service access.

4.57 One such sector, for example, is Life Sciences. Scotland hosts one of the most sizeable Life Sciences clusters in Europe, with more than 600 organisations operating in the country, employing over 30,000 people and experiencing annual GVA growth rates of 7% to 8%. This sector has a significant multinational presence in research and development as well as manufacturing, with 20 new Life Science companies starting trading in Scotland in 2007 alone. The Scottish Life Sciences Strategy for 2008 sets out a Vision for 2020 which aims for:

[21] Economic Resilience Action Plan, Report to Edinburgh City Council, 16 October 2008.
[22] The Economic Contribution of the Aviation Industry in the UK – Oxford Economic Forecasting (2006).

"A globally oriented, sustainable, fully-connected life sciences sector built on collaborative action that exploits strengths in scientific excellence, financial services and innovative business models and develops, retains and builds upon Scotland's talents."

4.58 This Vision emphasises the need for the sector to maintain a global orientation and the global air connectivity offered by EDI will be an important factor in realising the sector's ambitions.

4.59 Other sectors which may have a particular need for the global connectivity that EDI offers include:

- the chemicals industry, looking back to Table 4.6, a number of elements of the chemicals sectors are identified as being 'air intensive' and consequently access to air services is felt to be important for their ongoing prosperity. The industry is also identified as one of Scottish Enterprise's priority sectors and has been a significant source of FDI in the Edinburgh City Region in recent years with 15 projects identified in the SDI statistics;

- the energy sector is identified by the Scottish Government Economic Strategy as a key sector for the Country's future growth and, again, is identified as an air intensive sector;

- electronics has long been recognised as a strength of the Scottish economy and is a significant source of FDI with 55 projects identified in the SDI statistics. Parts of the industry can also be considered to be air intensive on the basis of the information in Table 4.6;

- property development has been identified as a priority sector by Edinburgh City Council and again is included as an air intensive sector;

- pharmaceuticals is both an air intensive sector and also a major source of inward investment in the Edinburgh City Region with 19 projects in recent years;

- creative industries are identified as a key sector by the Government Economic Strategy and by Edinburgh City Council. The sector is hard to define precisely in terms of SIC codes but, again, there are a number of sectors within the air intensive group that could be considered to fall in to this category, such as advertising and architectural activities;

Impact on Inbound Tourism

Strategic Ambitions for Tourism

4.60 The Scottish Tourism *Framework for Change* sets out the industry's objectives over the next decade:

"Our ambition is to keep pace with global trends over the next 10 years – if we do this we will achieve 50% revenue growth (in real terms). It will be vital to achieve that growth sustainably."[23]

4.61 Although Scotland's biggest tourism market, the UK, is also its closest, international markets are also important to Scottish tourism. Because foreign visitors tend to stay longer than domestic visitors, their total expenditure per visit is higher. In 2007 17% of the total trips made to Scotland were made by foreign visitors, but this share provided around 35% of total expenditure[24].

4.62 The Tourism *Framework for Change* also notes that:

- *"It is likely that the biggest market increase will continue to come from the strongly growing **overseas leisure market**, including VFR* [Visiting Friends and Relatives]*, predominantly from Europe and the eastern US and Canada but also from further afield. Current trends support the view that revenue could more than double.*

- ***Business tourism** revenues could almost double, and rise from the current level of 22% of all tourism revenues to 25% of all tourism revenues. The UK business tourism market will probably grow more strongly than the overseas market.*

- *It is likely that the **UK leisure** market will continue to grow but fierce competition will mean that it will probably do so more slowly than the overseas market."*[25]

[23] Scottish Tourism, The Next Decade, A Framework for Change, Scottish Enterprise, 2006, page 15.
[24] VisitScotland website, accessed March 2009.
[25] Scottish Tourism, The Next Decade - A Framework for Change, Scottish Enterprise, 2006, p 12.

Scotland's Tourism Industry and Key Markets

4.63 There are a number of key statistics in relation to overseas tourism to Scotland in 2007 that are worth setting out here:

- 16 million tourists took overnight trips to Scotland;
- the USA is biggest overseas market and accounts for 19% of overseas spend;
- 10% of all tourist to Scotland arrive by air with 88% of all overseas tourists arriving by air;
- tourism supports over 9% of all employment in Scotland, with almost 220,000 full or part time job positions in the industry (2006 figures). [26]

4.64 We set out in **Table 4.7** Scotland's top 10 overseas tourism markets in 2007.

Table 4.7:
Scotland's Top 10 Overseas Tourism Markets 2007

	Trips (000)	Bednights (m)	Expenditure(£m)
USA	417	3.63	£257
Germany	307	2.76	£187
Irish Republic	309	1.21	£96
Italy	187	1.25	£92
Canada	124	1.42	£83
Spain	184	1.21	£82
France	168	1.49	£57
Netherlands	141	1.03	£55
Australia	118	1.29	£52
Sweden	93	0.55	£39
Rest of world	743	8.7	£367
Total	**2,791**	**24.544**	**£1,367**

Source: IPS and VisitScotland.

4.65 This data shows that the USA is clearly the biggest overseas tourism market for Scotland, with Germany also a very significant player. These two markets together account for almost a third of total expenditure by overseas tourists.

[26] VisitScotland website, accessed March 2009.

4.66 In **Table 4.8** we set out the main emerging markets in 2007 as identified by VisitScotland, which shows Poland in a pre-eminent position (we compare these current and emerging markets with EDI's route network later in this section).

Table 4.8:
Scotland's Top Emerging Overseas Tourism Markets 2007

2007	Trips (000s)	Bednights (m)	Expenditure £m
Poland	114	2.59	40
Czech Republic	46	0.63	21
India	14	0.38	16
China	14	0.14	7
Hungary	10	0.05	2
Russia	9	0.06	3
Source: IPS and VisitScotland.			

Edinburgh Tourism

4.67 Tourism to Edinburgh generates around £1.7 billion for the Edinburgh economy[27] and the industry employs around 31,000 people or 10% of the workforce. In 2007 88% of overseas tourists to Edinburgh came by air.[28] This reflects Edinburgh's pre-eminent status as an international gateway to Scotland for overseas visitors. In the same year, overseas visitors made 1.34 million trips to Edinburgh in 2007 and spent £467million – in contrast to the equivalent figures for Glasgow, where visitors from overseas took 0.75 million trips and spent £244 million.[29]

4.68 The Edinburgh Tourism Action Group's *Framework for Growth 2007-2015* sets out a number of growth aspirations for the city to 2015. These include:

- *"To deliver annual revenue growth of 5% until 2015 – this will be a £2.77 billion industry;*
- *Our key target markets will be in the UK, Europe and North America;*
- *Within the UK, our key product markets are in City Breaks, Culture and Touring;*

[27] Edinburgh Inspiring Tourism, Annual Report 2008.
[28] VisitScotland website, accessed March 2009.
[29] Ibid.

- *In Europe, the 'big 5' geographic markets are France, Germany, Netherlands, Spain and Sweden with good direct access to all. City Breaks and Touring are the key product offerings here;*
- *New marketing opportunities will include visitors from countries such as Russia, India, China and Brazil;*
- *We will target visitors with higher per capita spend which will enable us to maintain sustainable growth;*
- *The principal growth opportunities will be in the following areas: City breaks, Business visitors (year round), International leisure visitors (year round), All visitors (January to March)."*[30]

4.69 Eight key strategic issues are identified in the *Framework for Growth 2007-2015* and one of these is to ensure easy access to the city by air, rail, road and sea.

Views of VisitScotland

4.70 We spoke to VisitScotland during our consultations, who told us that international tourism to Scotland had increased by 70% in value between 2000 and 2007, although the figure had dropped in 2008. Growth was largely the result of the very significant investments in tourism made by VisitScotland over the period, but was also to some degree due to the Scottish Air Route Development Fund, which had been very successful in attracting new routes to Scottish airports. The biggest growth had been in Western Europe, where Germany is the single largest market.

4.71 The Edinburgh market represented 25% of the Scotland total by value, underlining Edinburgh's role as a gateway to Scotland. On average tourists visit four Scottish regions per trip, with 'Edinburgh and the Highlands' being the biggest draw. Touring holidays are the largest element of overall trips (with car hire at Edinburgh Airport an important component of this), followed by City Breaks.

[30] *Framework for Growth 2007-2015,* Edinburgh Tourism Action Group.

4.72 VisitScotland told us that five years ago there were some significant gaps in destinations served from Edinburgh Airport, but this was less the case now. VisitScotland's would welcome new routes to more destinations in Germany and Spain and to regional parts of France (especially Lyon).

4.73 VisitScotland already works closely with a wide range of full fare and low cost airlines, and with BAA, on inbound marketing, with some direct financial support being available. The Airport was well perceived by VisitScotland with no significant operational issues that would deter inbound tourists. VisitScotland also has a 'Welcome to Scotland' outlet in the International Arrivals Hall. Surface transport into Edinburgh was not seen as a major problem, although the addition of the tram and Gogar rail connection would undoubtedly help.

4.74 VisitScotland told us that there were mixed messages arising from the current economic situation. Some US operators had been pleading for reduced rates, but German operators appeared to be less concerned about the market. Business tourism is likely to see the biggest reduction, but this could be offset by an increase in domestic leisure markets if fewer people go abroad, although this could take the form of overnight stays rather than longer breaks.

Source: BAA.

Inbound Tourism and the Development of Edinburgh Airport

4.75 It is interesting to compare the routes currently operated and new routes planned for 2009 from Edinburgh with the intelligence on key tourist markets for Scotland set out above. In **Table 4.9** we set out the top overseas tourism markets as identified in Table 4.7 above and compare these with the current and planned scheduled air services offered from Edinburgh Airport.

Table 4.9:
Match of Key Overseas Tourism Markets for Scotland with Air Services from Edinburgh Airport

Key Overseas Tourism Markets for Scotland	Routes operated from EDI
USA	Delta (New York) Continental (Newark)
Germany	Berlin, Bremen, Frankfurt (Hahn) Leipzig [from March 2009] (Ryanair), Frankfurt (Lufthansa), Munich (easyJet), Cologne Bonn (Germanwings), Dusseldorf [starts May 2009] (Jet 2)
Irish Republic	Cork (Aer Arann) Dublin (Aer Lingus, Ryanair), Galway (Aer Arann), Shannon (Ryanair)
Italy	Bologna (Ryanair), Milan (easyJet), Pisa (Jet2 and Ryanair), Rome (Ryanair), Turin (Jet2), Venice [from May 2009] (Jet2)
Canada	Toronto (flyglobespan)
Spain (mainland)	Alicante (Ryanair, easyJet, flyglobespan), Barcelona (flyglobespan), Madrid (easyJet), Malaga (Ryanair, flyglobespan), Murcia (Jet2),
France	Avignon (Jet2), Carcassonne (Ryanair), Chambery (Jet2), La Rochelle (Jet2), Limoges (Ryanair), Marseille (Ryanair), Nice (easyJet, flyglobespan), Paris (Air France, easyJet), Poitiers (Ryanair), Toulouse (Jet2)
Netherlands	Amsterdam (KLM cityhopper, easyJet)
Poland (emerging market)	Krakow (Ryanair, easyJet), Lodz (Ryanair), Poznan (Ryanair), Wroclaw (Ryanair)
Source: VisitScotland and BAA timetables.	

4.76 This analysis suggests that there is a reasonably good fit between Scotland's key and emerging overseas tourism markets and the pattern of air service development at Edinburgh Airport, with a number of new routes being offered from summer 2009, particularly by low cost airlines, which match some of the key markets. Of course, many of these services will be focused to some degree around outbound tourism, although low cost airlines often rely on marketing at the other end of the route to stimulate inbound tourists on the return service, something which VisitScotland have often assisted with.

4.77 However, quantification of the inbound tourism impact of an airport is usually held to be an unknowable effect. There is little doubt that an airport brings visitors to a region, but there are a number of related questions that cannot be answered:

- how many passengers would have come with or without the existence of the airport in question, either via another airport or another mode?
- how important is the existence of a particular airport and an air service to it in the overall decision making process of a visitor or potential visitor?
- to what extent is the airport facilitating outbound tourism over and above that which would travel either via another airport or another mode?
- in relation to outbound passengers, how much of the lost expenditure would have been spent on goods or services that do not benefit the region beyond a first round effect (i.e. are imported) or would not have been spent at all by local residents and instead saved.

4.78 For these reasons, we have not attempted to quantify the inbound tourism impact of Edinburgh Airport in terms of the employment and GVA it supports. However, it is clear that Edinburgh Airport plays a significant role in this respect, especially as an international air gateway to Scotland. Based on the CAA Passenger Survey for 2005 and passenger throughput figures at EDI in 2008, we estimate that EDI brought around 520,000 leisure visitors and around 210,000 business visitors from overseas and a further 1,110,000 leisure visitors and 440,000 business visitors from the rest of the UK to Scotland and to Edinburgh. Based on average spend figures from VisitScotland for 2007, we estimate that these visitors supported around £800 million of expenditure in the Scottish economy.

4.79 Furthermore, it should also be recognised that this type of analysis is likely to understate the importance of EDI in particular markets. The Airport and direct air routes are key selling points for the conference market and directly underpin the success of Edinburgh in that market. This is particularly important because of the high spend per head generated, which links to the City's aspirations around encouraging more high value tourism. The same is true in relation to major events. The airport is key to attracting major events to the city, such as the MTV Europe Music Awards in 2003 and the 2009 Heineken European Cup Final. These often generate much higher spend per head than the average visitor. The symbiotic nature of this relationship should also be recognised as these visitors offer a significant boost to the Airport.

4.80 With expansion of the Airport as planned under the Master Plan Scenario, an even wider range of destinations can be developed over time, enable access to a wider range of tourism markets. For instance, the potential for more long haul traffic to the US would provide a key link to the highly important US tourism market. Without expansion, there will be limited network growth and a tendency to focus primarily on high yielding business-focussed routes, particularly to London. Such a scenario would undoubtedly be sub-optimal and would lead to higher fares that will impact on both inbound and outbound discretionary travel. The development of further long haul services from Edinburgh would also be constrained, with consequent impact on aspirations in these tourism markets.

Conclusions

4.81 EDI is an important facilitator of economic activity across a range of economic sectors in both the Edinburgh City Region and across Scotland as a whole. The connectivity offered by the Airport is an essential element within the location decisions of firms across a range of sectors but particularly in relation to the financial services sector that is so important to the City Region's overall economic health. Similarly, the role EDI plays in bringing visitors to Edinburgh and Scotland is a key component of its success as a tourism destination. Overall, it is clear that EDI is an essential tool in Edinburgh's international economy and vital to its ongoing drive to a strengthened international status.

5 DIRECT, INDIRECT AND INDUCED IMPACTS

Key Points

- In 2008, we estimate that the Airport supported 3,530 ftes directly on-site, a further 290 ftes through direct off-site effects and a further 1,520 ftes in the City Region and 2,370 ftes across Scotland through indirect and induced impacts. In total, EDI contributed around £118.4 million of GVA to the City Region and £146.2 million across Scotland.
- If the Airport is able to develop as per its Master Plan, we estimate that the number of jobs supported in the Edinburgh City Region will rise to around 12,790 ftes and to around 16,040 ftes in Scotland in 2030. The Airport will make a corresponding contribution to GVA of around £702.3 million per annum in the Edinburgh City Region and £867.2 million of GVA per annum in Scotland as a whole.
- Adjusting for displacement effects, we estimate that the net additional impact of the Master Plan in 2030 would be around £160.5 million of GVA per annum and 1,820 ftes in the City Region and between £138.3 million and £553.3 million of GVA per annum and between 2,190 ftes and 8,760 ftes across Scotland as a whole depending what is assumed about project displacement.
- We estimate that construction related to the Master Plan will support around £319.1 million of additional GVA over the life of the project and around 830 ftes in the Edinburgh City Region. Across Scotland, we estimate that the investment will support around £414.9 million of GVA and 1,130 ftes over the lifetime of the Master Plan. Adjusting for displacement, we estimate that the Master Plan will support around 420 ftes and £159.6 million of GVA in the Edinburgh City Region. Across Scotland our estimates remain the same.

Introduction

5.1 In this section we move on to examine the direct, indirect and induced impact of Edinburgh Airport. Unlike the catalytic impact described in Section 4, these impacts can be quantified effectively in terms of employment and GVA and our estimates of these impacts are presented here. In addition we consider the economic impact of Edinburgh Airport in comparison to a number of the other major airports in Scotland.

5.2 This discussion is organised under the following main headings:

- Methodology and Key Assumptions;
- Gross Impact in 2008;
- Gross Future Impact;
- Net Impact of the Master Plan;
- Comparison to Other Scottish Airports;
- Construction Impact;
- Conclusions.

Methodology and Key Assumptions

5.3 We have provided estimates of the employment and GVA impact of EDI for:

- Scotland as a whole and for the Edinburgh City Region;
- the last full year of operation, 2008, in order to provide a 'benchmark' against which the projections can be assessed;
- three 'representative' future years, 2013, 2020 and 2030, based on the passenger and freight traffic forecasts outlined in Section 2;
- the two scenarios of future traffic growth outlined in Section 2:
  - a **Master Plan Scenario**, which assumes that EDI is able to expand to meets its full potential demand, including the possible development of a second main runway post 2020, as described in the Airport Master Plan. This scenario sees the Airport grow to around 23 mppa in 2030. The details of these forecasts are set out in Section 2;
  - a **Constrained Scenario**, which sees the Airport constrained to maximum use of its existing infrastructure. This scenario sees EDI limited to a maximum passenger throughput of around 12 mppa, which is reached in around 2012.

5.4 In relation to employment, we focus on estimates in terms of full-time equivalents (ftes), where full-time staff are counted as one employee and part-time staff are counted as 0.5 of an employee. It should also be noted that the geographical distribution of the employment supported by EDI relates to the area in which the jobs are located.

5.5 There are a number of key inputs that have been used in producing these estimates:

- a survey of companies on-site at EDI undertaken in February and March 2009;
- results of the 2007 Employer Travel Survey undertaken for BAA Edinburgh;

- information on multipliers for the air transport sector from the Scottish Government. This identified a Type 1 (Indirect) multiplier for Scotland of 1.37 and a Type 2 (Indirect and Induced) multiplier of 1.64 for Scotland. These have been used as the basis for the indirect and induced impacts at a Scotland level presented in this report. In parallel to this exercise, York Aviation has used information collected through the on-site survey to develop corresponding indirect and induced multipliers, including multipliers for the Edinburgh City Region. At a Scotland level the induced multiplier is similar but York Aviation has identified a substantially lower indirect multiplier, reflecting the substantial amount of the airport supply chain that is located outside of Scotland. In estimating the impact on the Edinburgh City Region, we have used the York Aviation multipliers adjusted to reflect differences to the Scottish Government multipliers for Scotland;

- assumptions relating to productivity growth at EDI. In both scenarios we assume that productivity grows at around 1.5% per annum up until 2013. Beyond 2013, the Master Plan Scenario assumes productivity growth continues at 1.5% per annum, while in the Constrained Scenario productivity growth is assumed to be 1% per annum. These relatively slow rates of productivity growth reflect the current low employment density on-site at the Airport, which we discuss in more detail below, and the findings of York Aviation's research into the economic impact of airports across Europe for ACI EUROPE[31], which identified that on-site productivity growth is on average between 2% and 3% per annum.

5.6 In this section we initially provide estimates of the 'gross' impact of EDI, which does not consider issues in relation to displacement, either factor or product related. We then consider the 'net' impact of the growth of EDI on the Edinburgh City Region and Scotland based on the guidance on assessing displacement effects published by Scottish Enterprise in November 2008[32] [33].

[31] The Social and Economic Impact of Airports in Europe – York Aviation for ACI Europe (January 2004).

[32] Additionality & Economic Impact Assessment Guidance Note: A Summary Guide to Assessing the Additional Benefit, or Additionality, of an Economic Development Project or Programme – Scottish Enterprise (November 2008).

[33] Other additionality considerations are either implicit within York Aviation's approach to estimating employment and GVA, leakage, or not relevant in this case, substitution, or considered elsewhere in the Report in association with the gross impacts, multiplier effects.

5.7 It should be remembered throughout the analysis that follows that the figures presented do not include any GVA or employment supported by the unquantifiable wider catalytic impact of the Airport through the mechanisms described in Section 4.

Gross Impact in 2008

Direct On-site

5.8 **Table 5.1** shows the estimated breakdown of direct on-site employment at the Airport in 2008, derived from an on-site survey undertaken as part of this Study and survey work undertaken by BAA Edinburgh.

5.9 Table 5.1 shows that on-site employment was around 3,800 total job opportunities, which equates to around 3,530 ftes. Airlines and concessionaires were by some margin the largest single employment categories, followed by the airport operator and handling agents.

Table 5.1:
Direct On-Site Employment at Edinburgh Airport in 2008

Employment Category	Total Job Opportunities	
	Number	%
Passenger Services / Sales / Clerical	1,308	34%
Apron / Ramp / Cargo / Baggage Handling and Drivers	491	13%
Catering / Cleaning / Housekeeping	422	11%
Pilots / ATC / Flight Operations	329	9%
Security	263	7%
Air Cabin Crew	257	7%
Management / Professional - General	248	7%
Customs / Immigration / Police / Fire Service	153	4%
Management / Professional - Airport / Airline Specific	132	3%
Maintenance Tradesmen	129	3%
Information Technology	15	0%
Other	54	1%
Total	**3,800**	**100%**
Full Time Equivalents	**3,530**	

Note: Columns may not sum due to rounding.

Source:
York Aviation and BAA Edinburgh.

5.10 With passenger traffic of 9.0 million and freight of around 49,000 tonnes in 2008, the density of on-site employment at EDI was around 400 jobs per million workload units[34] per annum (mppa). Our research for ACI EUROPE identified an average employment density of around 950 jobs per million workload units per annum. While it seems likely that this average has fallen to some extent since the research was undertaken, EDI's employment density remains very low. This is likely to stem from the nature of EDI's passenger traffic and the focus on domestic services and the growth of low cost airlines in recent years. These types of service are generally more efficient in terms of their use of labour and the streamlining of services inherent in the low fares model particularly has led to the reduced provision of a range of ancillary services and the increased use of technology that has reduced labour requirements.

5.11 **Table 5.2** shows the distribution of the on-site jobs by place of residence of the employees in 2006.

Table 5.2
Distribution of On-Site Employees by Place of Residence
(Full-time equivalents)

Area	Number	%
City of Edinburgh	1,360	38.6%
Lothians	890	25.1%
Rest of City Region	970	27.5%
Edinburgh City Region	**3,220**	**91.2%**
Elsewhere in Scotland	290	8.3%
Scotland	**3,510**	**99.5%**
Rest of UK	20	0.5%
Total	**3,530**	**100.0%**

Note: All employment estimates have been rounded to the nearest 10 jobs.
Columns may not sum due to rounding.

Source:
BAA Edinburgh and York Aviation.

5.12 We estimate that around 91% of the 3,530 fte jobs were taken by residents of the Edinburgh City Region. The great majority of the remainder were taken by residents of elsewhere in Scotland. A small number of employees reside over the border in England.

[34] A workload unit is either one passenger or 0.1 tonnes of freight.

5.13 We estimate that the 3,530 fte jobs contributed around £75.5 million to GVA in the Edinburgh City Region in 2008 and around £82.4 million to GVA in Scotland as a whole.

Direct Off-Site

5.14 As shown in Table 4.1, some of the direct activities of airports can be located outside the Operational Area, although as a 'rule of thumb' these are generally likely to be found within a 20-minute drive-time. It is difficult to estimate this direct off-site impact because a 20-minute drive-time translates into a large geographical area and not all the turnover, and hence employment, of relevant companies identified will be airport-related.

5.15 Discussions with BAA Edinburgh have identified that while there are some functions immediately off-site, such as car parking and a hotel, this effect is likely to be limited overall. Our survey, which asked companies about any off-site activities, identified that around 8% of those employed by respondents were located off-site. Overall and considering evidence in relation to the extent of off-site activities elsewhere, we feel that this represents a reasonable assumption on which to base our estimates.

5.16 On this basis, we estimate that there were around 290 direct off-site fte jobs (290 total job opportunities) related to the operation of EDI in 2008, contributing around £6.2 million of GVA in the Edinburgh City Region and around £6.8 million in Scotland as a whole.

Indirect

5.17 As outlined in Table 4.1, indirect employment and GVA is generated in the chain of suppliers of goods and services to the direct (on and off-site) activities. The estimates of indirect employment and GVA have been derived based on the Scottish Government multipliers and the survey of on-site companies.

5.18 On this basis, we estimate that EDI supported around 850 fte indirect jobs in the Edinburgh City Region and 1,370 fte jobs in Scotland as a whole. We estimate that this employment generated indirect GVA of around £20.4 million in the Edinburgh City Region and £33.0 million in Scotland as a whole.

Induced

5.19 As outlined in Table 4.1, induced employment and income is generated by the spending of the direct (on and off-site) and indirect incomes. The estimates of induced employment and GVA have been derived based on the Scottish Government multipliers and the survey of on-site companies.

5.20 On this basis, we estimate that EDI supported around 680 fte indirect jobs in the Edinburgh City Region and 1,000 fte jobs in Scotland as a whole. We estimate that this employment generated indirect GVA of around £16.3 million in the Edinburgh City Region and £24.1 million in Scotland as a whole.

Summary

5.21 We have summarised the gross impact of EDI in 2008 in **Table 5.3**. The Table shows that EDI supported around:

- 5,340 FTEs and £118.4 million of GVA in the Edinburgh City Region;
- 6,190 FTEs and £146.2 million of GVA in Scotland as a whole.

Table 5.3:
Employment and GVA Impact of EDI in 2008

		Edinburgh City Region		Scotland	
		GVA	FTEs	GVA	FTEs
Direct	Onsite	£75.5	3,530	£82.4	3,530
	Offsite	£6.2	290	£6.8	290
Indirect		£20.4	850	£33.0	1,370
Induced		£16.3	680	£24.1	1,000
Total		**£118.4**	**5,340**	**£146.2**	**6,190**

Source: York Aviation.

Future Impact

5.22 Based on the above estimate of impact in 2008 and the assumptions described above, we have estimated the employment and GVA impact of EDI in our two future scenarios.

Master Plan Scenario

5.23 We have summarised the employment and GVA impact of EDI in the Master Plan Scenario in **Table 5.4**. If the Master Plan is delivered we estimate that EDI will support:

- around £166.6 million of GVA and 6,930 FTEs in the Edinburgh City Region in 2013, rising to £322.8 million and 9,460 FTEs in 2020 and on to £702.3 million and 12,790 FTEs in 2030;
- around £205.7 million of GVA and 8,010 FTEs in Scotland as a whole in 2013, rising to £398.6 million and 11,280 FTEs in 2020 and on to £867.2 million and 16,040 FTEs in 2030.

Table 5.4:
Future Employment and GVA Impact of EDI
Master Plan Scenario

		Edinburgh City Region		Scotland	
		GVA	FTEs	GVA	FTEs
2013					
Direct	Onsite	£106.3	4,610	£115.9	4,610
	Offsite	£8.7	380	£9.5	380
Indirect		£28.7	1,080	£46.4	1,740
Induced		£22.9	860	£33.9	1,270
Total		**£166.6**	**6,930**	**£205.7**	**8,010**
2020					
Direct	Onsite	£205.9	5,720	£224.6	5,720
	Offsite	£16.9	470	£18.5	470
Indirect		£55.7	1,820	£89.9	2,940
Induced		£44.3	1,450	£65.6	2,150
Total		**£322.8**	**9,460**	**£398.6**	**11,280**
2030					
Direct	Onsite	£447.9	6,430	£488.6	6,430
	Offsite	£36.9	530	£40.2	530
Indirect		£121.1	3,250	£195.6	5,250
Induced		£96.4	2,590	£142.8	3,830
Total		**£702.3**	**12,790**	**£867.2**	**16,040**

Source: York Aviation.

5.24 Compared to the 2008 baseline, in 2013 EDI would support around 1,590 additional fte jobs and an extra £48.2 million of GVA per annum (at 2008 prices) in the Edinburgh City Region. This would rise to around 4,120 fte jobs and £204.4 million of GVA per annum by 2022 and to 7,450 fte jobs and £583.9 million of GVA per annum by 2030.

5.25 In Scotland as a whole, by 2013 EDI would support around 1,820 additional fte jobs and an extra £59.5 million of GVA per annum (at 2008 prices). This would rise to around 5,090 fte jobs and £252.4 million of GVA per annum by 2022 and to 9,850 fte jobs and £721.0 million of GVA per annum by 2030.

Constrained Scenario

5.26 We have summarised the employment and GVA impact of EDI in the Constrained Scenario in **Table 5.5**. If the Master Plan is not delivered we estimate that EDI will support:

- around £157.9 million of GVA per annum and 6,570 FTEs in the Edinburgh City Region in 2013, rising to £210.5 million of GVA per annum in 2020 and on to £254.2 million of GVA per annum in 2030. Employment is however expected to fall to 6,550 in 2020 and to 6,110 in 2030;

- around £194.9 million of GVA per annum and 7,590 FTEs in Scotland as a whole in 2013, rising to £260.0 million per annum and 7,730 FTEs in 2020 and on to £313.8 million per annum in 2030. Employment is however forecast to fall to 7,280 FTEs in 2030.

5.27 Compared to the 2008 baseline, by 2013 EDI would support around 1,230 additional fte jobs and an extra £39.5 million of GVA per annum (at 2008 prices) in the Edinburgh City Region. By 2020 an additional 1,200 fte jobs and an extra £92.1 million of GVA per annum are expected compared to 2008 and by 2030 an additional 760 fte jobs and £135.8 million of GVA per annum compared to 2008.

Table 5.5:
Future Employment and GVA Impact of EDI Constrained Scenario

		Edinburgh City Region		Scotland	
		GVA	FTEs	GVA	FTEs
2013					
Direct	Onsite	£100.7	4,370	£109.8	4,370
	Offsite	£8.3	360	£9.0	360
Indirect		£27.2	1,020	£44.0	1,650
Induced		£21.7	810	£32.1	1,210
Total		£157.9	6,570	£194.9	7,590
2020					
Direct	Onsite	£134.3	4,080	£146.5	4,080
	Offsite	£11.0	340	£12.1	340
Indirect		£36.3	1,190	£58.7	1,920
Induced		£28.9	950	£42.8	1,400
Total		£210.5	6,550	£260.0	7,730
2030					
Direct	Onsite	£162.1	3,690	£176.8	3,690
	Offsite	£13.3	300	£14.6	300
Indirect		£43.8	1,180	£70.8	1,900
Induced		£34.9	940	£51.7	1,390
Total		£254.2	6,110	£313.8	7,280

Source: York Aviation.

5.28 In Scotland as a whole, by 2013 EDI would support around 1,400 additional fte jobs and an extra £48.8 million of GVA per annum (at 2008 prices) compared to 2008. This would rise to around 1,540 fte jobs and £113.8 million of GVA per annum by 2020 compared to 2008. By 2030, EDI is expected to support an additional 1,090 fte jobs and £167.7 million of GVA per annum by 2030 compared to 2008.

Gross Additional Impact

5.29 Based on the estimates set out above, in **Table 5.6** we set out the gross additional benefit provided by the Master Plan Scenario over and above the Constrained Scenario. It should be noted that the figures shown within this analysis are the additional GVA or employment supported within the relevant representative year.

Table 5.6: Future Employment and GVA Impact of EDI Gross Additional Impact					
		Edinburgh City Region		Scotland	
		GVA	FTEs	GVA	FTEs
2013					
Direct	Onsite	£5.6	240	£6.1	240
	Offsite	£0.5	20	£0.5	20
Indirect		£1.5	60	£2.4	90
Induced		£1.2	50	£1.8	70
Total		£8.7	360	£10.8	420
2020					
Direct	Onsite	£71.6	1,650	£78.1	1,650
	Offsite	£5.9	140	£6.4	140
Indirect		£19.4	630	£31.3	1,020
Induced		£15.4	500	£22.8	750
Total		£112.3	2,920	£138.7	3,550
2030					
Direct	Onsite	£285.8	2,730	£311.8	2,730
	Offsite	£23.5	220	£25.7	220
Indirect		£77.3	2,070	£124.8	3,350
Induced		£61.5	1,650	£91.1	2,450
Total		£448.1	6,680	£553.3	8,760
Source: York Aviation.					

5.30 This shows that the development of EDI in line with its Master Plan offers significant additional GVA and employment impacts over and above the Constrained Scenario:

- in 2013 an additional £8.7 million of GVA per annum and 360 FTEs are supported in the Edinburgh City Region and around £10.8 million of GVA per annum and 420 FTEs in Scotland as a whole;
- in 2020 an additional £112.3 million of GVA per annum and 2,920 FTEs are supported in the Edinburgh City Region and around £138.7 million of GVA per annum and 3,550 FTEs in Scotland as a whole;
- in 2030 an additional £448.1 million of GVA per annum and 6,680 FTEs are supported in the Edinburgh City Region and around £553.3 million of GVA per annum and 8,760 FTEs in Scotland as a whole.

Net Impact of the Master Plan

5.31 So far we have presented estimates of the gross impact of EDI both now and in the future under the two development scenarios set out. However, these estimates do not take account of the potential displacement effects relating to the future growth of the Airport.

5.32 In this context, there are two displacement effects that need to be considered:

- factor displacement – the extent to which the future development of the Airport will take labour, land or capital from other existing firms within the study areas. In our view this type of displacement is primarily an issue in relation to the narrower study area described by the Edinburgh City Region. The labour market in the area is expected to tighten in the future and consequently it must be assumed that further growth in employment at EDI will divert resources away from other potential activities in the City Region to some extent. Self evidently, this problem is likely to be greater in the Master Plan Scenario where considerably greater employment is expected to be created;

- product displacement – the extent to which the development will take market share from other companies. Within the Edinburgh City Region there are no other airports from which market share could be taken as a result of the future growth of EDI and consequently this type of displacement is not an issue at the City Region level. However, at a Scotland level the situation is more complex. The extent to which product displacement takes place will depend on how passengers that are displaced from EDI if it is constrained behave. If they choose to continue to fly via another Scottish airport it suggests that the extent of product displacement will be high. However, if, as a result of EDI being constrained, significant numbers of passengers choose not to travel, then it suggests that the extent of product displacement will be low. The balance of these two possible reactions is largely a matter of supposition without significant additional research into passenger behaviour. We have therefore presented a range of possible displacement factors and corresponding results. At the low end we have assumed that there is almost no product displacement (this is effectively the same as the gross estimates) while at the high end we have assumed significant but not complete displacement in Scotland.

5.33 The Scottish Enterprise Guidance on assessing additionality provides a series of adjustment factors to allow displacement issues to be taken into account. These are set out in **Table 5.7** below.

Table 5.7:
Scottish Enterprise Displacement Ready Reckoner

Level	Description	Displacement
None	No other firms / demand affected	0%
Low	There are expected to be some displacement effects, although only to a limited extent	25%
Medium	About half of the activity would be displaced	50%
High	A high level of displacement is expected to arise	75%
Total	All of the activity generated will be displaced	100%

Source: Scottish Enterprise.

5.34 Based on this guidance we present our displacement assumptions in relation to the Edinburgh City Region and Scotland by reporting year in **Table 5.8**.

Table 5.8:
Displacement Assumptions

Year	Edinburgh City Region		Scotland	
	Master Plan	Constrained	Master Plan	Constrained
2013	25%	25%	0%, 50%, 75%	0%, 50%, 75%
2020	38%	25%	0%, 50%, 75%	0%, 50%, 75%
2030	50%	25%	0%, 50%, 75%	0%, 50%, 75%

Source: York Aviation.

5.35 The resulting net estimates of the additional GVA and employment of EDI in the Master Plan Scenario compared to the Constrained Scenario are set out in **Table 5.9**. Again, it should be noted that the additional GVA or employment shown is that supported in the relevant representative year and not a cumulative total.

5.36 Based on this analysis, we estimate that in 2020 EDI will support a net additional £43.9 million of GVA per annum and 1,010 ftes in the Edinburgh City Region rising to £160.5 million of GVA per annum and 1,820 ftes in 2030.

Table 5.9:
Future Employment and GVA Impact of EDI
Net Additional Impact

		Edinburgh City Region		Scotland Low Displace		Scotland Medium Displace		Scotland High Displace	
		GVA	FTEs	GVA	FTEs	GVA	FTEs	GVA	FTEs
2013									
Direct	Onsite	£4.2	180	£6.1	240	£3.0	120	£1.5	60
	Offsite	£0.3	10	£0.5	20	£0.2	10	£0.1	0
Indirect		£1.1	40	£2.4	90	£1.2	50	£0.6	20
Induced		£0.9	30	£1.8	70	£0.9	30	£0.4	20
Total		£6.5	270	£10.8	420	£5.4	210	£2.7	100
2020									
Direct	Onsite	£28.0	520	£78.1	1,650	£39.1	820	£19.5	410
	Offsite	£2.3	40	£6.4	140	£3.2	70	£1.6	30
Indirect		£7.6	250	£31.3	1,020	£15.6	510	£7.8	260
Induced		£6.0	200	£22.8	750	£11.4	370	£5.7	190
Total		£43.9	1,010	£138.7	3,550	£69.3	1,780	£34.7	890
2030									
Direct	Onsite	£102.4	440	£311.8	2,730	£155.9	1,370	£77.9	680
	Offsite	£8.4	40	£25.7	220	£12.8	110	£6.4	60
Indirect		£27.7	740	£124.8	3,350	£62.4	1,680	£31.2	840
Induced		£22.0	590	£91.1	2,450	£45.6	1,220	£22.8	610
Total		£160.5	1,820	£553.3	8,760	£276.7	4,380	£138.3	2,190

Source: York Aviation.

5.37 Across Scotland as a whole, the level of additional impact is dependent on the assumption made about product displacement. In 2020, the results range from £34.7 million of GVA and 890 ftes if displacement is assumed to be high to £138.7 million of GVA and 3,550 ftes if displacement is low. Where product displacement is assumed to be around 50%, EDI will support an additional £69.3 million of GVA and 1,780 ftes in 2020.

5.38 In 2030 in Scotland, the results range from £138.3 million of GVA and 2,190 ftes if displacement is assumed to be high to £553.3 million of GVA and 8,760 ftes if displacement is low. Where product displacement is assumed to be around 50%, EDI will support an additional £276.7 million of GVA and 4,380 ftes in 2030.

Comparison with Other Scottish Airports

5.39 In understanding the importance of EDI as an economic driver in Scotland it is helpful to also consider the economic impact of some of Scotland's other main airports by way of comparison. It should be noted that York Aviation has not sought to undertake significant additional research in this area but has drawn on existing studies to present a comparison.

5.40 In **Table 5.10** we set out a number of estimates of the gross impact of airports across Scotland. These estimates focus on the employment impact adjusted to 2008 traffic levels as this provides the most effective basis for comparison.

Table 5.10:
The Employment Impact of Selected Scottish Airports

Airport	Direct	Indirect and Induced	Total
Glasgow	4,500	2,900	7,400
Edinburgh	3,820	1,520	5,340
Aberdeen	2,500	1,600	4,100
Prestwick	500	550	1,050
Inverness	500	300	800

Source: York Aviation and York Aviation adjustments to research undertaken by the Fraser of Allander Institute, Reference Economic Consultants and SQW Consulting.

5.41 In terms of its direct, indirect and induced impact, EDI has the second largest employment impact in Scotland behind Glasgow. This comes back to its relatively low employment density (see above) compared to many other airports. Otherwise, as a substantially larger airport, it is significantly ahead of the other major airports in Scotland. However, it should be noted that in the context of a modern economy, we believe it is the impact on the wider economy that is substantially the more important factor in considering the overall economic impact of an airport and these effects are not reflected here.

Construction Employment

5.42 In addition to the ongoing operational impacts already outlined in this Section, a major infrastructure project, such as the expansion of Edinburgh Airport in line with its Master Plan, will generate employment and income benefits during the construction phase.

5.43 Based on information provided by BAA Edinburgh, we estimate that the construction activity related to the proposed runway extension project will amount to around £517 million (at 2008 prices).

Source: BAA.

5.44 We have estimated the employment and GVA impact of the long term investment programme at EDI based on the methodology used in the Midlands Regional Air Services Consultation assessment of the Midlands New Site[35]. This estimated GVA and employment as a function of:

[35] Department for Transport, *Midlands New Site: Option Appraisal Report Vol. 2: Appendices*, page 43.

- construction costs;
- the ratio of gross output in construction to GVA based on the Annual Business Inquiry;
- average GVA per employee in construction;
- full-time equivalents calculated in line with the guidance in the HM Treasury Green Book (10 person-years of construction employment equals one fte job);
- an indirect and induced construction GVA multiplier of 1.95 for Scotland taken from Scottish Executive guidance and an assumed GVA multiplier for the Edinburgh City Region of 1.5.

5.45 **Table 5.11** shows the estimates of the employment and GVA impacts of the investment programme both over the life of Master Plan (2009 to 2030) and the impact in our representative years 2013 and 2020. In 2030, the construction programme is assumed to be complete and hence there is no impact.

Table 5.11:
Gross Construction Employment and GVA Impact of the Edinburgh Airport Master Plan

Employment Category	Edinburgh City Region		Scotland	
	FTEs	GVA (£m)	FTEs	GVA (£m)
Project Life (2009 to 2030)				
Direct	500	£212.74	500	£212.74
Indirect/Induced	330	£106.37	630	£202.11
Total	**830**	**£319.12**	**1,130**	**£414.85**
2013				
Direct	150	£6.42	150	£6.42
Indirect/Induced	100	£3.21	190	£6.10
Total	**250**	**£9.63**	**340**	**£12.53**
2020				
Direct	580	£24.70	580	£24.70
Indirect/Induced	390	£12.35	730	£23.47
Total	**970**	**£37.06**	**1,310**	**£48.17**

Notes: All employment estimates have been rounded to the nearest 10 fte jobs.
All income estimates have been rounded to the nearest £100,000.

Source:
York Aviation.

5.46 This shows we estimate that this investment will support around £319.1 million of additional GVA over the life of the project and around 830 ftes in the Edinburgh City Region. Across Scotland as a whole we estimate that the investment will support around £414.9 million of GVA and 1,130 ftes over the lifetime of the Master Plan.

5.47 In relation to our reference years, we estimate that in the relevant year construction works at EDI will support:

- in 2013 £9.6 million of GVA and 250 ftes in the Edinburgh City Region, rising to £37.1 million of GVA and 970 ftes in 2030;
- in 2013 £12.5 million of GVA and 340 ftes in Scotland, rising to £48.2 million of GVA and 1,310 ftes in 2030.

5.48 As with the operational impacts of EDI, it is important to consider the extent to which this GVA and employment impact can be considered to be additional. Again, we feel this is primarily a displacement issue:

- in terms of factor displacement, there is likely to be some factor displacement at the City Region level as labour is pulled away from other activities. Considering the level of employment created over the period, we have assumed that a factor displacement factor of 50% is appropriate;
- in terms of product displacement, the development of EDI will not reduce demand for construction services elsewhere and consequently we do not believe that product displacement is an issue in relation to the construction GVA and employment supported.

5.49 The resulting net estimates of employment and GVA impact from construction are shown in **Table 5.12**.

5.50 This shows a net impact in the Edinburgh City Region over the life of the Master Plan of 420 ftes and £159.6 million of GVA. Across Scotland our estimates remain the same. The investment will support around £414.9 million of GVA and 1,130 ftes over the lifetime of the Master Plan.

Table 5.12:
Net Construction Employment and GVA Impact of the Edinburgh Airport Master Plan

Employment Category	Edinburgh City Region		Scotland	
	FTEs	GVA (£m)	FTEs	GVA (£m)
Project Life (2009 to 2030)				
Direct	250	£106.37	500	£212.74
Indirect/Induced	170	£53.19	630	£202.11
Total	**420**	**£159.56**	**1,130**	**£414.85**
2013				
Direct	80	£3.21	150	£6.42
Indirect/Induced	50	£1.61	190	£6.10
Total	**130**	**£4.82**	**340**	**£12.53**
2020				
Direct	290	£12.35	580	£24.70
Indirect/Induced	200	£6.18	730	£23.47
Total	**490**	**£18.53**	**1,310**	**£48.17**

Notes: All employment estimates have been rounded to the nearest 10 fte jobs.
All income estimates have been rounded to the nearest £100,000.

Source:
York Aviation.

5.51 In relation to our reference years, we estimate that in the relevant year construction works at EDI will support:

- in 2013 £4.8 million of GVA and 130 ftes in the Edinburgh City Region, rising to £18.5 million of GVA and 490 ftes in 2030;
- in 2013 £12.5 million of GVA and 340 ftes in Scotland, rising to £48.2 million of GVA and 1,310 ftes in 2030. These are again unchanged from the gross estimates.

Conclusions

5.52 EDI is a substantial generator of GVA and supports a significant number of jobs both in the Edinburgh City Region and across Scotland. In 2008, we estimate that the Airport supported 3,530 ftes directly on-site, a further 290 ftes through direct off-site effects and a further 1,520 ftes in the City Region and 2,370 ftes across Scotland through indirect and induced impacts. In total, EDI contributed around £118.4 million of GVA to the City Region and £146.2 million across Scotland.

5.53 If the Airport is able to develop as per its Master Plan, we estimate that the number of jobs supported in the Edinburgh City Region will rise to around 12,790 ftes and to around 16,040 ftes in Scotland in 2030. The Airport will make a corresponding contribution to GVA of around £702.3 million per annum in the Edinburgh City Region and £867.2 million of GVA per annum in Scotland as a whole.

5.54 The Master Plan offers substantial additional gross benefits to the Constrained Scenario. In 2030, EDI would deliver £448.1 million of GVA per annum and 6,680 ftes in the Edinburgh City Region and £553.3 million of GVA per annum and 8,760 ftes in Scotland as a whole. Adjusting for displacement effects, we estimate that the net additional impact of the Master Plan in 2030 would be around £160.5 million of GVA per annum and 1,820 ftes in the City Region and between £138.3 million and £553.3 million of GVA per annum and between 2,190 ftes and 8,760 ftes across Scotland as a whole depending on what is assumed about product displacement. Furthermore it must be remembered that these net impacts do not include the wider catalytic benefits of expansion of EDI as discussed in Section 4.

5.55 In addition to the GVA and employment impacts stemming from the operation of the Airport, a substantial investment programme such as that envisaged by the Master Plan will support GVA and employment through construction activity. We estimate that this investment will support around £319.1 million of additional GVA over the life of the project and around 830 ftes in the Edinburgh City Region. Across Scotland as a whole we estimate that the investment will support around £414.9 million of GVA and 1,130 ftes over the lifetime of the Master Plan. Adjusting for displacement, we estimate that the Master Plan will support around 420 ftes and £159.6 million of GVA in the Edinburgh City Region. Across Scotland our estimates remain the same. It should, however, be noted that these impacts are transient and are not sustained beyond the construction phase.

5.56 In terms of the direct, indirect and induced impact of the Airport, EDI is estimated to be the second largest contributor to GVA and employment in Scotland behind Glasgow Airport. However, this largely stems from the historically low level of employment on-site at the airport.

6 COST BENEFIT ANALYSIS

Key Points

- ✈ The development of EDI in line with its Master Plan (Master Plan scenario) offers substantial net economic benefits compared to the Constrained scenario.
- ✈ If carbon costs are included within the assessment, we have estimated the following ranges of net present value and benefit cost ratios for the project :
  - Scottish Users – NPV of between £0.2 billion and £2.1 billion at 2009 prices and BCRs of between 1.1 and 1.8;
  - UK Users – NPV of between £2.8 billion and £5.2 billion at 2009 prices and BCRs of between 2.0 and 2.9;
  - All Users – NPV of between £3.7 billion and £7.0 billion at 2009 prices and BCRs of between 2.4 and 3.6.
- ✈ If carbon costs are excluded from the assessment, we have estimated the following ranges of net present value and benefit cost ratios for the project:
  - Scottish Users – NPV of between £2.4 billion and £4.3 billion at 2009 prices and BCRs of between 5.5 and 9.0;
  - UK Users – NPV of between £5.0 billion and £7.4 billion at 2009 prices and BCRs of between 10.3 and 14.9;
  - All Users – NPV of between £5.8 billion and £9.2 billion at 2009 prices and BCRs of between 12.0 and 18.2.

Introduction

6.1 This section presents a different way of considering the economic impact of the expansion of Edinburgh Airport. So far we have concentrated on EDI's impact in terms of GVA and employment. However, transport appraisal commonly focuses on the impact on broader economic welfare through the impact of infrastructure developments on transport economic efficiency. This type of approach is central to the economy objective of a wide range of appraisal frameworks recommended for use by UK government agencies including the New Approach to Appraisal (NATA) and the Scottish Transport Appraisal Guidance (STAG).

6.2 The New Approach to Appraisal is set out as the DfT's best practice method for undertaking the appraisal of major transport schemes. While it is not specifically designed to be applicable to airport development projects, it is the basis of the approach used by DfT in appraisal of both the Future of Air Transport White Paper options and the options for the development of Heathrow. As the Eddington Transport Study makes clear the outputs of this approach are the *"most certain measure of welfare benefit"*[36]. However, the process has limitations in its abilities to examine issues around international competitiveness, trade and inward investment particularly, which are central to any assessment of a major international airport's importance. Consequently, the type of analysis undertaken in Section 4 of this report remains important.

6.3 In terms of the issues we are considering in this report, this approach seeks to explore the benefits to users from the expansion of EDI and hence enables a quantitative assessment of a proportion of the wider benefits described in Section 4, particularly those relating to improved productivity. It should be noted that although this technique provides a monetary assessment of benefits, these benefits are not directly comparable with GVA and cannot be translated in to employment. It does, however, enable effective consideration of the balance between development costs, environmental costs and economic welfare benefits.

6.4 This discussion is organised under the following main headings:

- Growth Scenarios and Passenger Behaviour;
- Appraisal Period;
- Measures of Costs and Benefits;
- Net Present Value and Benefit-Cost Ratio;
- Conclusions.

[36] The Eddington Transport Study: The Case for Action (Dec 2006), Executive Summary, Page 34.

Growth Scenarios and Passenger Behaviour

6.5 The cost-benefit analysis is based on the two scenarios of passenger traffic growth (Master Plan and Constrained), as outlined in Section 2. As noted earlier, by 2030 the development in line with the Master Plan results in an additional passenger throughput at EDI of around 11 mppa. The difference between the number of passengers travelling in the Master Plan and Constrained scenarios in each year represents the number of passengers either forced to make alternative arrangements rather than travel via EDI in the event of the airport being constrained or, conversely, those passengers that benefit from the expansion of EDI in line with its Master Plan.

6.6 In undertaking this analysis it is important to consider how these passengers might react in the event that the Airport is constrained. Broadly, there are four possibilities:

- ✈ some passengers will choose to fly to their preferred destination via another Scottish or UK airport;
- ✈ some passengers will continue to fly via another Scottish or UK airport but will change their destination to reflect what is on offer at the alternates;
- ✈ considering the high proportion of domestic travellers at EDI, particularly on the London services, it seems reasonable to assume that some travellers will switch modes to rail services. However, it should be noted that for the purposes of this assessment we have assumed that this group will be affected to the same extent in terms of economic welfare as those in the first group. We believe this to be a conservative assumption in that currently, and for the foreseeable future, for most travellers flying via another airport represents a quicker and cheaper travel option than travelling via train. Hence, this group is not identified separately;
- ✈ some passengers will simply choose not to travel, either reflecting an abandoned leisure trip, loss of a business opportunity or business having to be transacted via a sub-optimal medium such as video or telephone conference.

6.7 The first three groups represent passengers that can be considered to have 'diverted' from EDI to another travel routing. The final group are passengers who have been 'stimulated' to travel by the existence of a particular service at EDI. The relative sizes of these two groups and the way in which benefits accruing to these groups are calculated is an important factor in the appraisal.

6.8 At the outset it should be noted that the relative sizes of these different groups and most importantly the balance between diverted and stimulated passengers is largely a matter of supposition. Without significant further passenger forecast modelling, which is beyond the scope of this study, the behaviour of passengers forced out of EDI cannot be estimated effectively. We have therefore presented a range of results in our analysis to reflect different balances between diverted and stimulated passengers:

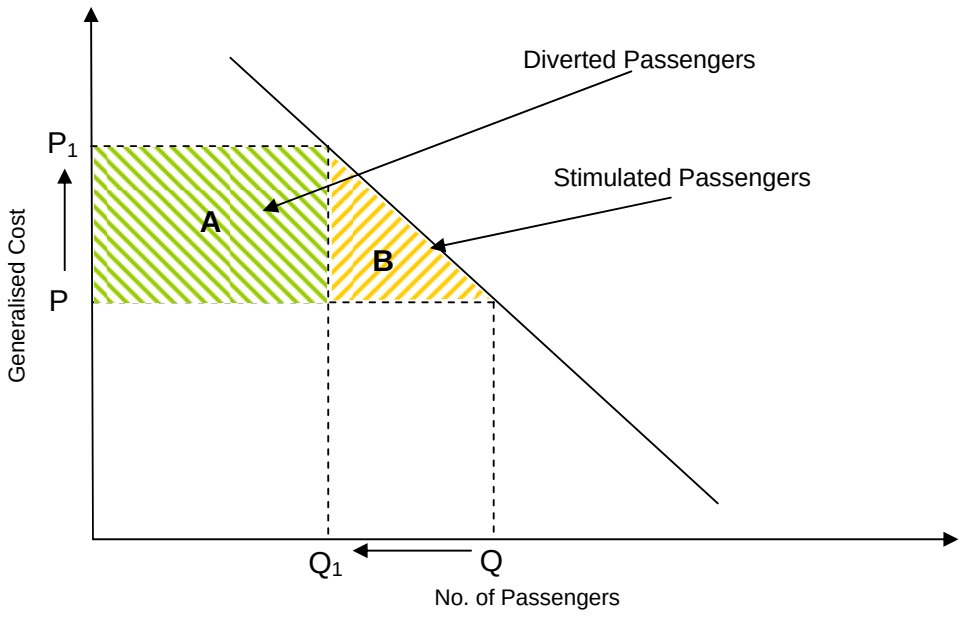
- 100% Diverted – in this case all passengers are assumed to divert to other airports in either Scotland or the UK to travel to their destination;
- 50% Diverted/50% Stimulated – half of the passengers displaced are assumed to divert to other Scottish or UK airports to travel to their destination while the other half are assumed to no longer travel;
- 100% Stimulated – in this case all passengers are assumed to cancel their travel plans in the event of EDI being constrained.

6.9 It should be noted that all of these are hypothetical scenarios. Both the 100% Diverted and 100% Stimulated scenarios are extreme cases but illustrate the outer bounds of the analysis. The 50% Diverted/50% Stimulated case is likely to be the closest to reality.

6.10 The treatment of the benefits accruing to diverted and stimulated passengers is also slightly different in terms of their calculation. For diverted passengers the calculation is relatively simple. As these passengers are assumed to travel via an alternate route, key characteristics of the original and alternate journeys can be identified, such as the time taken and the ticket cost, and an assessment of the relative generalised costs of each routing made.

6.11 Where a passenger is assumed to be stimulated to travel by the existence of their preferred service at EDI there is no alternate journey to compare and hence no measures of economic welfare. However, to say that there is no impact on a passenger's economic welfare in these circumstances is clearly wrong. Therefore, by convention benefits to stimulated passengers are often assessed as being equal to half those accruing to an average diverted passenger. This assumption comes from consumer surplus theory and is sometimes known as the 'rule of a half'. **Figure 6.1** below explains briefly the basis for this assumption.

Figure 6.1:
Calculation of User Benefits for Diverted and Stimulated Passengers



Source: York Aviation.

6.12 For passengers that still choose to travel via some route, the change in economic welfare from constraint in the market reducing supply from Q to Q_1 is equal to area A . Area A is equal to Q_1, the number of passengers still travelling, multiplied by the change in the generalised cost to passengers (P_1 minus P) resulting from the constraint.

6.13 For stimulated passengers, those that choose not to travel in the event that EDI is constrained, the impact on economic welfare is represented by area B. Area B is equal to the number of stimulated passengers (Q minus Q1) multiplied by the change in the generalised cost to passengers (P_1 minus P) resulting from the constraint, all divided by two to reflect the fact that the area is split by the demand curve. This final step leads to the so called 'rule of a half' terminology.

6.14 The elements of user generalised cost used in this analysis are journey time and air fares. These are assumed to be proxy indicators of a passenger's economic welfare. These are discussed in more detail below.

Appraisal Period

6.15 In terms of the time period for this assessment, we have quantified costs and benefits relating to the Master Plan through to 2068, 60 years from the current baseline. This is in line with standard practice in relation to the economic appraisal of major infrastructure projects and is the same appraisal period used in relation to the G2 second runway project at Stansted. It should be noted that the passenger forecasts for the Airport only cover the period to 2030. Beyond this date, we have made the prudent assumption that both costs and benefits remain at their 2030 levels in real terms through to 2068.

Measures of Costs and Benefits

6.16 We have quantified a number of economic costs and benefits associated with the development of EDI:

- Journey Time Savings;
- Air Fare Savings;
- Government Revenue;
- Producer Benefits;
- Construction Costs;
- Aircraft Emissions Carbon Costs.

6.17 We examine each of these measures in more detail below and describe briefly the basis for their calculation.

6.18 In addition we have also considered a number of other benefits and costs that have not been quantified, including:

- wider benefits – we have discussed these issues in some detail in Section 4 but summarise the key findings in the context of this cost benefit analysis again here;
- surface access carbon emissions – as described below, with passengers able to use EDI rather than an alternate airport, there will be some benefit accruing from reduced surface access carbon emissions. However, within the overall context of the appraisal, we believe that these benefits will be relatively small and hence they have not been estimated here;
- local environmental costs – we have not sought to value issues such as noise and air quality costs here but consider order of magnitude issues and likely influence on results.

6.19 We have also adjusted all benefits and costs to reflect optimism bias in line with HM Treasury Green Book Guidance on the issue.

Journey Time Savings

6.20 The development of EDI in line with its Master Plan, including the potential development of a second main runway after 2020, will, by 2030, enable around 11 million additional passengers a year to use EDI as their preferred airport for air travel. As described above, if this option is not available some passengers will still travel but they will be forced to travel via an alternate airport, either elsewhere in Scotland or in England, which is a sub-optimal choice for them. This means that individual passengers will face a different journey to the airport and consequently there will either be an increase or decrease in time costs.

6.21 The assessment of surface journey time savings is complex and is explained in more detail in **Appendix D**. However, in broad terms, we have assumed that the additional passengers in the Master Plan scenario that would still travel if the Airport were constrained (diverted passengers) would otherwise be distributed across other UK airports based on the existing market share within their area of origin or destination taken from the CAA Passenger Survey. The difference in journey time between the different airports in each case is equal to the time benefit to the passenger. This change in journey time is then valued using Department for Transport values of time for air passengers.[37] Where passengers are stimulated to travel by EDI's expansion, these passengers are assumed to each accrue half the benefit of an average diverted passenger, as per the rule of a half described above.

Air Fare Savings

6.22 As with the journey time savings, the development of EDI in line with its Master Plan will mean that the additional passengers able to use EDI will pay the fares at EDI rather than the (potentially higher) fares offered at alternative airports to which they might be diverted, assuming they continued to travel in the event of EDI being constrained.

6.23 We have estimated the average fare paid by domestic, short-haul and long-haul passengers for business and leisure travel based on information within the CAA Passenger Survey from 2005. While this information is not perfect, we believe it provides a sound basis for estimating the average fare differential between airports and is the best available information.

6.24 The benefit or cost to users of using EDI as opposed to another airport is defined as the difference between the segment average fare for each airport multiplied by the number of displaced diverted passengers in that segment. It should be noted that in the main the differential between the different airports is limited.

[37] Department for Transport, SERAS Supporting Documentation, 'Rules and Modelling: A Users Guide to SPASM', January 2002, Halcrow Group Limited and Scott Wilson Kirkpatrick and Company Limited, paragraphs B33-B35.

6.25 Again, stimulated passengers, those that decide to fly because of the existence of new services at an expanded EDI, are assumed to accrue half the benefit received by a diverted passenger.

Government Revenue

6.26 Where the expansion of an airport, such as EDI, results in additional tax revenue to the UK Government through Air Passenger Duty (APD), this is considered a benefit within the appraisal.

6.27 In this case the extent to which passengers are either diverted or stimulated in the event of EDI being constrained is the key determinant of benefit. Where a passenger is diverted there is no additional tax revenue generated as the passenger would continue to fly in either the Master Plan or the Constrained scenario. However, where passengers are stimulated to travel by the existence of new services at an expanded EDI, this will give rise to additional tax revenue. APD is collected centrally in the UK but is allocated back to Scotland on the basis of the Country's share of total UK population. We have allocated additional tax benefits on this basis.

Producer Benefits

6.28 The distribution of passengers across the different airports as determined by the development of EDI, will affect the producer benefits realised by the operator of each airport. As not all airports are as profitable as each other there may therefore be changes in the total level of producer benefits under each scenario.

6.29 We have used data on airport profitability from the Centre for Regulated Industries to estimate the profit per passenger for Edinburgh and the other airports to which passengers would be diverted in the Constrained scenario. The impact on producer benefits is therefore defined as the difference in profit per passenger between EDI and the alternate airport multiplied by the number of passengers diverted to that airport in the Constrained scenario.

6.30 Where passengers are stimulated, in other words they choose to travel because of the existence of new services at an expanded EDI, profits from these passengers at EDI in the Master Plan scenario increase overall producer benefits. However, there is no offsetting effect of increased profits at other airports in the Constrained scenario.

Construction Costs

6.31 The construction costs associated with the delivery of EDI's Master Plan have been provided by BAA in the form of:

- the Capital Investment Programme for the next 10 years which identifies capital costs of around £200 million (2008 prices) spread over the period;
- an early broad estimate of the cost of a second main runway at EDI post 2020 of between £250 million and £300 million (2008 prices).

6.32 These costs have been adjusted to 2009 prices using HM Treasury GDP deflators.

Aircraft Emissions Carbon Costs

6.33 The additional demand at EDI will result in additional flights from the airport which will, in turn, lead to additional carbon emissions. However, to simply include these emissions costs within the appraisal without further comment would be somewhat misleading. There are a number of further considerations:

- again, the balance between diverted and stimulated passengers within the appraisal is important. Where passengers are diverted in the event of EDI's constraint then it is likely that this will result in additional flights at these alternate airports (although not necessarily flights operated by the same airline or to the same destination). Therefore, to the extent that this is the case, the additional flights observed at EDI in the Master Plan scenario are not actually additional in terms of total carbon emissions;

- even if we were to assume that all the additional passengers in the Master Plan scenario are stimulated (100% Stimulated Case) then it is still more than likely that the aircraft that would have been deployed at EDI in the Master Plan scenario will be deployed elsewhere either in the UK or Europe or globally. Consequently, even in this scenario it is difficult to argue that the increased emissions at EDI will be genuinely additional;

- there is also the issue of aviation's entry in to the EU ETS from 2012. This will mean that any increase in aviation emissions across Europe will have to be matched by a decrease in emissions in other sectors. Furthermore, to the extent that aviation has to buy in carbon allowances, the industry will be paying for emissions abatement elsewhere. In other words, the carbon cost of expansion will have to be internalised and hence again it is difficult to suggest that carbon emissions resulting from the expansion of EDI under the Master Plan scenario are actually additional.

6.34 Despite these issues, in this case we have still valued the carbon emissions from additional flights to and from EDI under the Master Plan Scenario as if they were purely additional and have then presented the results of this cost benefit analysis both including and excluding these carbon costs. It is helpful to consider the carbon costs of the development at EDI in the context of the Scottish Climate Change Bill as described in Section 3. The Bill sets out strict targets for reductions in emissions.

6.35 Our estimates of the carbon costs associated with the Master Plan are calculated based on the following assumptions:

- an average carbon emission total per ATM for domestic, short haul and long haul movements based on the current EDI network and the aircraft currently in operation at the airport calculated from fuel burn statistics in the Corinair/EMEP database[38];

[38] The Corinair/EMEP database was last published in 2007. This edition provides an update of the emission inventory guidebook prepared by the UNECE/EMEP Task Force.

- that fuel efficiency will improve in line with what has been assumed in the latest DfT CO_2 forecasts[39]. These forecasts take account of improvements in air traffic control efficiency improvements, greater fuel efficiency for new aircraft and a relatively conservative rate of fleet replacement. It should be noted that these assumptions do not include any allowance for the introduction of low carbon fuels and are recognised by DfT as being relatively conservative. The resulting annual average improvements in fuel efficiency are as follows:

  - up to 2010 – 1.1% per annum;
  - 2010 to 2020 – 1.6% per annum;
  - 2021 to 2030 – 0.6% per annum;
  - beyond 2030 – 0.75% per annum.

- a radiative forcing uplift of 1.9 to reflect the potential additional effects of carbon emissions at high altitude;

- the latest CO2 costs as outlined in *Carbon Valuation in UK Policy Appraisal: A Revised Approach* by the Department for Energy and Climate Change in July 2009.

Other Benefits and Costs

6.36 In addition to the monetised costs and benefits described above, we would highlight the following additional costs and benefits:

- Wider Economic Benefits – the quantification of user benefits described above goes some way towards assessing the total welfare benefit of air services but it still does not reflect the full value of investment, productivity, competition and image benefits. As we have described in Section 4, EDI is a vital economic tool for the Edinburgh City Region in supporting its global business sectors. As such this assessment to some extent understates the total benefits of the Master Plan expansion;

[39] *UK Air Passenger Demand and CO2 Forecasts* – DfT (2009).

- Surface Access Carbon Emissions – expansion of EDI in line with its Master Plan will allow significant numbers of passengers to access air services via EDI rather than more distant alternate airports. This could result in a reduction in surface access emissions to airports as a whole that will represent a benefit within the appraisal. However, we believe that these benefits are likely to be minor within the overall context of the appraisal;

- Local Environmental Costs – below we have considered the likely impact of noise and air quality within the appraisal:

  - Noise – the number of households currently within the Airport's 57dba noise contour is relatively low, around 1,300. The expansion of the Airport in line with the Master Plan is not expected to significantly change this number. Consequently, any additional costs to local residents within the Master Plan Scenario are likely to be de-minimis within the overall context of the analysis. It is also worth noting that more recent research undertaken by BAA has identified that the Airport's noise footprint has reduced since 2006. BAA has also introduced a number of measures to mitigate its noise impact including a dedicated hotline for reporting noise issues, a voluntary system of noise fining for airlines that break stated noise thresholds and despite being a 24 hour airport, the number of flights between midnight and 05:00 has been reduced in recent years;

  - Air Quality and Health – again we have not sought to assess in monetised terms the air quality and health impacts of the Master Plan. Currently air quality is not considered to be a significant issue at the Airport and there is little reason to expect that this might change. The latest Air Quality report commissioned by BAA Edinburgh identifies that *"concentrations measured at "busy" areas of Edinburgh Airport were comparable to those measured in the outskirts of Edinburgh. Those measured at "quiet" areas of the Airport were similar to background concentrations in the outskirts of the city. Concentrations measured at the Airport were generally lower than those measured in the city centre areas"*[40]. Furthermore, research undertaken in relation to the Master Plan has identified that air quality standards will not be compromised by the growth of the Airport over the period of the Master Plan.

[40] Air Quality Monitoring at BAA Aberdeen, Glasgow & Edinburgh Airport – 2006/7, AEA for BAA (2007).

Consequently any additional costs are likely to be de-minimis within the overall context of the analysis. In addition the Airport is committed to an ongoing programme of independent monitoring by AEA. The results of these assessments are shared with City of Edinburgh Council on an ongoing basis. Importantly, considering the fact that surface access to the Airport is in fact a greater contributor to air pollution than the air transport movements, BAA is also working hard to increase the number of passengers using public transport to access the Airport. This work has had considerable success with 26% of passengers now travelling to the Airport via public transport, the highest proportion of any UK airport without a direct rail link[41].

Optimism Bias and Risk Adjustment

6.37 In line with Green Book guidance on appraisal, we have considered the issue of optimism bias in identification of the capital costs of the EDI Master Plan. As a result we have applied an optimism bias factor of 44% to the costs identified. This is the same factor identified by DfT in appraising options for runway development in the South East.

Net Present Values and Benefit Cost Ratios

6.38 In **Table 6.1** we present the results from our analysis for three groups of users for each of our passenger behaviour options:

- Scottish Users;
- UK Users (including Scottish Users);
- All Users.

6.39 The key message from this Table is that whatever the geographic scope of the assessment and whatever is assumed about the behaviour of passengers forced away from EDI in the Constrained Scenario, the economic benefits associated with the development of EDI in line with its Master Plan outweigh the costs of this development, including the total potential carbon costs of the additional flights.

[41] Edinburgh Airport website.

Table 6.1:
Cost Benefit Analysis Results
(£ million at 2009 prices)

	100% Diverted			50% Diverted/50% Stimulated			100% Stimulated		
	Scottish Users	UK Users	All Users	Scottish Users	UK Users	All Users	Scottish Users	UK Users	All Users
Journey Time Savings	£4,393	£7,615	£9,290	£3,295	£5,711	£6,967	£2,197	£3,808	£4,645
Air Fare Savings	£141	£96	£189	£106	£72	£142	£70	£48	£95
Producer Benefits	£253	£214	£214	£419	£400	£400	£586	£586	£586
Government Revenue	£0	£0	£0	£44	£526	£526	£89	£1,052	£1,052
Total Benefits	£4,787	£7,925	£9,693	£3,864	£6,709	£8,035	£2,942	£5,493	£6,377
Construction Costs	£531	£531	£531	£531	£531	£531	£531	£531	£531
Aircraft Emissions Carbon Costs	£2,176	£2,176	£2,176	£2,176	£2,176	£2,176	£2,176	£2,176	£2,176
Total Costs	£2,707	£2,707	£2,707	£2,707	£2,707	£2,707	£2,707	£2,707	£2,707
NPV inc Carbon Costs	£2,079	£5,217	£6,986	£1,157	£4,002	£5,328	£234	£2,786	£3,670
NPV exc Carbon Costs	£4,255	£7,393	£9,162	£3,333	£6,178	£7,504	£2,410	£4,962	£5,846
BCR inc Carbon Costs	1.8	2.9	3.6	1.4	2.5	3.0	1.1	2.0	2.4
BCR exc Carbon Costs	9.0	14.9	18.2	7.3	12.6	15.1	5.5	10.3	12.0
Economic Benefits are greater than Costs?	✓	✓	✓	✓	✓	✓	✓	✓	✓

Source: York Aviation.

6.40 If we assume that all passengers displaced from EDI in the Constrained scenario are diverted passengers (100% Diverted) who continue to fly via other Scottish or UK airports if EDI is constrained, then the cost benefit analysis identifies the following net present values (NPVs) and benefit cost ratios (BCRs):

- ✈ if aircraft carbon emissions costs are included within the assessment:
  - Scottish Users – NPV of £2.1 billion at 2009 prices and a BCR of 1.8;
  - UK Users – NPV of £5.2 billion at 2009 prices and a BCR of 2.9;
  - All Users – NPV of £7.0 billion at 2009 prices and a BCR of 3.6.
- ✈ if aircraft carbon emissions costs are not included within the assessment:
  - Scottish Users – NPV of £4.3 billion at 2009 prices and a BCR of 9.0;
  - UK Users – NPV of £7.4 billion at 2009 prices and a BCR of 14.9;
  - All Users – NPV of £9.2 billion at 2009 prices and a BCR of 18.2.

6.41 As described above, these results assume that the additional passengers using EDI in the Master Plan Scenario continue to fly in the Constrained Scenario but are forced to do so via another less convenient airport. This diversion from EDI results in the differences in user benefits identified above. However, it may be that for a proportion of these passengers switching away from EDI it is either not practical or results in a sufficient loss in economic welfare that they choose to no longer fly or travel.

6.42 If we assume that 50% of passengers displaced from EDI in the constrained scenario are diverted passengers who continue to fly via other Scottish or UK airports if EDI is constrained and that the remaining 50% are stimulated passengers (50% Diverted/50% Stimulated) who no longer travel if EDI is constrained, then the cost benefit analysis identifies the following net present values (NPVs) and benefit cost ratios (BCRs):

- ✈ if aircraft carbon emissions costs are included within the assessment:

- Scottish Users – NPV of £1.2 billion at 2009 prices and a BCR of 1.4;
- UK Users – NPV of £4.0 billion at 2009 prices and a BCR of 2.5;
- All Users – NPV of £5.3 billion at 2009 prices and a BCR of 3.0.

✈ if aircraft carbon emissions costs are not included within the assessment:

- Scottish Users – NPV of £3.3 billion at 2009 prices and a BCR of 7.3;
- UK Users – NPV of £6.2 billion at 2009 prices and a BCR of 12.6;
- All Users – NPV of £7.4 billion at 2009 prices and a BCR of 15.1.

6.43 If we assume that all passengers displaced from EDI in the constrained scenario are stimulated passengers (100% Stimulated) who no longer travel if EDI is constrained, then the cost benefit analysis identifies the following net present values (NPVs) and benefit cost ratios (BCRs):

✈ if aircraft carbon emissions costs are included within the assessment:

- Scottish Users – NPV of £234 million at 2009 prices and a BCR of 1.1;
- UK Users – NPV of £2.8 billion at 2009 prices and a BCR of 2.0;
- All Users – NPV of £3.7 billion at 2009 prices and a BCR of 2.4.

✈ if aircraft carbon emissions costs are not included within the assessment:

- Scottish Users – NPV of £2.4 billion at 2009 prices and a BCR of 5.5;
- UK Users – NPV of £5.0 billion at 2009 prices and a BCR of 10.3;
- All Users – NPV of £5.8 billion at 2009 prices and a BCR of 12.0.

Conclusions

6.44 Overall, this analysis demonstrates that the economic benefits associated with the development of EDI in line with its Master Plan outweigh the costs of construction and the carbon costs associated with this expansion. It also therefore holds true that if EDI were to develop in line with the Constrained Scenario, then there would be substantial net economic benefits forgone for the Scottish and UK economies.

7 MAXIMISING THE POTENTIAL OF EDINBURGH AIRPORT

Key Points

- ✈ Key agencies within the Edinburgh City Region are already placing a strong focus on EDI as a key driver of both the City Region and national economy.
- ✈ There are perhaps two main areas in which public sector stakeholders should be considering action over and above what is already being done:
  - the public sector should be working with the Airport now to consider the nature and volume of its labour requirements in the future, which are forecast to grow considerably, and how these requirements can be met;
  - EDI's current business focussed connectivity offer still lags behind a significant number of its comparators despite recent improvements. Stakeholders might wish to consider how they can intervene to assist in this area.

Introduction

7.1 In this section we consider the role that the public sector can play in supporting the growth of EDI and in maximising the economic benefit that can be derived from the Airport. To a large extent this is a matter of creating the right conditions for growth generally, while at the same time seeking to focus growth in ways that are likely to be particularly beneficial to the Edinburgh City Region

7.2 At the outset it should be noted that any public sector intervention needs to be examined in some detail as regards its compliance with EU State Aid guidelines. The analysis presented here has considered compliance with these guidelines in broad terms but should not be taken as a legal analysis of the issues.

7.3 We have organised this discussion under the following main headings:

- ✈ Principles of Airport Economic Development;
- ✈ The Role of the Public Sector;
- ✈ Areas for Action in Relation to EDI.

Principles of Airport Economic Development

7.4 York Aviation has undertaken a substantive body of research in relation to economic development strategy around airports both in the UK and across Europe. Through this work, we have identified a number of key principles that should form the back bone of any public sector action designed to harness the economic impact potential of an airport:

- ✈ any strategy must have its basis in broader regional or sub regional economic development strategy. As we have described in some detail above, airports are facilitators of international economic activity and drivers of wider productivity. They are, however, only one part of a wider whole. Simply seeking to grow an airport in isolation will not in itself bring greater prosperity in the long term. Airport growth strategies need to be allied to other strategies that will grow the key business sectors, including potentially tourism, that will generate long term demand for airport services;

- ✈ any economic development strategy centred around an airport must be built around an understanding of how airports deliver benefit. Particularly, it should focus on making the airport an attractive proposition for the regional business base and inbound tourism;

- ✈ it must recognise and allow for the requirements of airport growth. This might include the need for greater land take, more labour or labour with new skills;

- ✈ any approach should be inclusive and partnership focussed. It is vitally important that all stakeholders recognise the importance of airport growth for future economic prosperity and be working towards the same ultimate goal. Division and disagreement will weaken any strategy, delay growth and potentially damage a region's ability to achieve the ultimate aims of its strategy;

- ✈ it should be recognised that one size does not fit all. Each region is different and, while there are basic principles that can be identified, each region needs a tailored approach to harnessing the economic development potential of its airport.

The Role of the Public Sector

7.5 Using these basic principles as a back drop, York Aviation has identified a series of areas in which public sector agencies might seek to act under the auspices of an airport economic development strategy. These areas and their relationships with both the airport and the surrounding economy are set out in **Figure 7.1**.

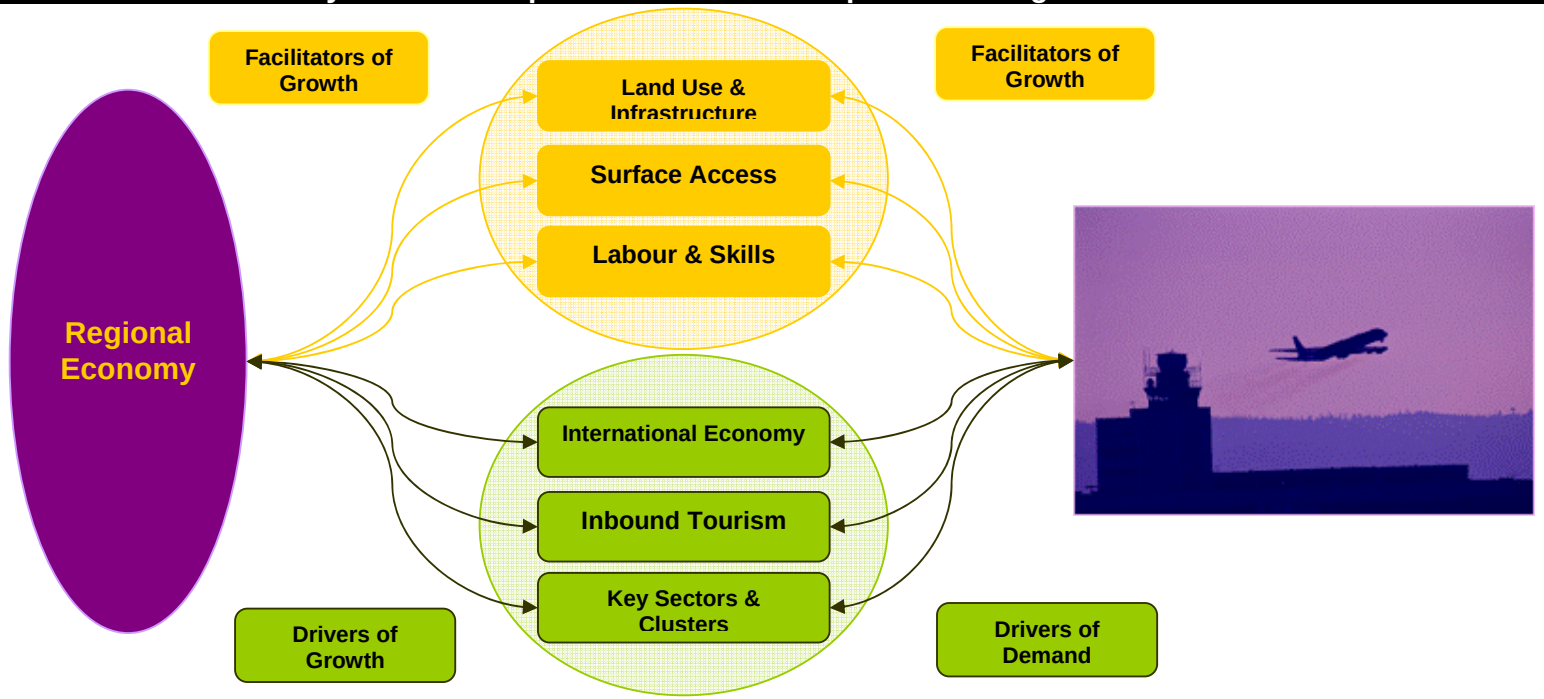
7.6 Figure 7.1 identifies three main facilitators of growth and three drivers of economic growth or air transport demand that are common focuses of regional economic development strategies. In all cases it is noteworthy that the relationships are two-way. In other words action to maximise the benefit of a regional airport is not just about providing for needs of the airport but also ensuring that the regional economy is ready and able to make use of the connectivity offered by the airport.

7.7 Broadly, public agencies seeking to maximise the benefits from a regional airport should seek to influence one or more of these six pillars of airport economic development:

- Land Use and Infrastructure - public agencies need to consider the land take implications of growth at the airport to ensure it can expand its infrastructure if necessary. However, equally importantly is the need for these stakeholders to ensure that there is appropriate land available within the airport catchment area to house the economic development that the airport is expected to support. Allowing for one without the other is potentially counter productive. In addition public agencies need to explore issues in relation to the future supply of gas, electricity, water, sewerage, surface water, and telecoms to ensure that the whole of the wider area does not suffer from any capacity constraints that might impair or constrain the ambition to develop the area's full economic development potential over time;

- Surface Access – users need to be able to travel to and from the airport from key economic centres if the airport is to act as effective driver of location decisions and productivity. Equally, it is important that the airport is able to access key areas of labour supply to allow it function properly and staff growth. In other words, there is a need for a broad spectrum of approaches to surface access;

Figure 7.1:
Key Pillars of Airport Economic Development Strategies



Source: York Aviation.

- Labour & Skills – again this is a multifaceted issue. On the one hand an appropriately skilled labour force is an important determinant in company location decisions and consequently, if the region is to make use of its airports ability to attract and retain investment, it is essential that appropriate skills initiatives are in place to provide the workforce required. Equally, as the airport grows, it will require more labour to operate at a wide range of skill levels and public sector stakeholders could consider airport labour supply issues as an area for intervention through recruitment, training and other initiatives. A particular difficulty for EDI and other UK airports in accessing labour is the requirement for Department for Transport security clearance to enable staff to work in many positions at the Airport. Gaining this security clearance can be both difficult and time consuming and, as a consequence, this can act as a significant barrier to entry to the airport labour market for many potential workers;

- International Economy – developing the international economy with a region is generally a high priority for many public sector stakeholders. These sectors are often amongst the most dynamic and innovative in the regional economy and offer high quality, high salary jobs. As we have already demonstrated, air service access is a fundamental criteria for growth in these sectors but again it is not the only criteria and an airport economic development strategy needs to consider what other actions are required to enable best use to be made of the connectivity offered by the airport. Conversely, business demand is also a driver of growth at the airport. Business passengers are generally offer high yields and therefore tend to have an effect above their pure numbers in terms of route viability. Therefore, a healthy business travel market is important for the airport in maintaining and expanding its route network;

- Inbound Tourism – this is again a two sided issue. For inbound tourism to become a successful economic sector there is a need for a good standard product and an airport that is able to provide the necessary connections to key markets. Again, from an airport perspective, inbound travellers offer good opportunities to underpin route viability which can benefit both passenger volumes and network growth;

- Key Sectors and Clusters – this area links strongly to the international economy pillar but is worth noting separately. Many regional economic development strategies focus on particular sectors or clusters as drivers of future economic prosperity. These sectors often have specific needs in terms of air services and can be a focus for action.

7.8 Actions within these areas need to matched to individual circumstances and should seek to be additional to activities already being undertaken in relation to more general economic development strategies. Common activities that public sector agencies have become involved in include:

- ✈ providing support for airport infrastructure or surface access schemes;
- ✈ setting aside land for airport expansion or the zoning and development of appropriate sites for business parks with good access to the airport;
- ✈ co-ordinating marketing activities in relation to inward investment or tourism using the airport as a key selling point and a partner to present a coherent message;
- ✈ providing support for the airports route development activities, either through funding or through in-kind support, that meet economic development aims;
- ✈ acting as a representative of the business community within the region to provide intelligence to the airport to assist the direction of its development;
- ✈ helping in the analysis of the capacity of existing infrastructure and coordinating a programme of investment by utility companies.

Areas for Action in Relation to EDI

7.9 At the outset it should be said that the key agencies within the Edinburgh City Region are already placing a strong focus on EDI as a key driver of both the City Region and national economy. As such, action is already being taken or has been taken in many of the areas described above:

- ✈ surface access is a substantial issue for EDI and there are at present a number of existing surface access projects that are either already underway or are in the planning phase that will benefit users of the Airport:

- Tram – the tram link that is currently being built linking Leith to the City Centre and on to the Airport will provide a good quality, fast and reliable link to the City Centre directly from EDI. However, there remain some perception issues regarding this development, in particular there is some confusion as to whether the tram will actually serve the Airport. Stakeholders need to ensure that the marketing of the tram focuses on its role in serving the Airport;

- Rail Link – the delivery of a rail station in the vicinity of Gogar is a central tenet of the West Edinburgh Planning Framework. This will provide a heavy rail link to the vicinity of the Airport (although the station will not provide direct access to the terminal). This project is now committed but it remains important for stakeholders to support and facilitate delivery as it will shorten journey times to the Airport for a range of users;

- Road Access – a number of stakeholders have identified the importance of improved road access to EDI. General improvements to the A8 would be welcomed but the key issue is seen as direct access to the M8. Stakeholders feel that this would substantially improve accessibility to the Airport as well as reducing congestion in the area more generally. It is interesting to note that there is no mention of this project in the latest Draft Second National Planning Framework. Transport Scotland in its rationale for not recommending the M8 link stated that any road based interventions necessary to support the West Edinburgh Planning Framework should be taken forward by the planning authority as part of the infrastructure intervention required to serve the land use developments in the area. This suggests that the project has not been ruled out but must be considered at a local level. Considering its perceived importance by many, this may be an area where co-ordinated lobbying by stakeholders could be useful;

- the Airport is already at the heart of the broader West Edinburgh 'project', which has been designated as being of national importance. However, this project is obviously in its relatively early stages in terms of delivery, and it will be important that stakeholders maintain focus and support for the project and the position of EDI within it. However, this planning support is not just about facilitating the Airport's development but also the wider elements of the vision set out, most notably the International Business Gateway. The International Business Gateway (IBG) is the working title of a long term and strategic reserve of land located between the Airport and The Royal Bank of Scotland Headquarters. This land is safeguarded primarily for high value international business development looking to relocate from other parts of the UK or Europe – global financial services companies looking to make use of Scotland's reputation and excellent skills base would be a particular target market in this respect. This land use restriction is in place to minimise the scope for displacement from other sites in Scotland. Notwithstanding the current general economic downturn, the IBG is very much seen as a strategic land reserve that provides Scotland with a significantly different locational offering to developers, investors and to business than at any time previously. Equally important will be for the IBG to be delivered as a 'product' that is right for users that will benefit from proximity to both EDI and the city centre.

- as we have highlighted in Section 4, the Airport is at the centre of much of Edinburgh's international marketing effort, both in terms of its role as part of the City's offer but also in terms of the development of marketing strategy. The establishment of the DEMA and the success of the Edinburgh Inspiring Capital brand are evidence of this co-ordinated approach to international marketing;

- the expansion of the route network at EDI where it has delivered business focussed destinations has been assisted by the now closed Scottish Route Development Fund. This again demonstrates how the public sector has been proactive in seeking to develop EDI as a tool for the Edinburgh City Region and Scottish economies.

7.10 Looking forward there are perhaps two main areas in which public sector stakeholders should be considering action over and above what is already being done:

- Labour and Skills – as we have shown in Section 5, the Airport's labour requirements are likely to expand considerably in the future as it continues to grow. This increasing demand for labour will come against a backdrop of what seems likely to be a tightening labour market around the Airport. Therefore, if the anticipated growth at EDI is to be achieved then the public sector should be working with the Airport now to consider the nature and volume of its labour requirements in the future and how these requirements can be met through recruitment and training and other initiatives;

- Route Development – as we have seen, EDI's current business focussed connectivity offer still lags behind a significant number of its comparators despite recent improvements. At the same time the Scottish Route Development Fund has now been closed. However, stakeholders might wish to consider how this work could be continued via other mechanisms. Marketing support mechanisms focussing on the city region, provision of market intelligence or commissioning of relevant market research could offer opportunities to support the Airport in its efforts. Some other regions have established formal mechanisms for providing this type of support to their airports and this is an area that could be considered.

8 CONCLUSIONS

8.1 An international airport is a vital piece of modern infrastructure that contributes to the prosperity of the region and further afield. In 2008 EDI handled around 9.0 million passengers and around 49,000 tonnes of freight, making it the largest airport in Scotland in both markets. The Airport has expanded rapidly in recent years and now serves around 90 scheduled destinations, 66 international and 24 domestic. These connections are essential to Scottish firms operating in global markets and to overseas firms seeking to do business in Scotland.

8.2 The Airport's Master Plan has set out a vision for the continued growth of the Airport to enable it to play its full part in the City Region and Scotland's economy. This envisages passenger throughput at the airport reaching around 23 mppa by 2030 and includes the possible development of a second main runway at the Airport at some point post 2020.

8.3 The Edinburgh City Region is a highly prosperous part of the Scottish and UK economy. It is a major international centre for financial and business services and both an important tourism destination in its own right and a gateway to the rest of Scotland. The City is continuing its efforts to grow its international reputation as a place to live, invest and visit through the Edinburgh Inspiring Capital campaign. The connectivity offered by EDI is central to this current position and ongoing aspirations. Equally failure to expand EDI would be a significant blow to these aspirations.

8.4 The West Edinburgh growth zone, in which the Airport is located, has been designated as an economic development project of national importance. The vision for this growth zone includes the development of the International Business Gateway, an area set aside for high value added, headquarters type developments for major international companies. A thriving and growing EDI is very much a core element of this plan.

8.5 The business focussed connectivity offered by EDI is in line with the average for cities across Europe but is towards the lower end of the comparator city group identified in this report. However, crucially, EDI does provide excellent links to the UK's hub airport Heathrow, which offers the widest range of business focussed connectivity in the world. With development in line with the Master Plan we expect EDI to substantially improve on its current connectivity performance. This will be essential in ensuring that the Edinburgh City Region does not lose ground to its competitor cities as a business centre.

8.6 In addition to its role as a facilitator of economic activity in the wider economy, we have also considered the employment and GVA impact of EDI both now and in the future from its operation. In 2008, we estimate that the Airport supported 3,530 ftes directly on-site, a further 290 ftes through direct off-site effects and a further 1,520 ftes in the City Region and 2,370 ftes across Scotland through indirect and induced impacts. In total, EDI contributed around £118.4 million of GVA to the City Region and £146.2 million across Scotland.

8.7 If the Airport is able to develop as per its Master Plan, we estimate that the number of jobs supported in the Edinburgh City Region will rise to around 12,790 ftes and to around 16,040 ftes in Scotland in 2030. The Airport will make a corresponding contribution to GVA of around £702.3 million per annum in the Edinburgh City Region and £867.2 million per annum in Scotland as a whole.

8.8 The Master Plan offers substantial additional gross benefits over a situation in which the Airport is constrained to the maximum use of its existing infrastructure. By 2030, EDI would deliver an additional £448.1 million of GVA per annum and 6,680 ftes in the Edinburgh City Region and £553.3 million of GVA per annum and 8,760 ftes in Scotland as a whole. Adjusting for displacement effects, we estimate that the net additional benefit of the Master Plan by 2030 would be around £160.5 million per annum and 1,820 ftes in the City Region and between £138.3 million and £553.3 million of GVA per annum and between 2,190 ftes and 8,760 ftes across Scotland as a whole depending what is assumed about project displacement.

8.9 In addition to the GVA and employment impacts stemming from the operation of the Airport, a substantial investment programme such as that envisaged by the Master Plan will support GVA and employment through construction activity. We estimate that this investment will support around £319.1 million of additional GVA over the life of the project and around 830 ftes in the Edinburgh City Region. Across Scotland as a whole we estimate that the investment will support around £414.9 million of GVA and 1,130 ftes over the lifetime of the Master Plan. Adjusting for displacement, we estimate that the Master Plan will support around 420 ftes and £159.6 million of GVA in the Edinburgh City Region. Across Scotland our estimates remain the same. It should, however, be noted that these impacts are transient and do not sustain beyond the construction phase.

8.10 We have also considered the net economic benefits to Scotland and the UK from EDI's expansion in line with the Master Plan in terms of a cost benefit analysis. Over the period 2008 to 2068, if carbon costs are included within the assessment, we have estimated the following net present value and benefit cost ratios for the Master Plan development compared to the constrained development scenario:

- Scottish Users – NPV of between £0.2 billion and £2.1 billion at 2009 prices and BCRs of between 1.1 and 1.8;
- UK Users – NPV of between £2.8 billion and £5.2 billion at 2009 prices and BCRs of between 2.0 and 2.9;
- All Users – NPV of between £3.7 billion and £7.0 billion at 2009 prices and BCRs of between 2.4 and 3.6.

8.11 If carbon costs are excluded from the assessment, we have estimated the following ranges of net present value and benefit cost ratios for the project:

- Scottish Users – NPV of between £2.4 billion and £4.3 billion at 2009 prices and BCRs of between 5.5 and 9.0;
- UK Users – NPV of between £5.0 billion and £7.4 billion at 2009 prices and BCRs of between 10.3 and 14.9;
- All Users – NPV of between £5.8 billion and £9.2 billion at 2009 prices and BCRs of between 12.0 and 18.2.

8.12 This demonstrates that the economic benefits of developing EDI in line with its Master Plan substantially outweigh the costs of development, including potential carbon costs. Conversely, failure to implement the Airport's Master Plan will result in these benefits being foregone.

8.13 In terms of maximising the economic benefits to Edinburgh and Scotland from the expansion of the Airport, it should be noted that a substantial amount of activity is already being undertaken within the broader West Edinburgh project context, particularly in terms of improvements to surface access, planning support and securing complementary land use development. However, there are challenges that remain such as ensuring the availability of labour for the growth of the Airport. We have also highlighted the role that could be played by stakeholders in supporting the development of the route network at the Airport to ensure that business and inbound tourism destinations are developed within the overall growth of the Airport.

APPENDIX A: ANALYSIS OF ECONOMIC AND POLICY CONTEXT

Aviation Policy

In December 2003, the Department for Transport published the *Future of Air Transport* White Paper. This document provides a strategic framework for the development of air transport in the UK for the period to 2030. The White Paper highlighted the importance of airports to their local and regional economies:

"Airports are an important focus for the development of local and regional economies. They attract business and generate employment and open up wider markets. They can provide an important impetus to regeneration and a focus for new commercial and industrial development."[42]

In its discussion of the Scottish Airports, the White Paper also notes that:

"Aviation makes a significant contribution to Scotland's economy and social welfare."[43]

The White Paper deals with Edinburgh Airport in some detail and concludes that the option of a new close parallel runway and the associated development of terminal and stand capacity needed to support its development, should be safeguarded and that, in the Government's view, there is:

"...a good economic case for a phased development of additional runway capacity..."[44]

The key messages from the Future of Air Transport were reiterated in *The Future of Air Transport Progress Report* published in December 2006. This document gives continued support for the role played by air transport in supporting the UK economy, while re-emphasizing the need to balance these benefits against the environmental costs of the growth in air transport.

Economic and Planning Policy

The Scottish Government's overarching purpose is defined as being:

"To focus government and public services on creating a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth."[45]

This purpose is underpinned by five strategic objectives to make Scotland:

- *Wealthier and Fairer:* by enabling businesses and people to increase their wealth and more people to share fairly in that wealth;

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[42] *The Future of Air Transport* , Department for Transport, December 2003, paragraph 4.24, page 49.
[43] Ibid: paragraph 5.1, page 63.
[44] Ibid: paragraph 5.7, page 64.
[45] *Moving Scotland Forward*, the Government's Programme for Scotland 2008/9, September 2008, Section 2, page 9.

- *Healthier:* by helping people to sustain and improve their health, especially in disadvantaged communities, ensuring better, local and faster access to health care.

- *Safer and Stronger:* by helping local communities to flourish, becoming stronger, safer place to live, offering improved opportunities and a better quality of life.

- *Smarter:* by expanding opportunities for Scots to succeed from nurture through to life-long learning ensuring higher and more widely shared achievements.

- *Greener:* by improving Scotland's natural and built environment and the sustainable use and enjoyment of it.

Scottish Government Economic Strategy (2007)

The Government's Economic Strategy sets out to deliver the purpose stated above and to secure Scottish success over the long term. Higher sustainable economic growth is identified as the key which can unlock Scotland's full potential and create benefits for its people.

The Strategy identifies five strategic priority areas that are critical to sustainable economic growth:

- Learning, Skills and Well-being;
- Supportive Business Environment;
- Infrastructure Development and Place;
- Effective Government; and
- Equity.

Within the context of infrastructure development, the importance of an efficient transport system to the economy is noted

"An efficient transport system is one of the key enablers for enhancing productivity and delivering faster, more sustainable growth. Enhancing transport infrastructure and services can open up new markets, increase access to employment and help to build a critical mass of businesses that drive up competitiveness and deliver growth."[46]

The key strategic approach in relation to transport investment is identified as being:

"To focus investment on making connections across and with Scotland better, improving reliability and journey times, seeking to maximise the opportunities for employment, business, leisure and tourism."[47]

[46] Scottish Government Economic Strategy 2007, page 30.
[47] Ibid, page 33.

Edinburgh Airport has an important contribution to make to this strategic objective in enhancing Scotland's connectivity for business and tourism.

Scotland's National Transport Strategy (2006)

Scotland's National Transport Strategy was published in December 2006. While the Strategy was published by the previous administration, it has bee adopted by the current Scottish Government.

The Foreword to the Strategy defines the importance of transport infrastructure to the growth of Scotland's economy:

"Transport is an essential part of economic activity. Infrastructure, roads, rail, airports and ports – and the businesses that use these assets - are all vital components of Scotland's economy. Transport has a significant and positive contribution to make to economic growth, and to the prosperity and quality of life of Scottish people."[48]

Three strategic outcomes are identified: the improvement of journey times and connections, a reduction in emissions, and an improvement in quality, accessibility and affordability. Air connectivity has its role to play in this and Edinburgh Airport will have a key supporting role in providing this direct air access in support of sustainable growth.

The National Planning Framework for Scotland

The Scottish Government's National Planning Framework (NPF) is the strategy for the long-term development of Scotland's towns, cities and countryside. It is concerned with how Scotland should develop and where things need to happen to make that possible. The NPF identifies key strategic infrastructure needs to ensure that each part of the country can develop to its full potential.

The first National Planning Framework was published in 2004, setting out a strategy for Scotland's development to 2025, and is still in force. This Framework document notes the importance of financial services and tourism to the economy of Scotland and with regard to Edinburgh notes that:

"Edinburgh's economic success is based on financial and business services, public administration, culture and tourism. Incomes are high, unemployment is low and the city is ranked very highly in quality of life indices. Both population and the number of households are projected to grow substantially. However, the city is coming up against constraints to future growth in the form of traffic congestion, difficulties in filling job vacancies, steeply rising land values, house price inflation, high commercial rents, and a shortage of development land. There is also concern that high prices are squeezing essential workers on lower incomes out of the housing market. The key challenge for Edinburgh is therefore the management of growth."[49]

[48] Scotland's National Transport Strategy, December 2006, Foreword, page 2.
[49] National Planning Framework for Scotland 2004, paragraph 32.

In relation to air travel, the Framework notes that:

"The Executive is strongly committed to promoting a shift to more sustainable modes of transport. However, given Scotland's geographical position, good air links are vital for international connectivity and competitiveness."[50]

The Framework goes on to note that:

"Airports are also important economic development generators and improving surface access to Edinburgh and Glasgow Airports is a national priority. Air passenger numbers are projected to grow substantially over the next 25 years. Locational advantages mean that Edinburgh is likely to experience a particularly large growth in traffic. The Executive has taken steps to safeguard land for an additional runway at Edinburgh Airport and proposals for rail and tram links to the airport are being developed. The West Edinburgh Planning Framework recognises the potential of the area in the vicinity of Edinburgh Airport as an international business location capable of attracting headquarters for world-class companies."[51]

Scotland's Second National Planning Framework to 2030 (NPF2) was laid before the Scottish Parliament in December 2008 and, once finalized, will provide a statutory national context for development plans and planning decisions as well as informing the ongoing programmes of the Scottish Government, public agencies and local authorities.

Legislation now provides for the NPF2 to designate certain projects as 'national developments'. Projects which may be identified as national developments are those which:

- *"make a significant contribution to Scotland's sustainable economic development;*
- *strengthen Scotland's links with the rest of the world;*
- *deliver strategic improvements in internal connectivity;*
- *make a significant contribution to the achievement of climate change, renewable energy or waste management targets;*
- *are essential elements of a programme of investment in national infrastructure; or*
- *raise strategic issues of more than regional importance (projects with impacts on more than one city region, for example)."*[52]

The document then identifies a number of projects meeting these criteria, included in which are *"strategic airport enhancements."*[53]

The document goes on to note the importance of external links:

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[50] Ibid, paragraph 120.
[51] Ibid, paragraph 121.
[52] National Planning Framework for Scotland 2, Proposed Framework, December 2008, paragraph 103.
[53] Ibid, paragraph 104.

"Economic success will depend on good connections with the rest of the United Kingdom and global markets."[54]

In promoting airport enhancements, NPF2 places emphasis on measures which improve surface access by public transport. There is specific support for developments at Edinburgh Airport:

"The Scottish Government has announced that a new station serving Edinburgh Airport will be built at Gogar on the Fife rail line. The construction of the Dalmeny chord, a new line linking the Fife and Edinburgh – Glasgow routes, will allow trains between Glasgow and Edinburgh to stop at the airport station. An interchange with the Edinburgh tram link will facilitate onward travel to the airport by public transport. The West Edinburgh Planning Framework safeguards land to meet long term requirements and recognises the potential of the area in the vicinity of Edinburgh Airport as an international business location capable of attracting shared service centres for world-class companies."[55]

Further support is lent to the role of West Edinburgh more generally as a business location:

"Realising the potential of West Edinburgh as an internationally competitive business location is a key priority. The West Edinburgh Planning Framework addresses issues of airport growth, congestion and connectivity, promoting integration of land use and transport to secure benefits for the local, regional and national economies. Scottish Enterprise is promoting the development of an International Business Gateway immediately to the south of Edinburgh Airport, providing a prime office location for businesses serving international markets. The relocation of the Royal Highland Show Ground will facilitate airport enhancement."[56]

In the Annex to NPF2 there is clear recognition of the importance of Edinburgh Airport as an international gateway and the way in which the Airport can support investment in West Edinburgh as a business location:

"Edinburgh Airport is of key economic importance as an international gateway, helping to make Scotland an attractive location for business and tourism and providing access to global markets. Improved public transport access will accommodate the projected growth in airport traffic and provide more sustainable means of accessing the airport and associated facilities. The creation of an International Business Gateway immediately to the south of the airport will help to realise the unique attributes of this location, providing high quality accommodation for companies which require good access to international markets and helping to build investor confidence in West Edinburgh as a strategic location of national importance."[57]

[54] Ibid. Paragraph 113.
[55] Ibid, paragraph 117.
[56] Ibid, paragraph 187.
[57] Ibid, Annex, page 70.

NPF2 was laid before the Scottish Parliament on 12 December 2008 for a period of 60 days consideration, which ended on 6 March 2009. Scottish Ministers will now make any final modifications to the Framework, which is expected to be published in final form in Spring 2009.

In parallel with and in support of NPF2, Transport Scotland has undertaken the Strategic Transport Projects Review (STPR) to define the most appropriate strategic investments in Scotland's national transport network from 2012. The STPR has reported its findings to Ministers and a parliamentary announcement on these was made on 10 December 2008. The STPR focuses on identifying those interventions that most effectively contribute towards the Government's Purpose of increasing sustainable economic growth as set out in the Government's Economic Strategy. The provision of a rail station at Gogar is included in the Edinburgh to Glasgow rail improvement programme, which is a priority project in the STPR. However, the provision of a road link from the Airport to the M8 has not been included in the short list of projects as it was felt that more sustainable transport access to the Airport could be utilised.

Scottish Government Climate Change Bill

Issues around airport growth and sustainable development also need to be considered in the context of the Scottish Government's Climate Change Bill, which was published in December 2008.

The Bill is intended to create a long term framework that will:

- introduce a statutory target to reduce Scotland's greenhouse gas emissions by at least 80 per cent by 2050
- establish an interim target of a reduction of at least 34 per cent by 2020;
- establish a framework of annual targets; and
- include emissions from international aviation and international shipping.

Aviation is at present a relatively minor contributor to total emissions in the UK, accounting for around 5% of the whole. However, it must be recognised that air transport demand is forecast to grow substantially both at EDI and more generally and this will lead to ongoing growth in aviation's carbon emissions. It will be important therefore that increasing emissions from aviation are appropriately addressed within an overall sustainable development framework.

Overall, it seems clear that a balance needs to be struck whereby aviation is able to grow and bring with it the economic benefits that Scotland while at the same time ensuring that this growth is sustainable and that the impact on overall carbon emissions is minimised. This goal will be greatly assisted by aviation entry in to the European Union Emissions Trading Scheme (EU ETS) in 2012.

The EU ETS will essentially cap total emissions from aviation activities to or from EU airports at an average of their level between 2004 and 2006. The cap will be divided between airlines operating at the beginning of the 2012 trading period. Each airline will then have to surrender sufficient allowances to cover their total emissions in any given year. This means that the only ways in airlines can grow their businesses is either via becoming more carbon efficient or by purchasing carbon allowances from other airlines or sectors within the EU ETS. Therefore, any increase in aviation's emissions will have to be matched by a decrease in emissions in other sectors. It essentially creates a market in which the economic cost of carbon is internalised within the pricing decisions of airlines, which should ultimately lead to sustainable growth in the sector. The EU ETS has been broadly recognised by governments across Europe as the most effective method of addressing aviation's carbon emissions.

Future growth at EDI therefore needs to be seen within the context of both Scottish Government's aspirations around climate change and the broader EU policy approach embodied by the EU ETS.

Sustainable Aviation

At this point it is also worth noting the UK aviation industry's sustainable aviation strategy, to which BAA is a signatory. Sustainable Aviation sets out the industry's vision for a sustainable future through a series of eight goals and 34 commitments, relating to economic, environmental and social aspects of aviation. Specifically, these include:

- limiting climate change impact by improving fuel efficiency and CO2 emissions by 50 per cent per seat kilometre by 2020 compared with 2000 levels;

- improving air quality by reducing nitrogen oxide (NOx) emissions by 80 per cent over the same period;

- lowering the perceived external noise of new aircraft by 50 per cent by 2020 compared with their 2000 equivalents;

- establishing a common system for the reporting of total CO2 emissions and fleet fuel efficiency by the end of 2005, and pressing for aviation's inclusion in the EU emissions trading scheme at the earliest possible date;

- new airport plans for community-related noise limitations, including landing and take-off restrictions where necessary.

The aviation industry's commitment to this strategy also sets a context for the future development of airports such as Edinburgh. It demonstrates clearly that the industry as a whole is committed to playing its part in the sustainable development of air transport.

Edinburgh and Lothians Structure Plan to 2015

The Edinburgh and Lothians Structure Plan to 2015 was approved, with modifications, by Scottish Ministers in June 2004, and constitutes the current Structure Plan in force for the purposes of Section 24 of the Town and Country Planning (Scotland) Act 1997. The Plan was prepared by the City of Edinburgh Council, East Lothian Council, Midlothian Council and West Lothian Council.

The Plan sets out the long-term vision for the development of land in Edinburgh and the Lothians and centres on a land-use and transportation strategy together with a set of policies that co-ordinate sustainable public and private investment with the protection of the environment. Maintaining and enhancing economic competitiveness is one of the ways in which this will be achieved.

The Vision set out in the Plan is:

"Edinburgh and the Lothians will continue to prosper as the capital's city-region and will remain the economic development hub of East Central Scotland."[58]

The Plan acknowledges that:

"There are a number of major institutional and other uses within the Green Belt which play a key role in the city-region's economy. These include Edinburgh Airport, the Royal Highland Showground and Heriot Watt University's Research Campus at Riccarton, which are all experiencing growth."[59]

The Strategy also recognizes that:

"West Edinburgh, principally the stretch of the A8 from South Gyle/Edinburgh Park to Newbridge, is becoming increasingly attractive as an area of choice for economic development due mainly to its proximity to the Airport and road access to the Central Belt."[60]

and that…..

"The Scottish Executive considers the area to be a national asset as a prime location for economic development and has set out its vision for the area in the West Edinburgh Planning Framework."[61]

The Plan does not support the release of Green Belt land in West Edinburgh for economic development within the plan period to 2015, but requires that local plans should safeguard the routes of new transport infrastructure and land required for the expansion of Edinburgh Airport. Policy ECON 5 (West Edinburgh) states that:

[58] Edinburgh and Lothians Structure Plan 2015, June 2004, paragraph 2.2.
[59] Ibid, paragraph 4.13.
[60] Ibid, paragraph 4.14.
[61] Ibid, paragraph 4.15.

"West Edinburgh has potential in the long term for economic development in the national interest. However, for the reasons set out in the West Edinburgh Planning Framework, no Green Belt land should be released during the period of this plan. Through policy TRAN1, local plans should safeguard land for the strategic transportation infrastructure identified in the West Edinburgh Planning Framework including any land required by Government for the expansion of Edinburgh Airport."[62]

Strategic Development Plan for Edinburgh & South East Scotland

In June 2008, the Scottish Ministers designated the Edinburgh and South East Scotland Strategic Development Planning Authority (SESplan), which comprises the City of Edinburgh, East Lothian, Midlothian, Fife, Scottish Borders and West Lothian Councils. The role of SESplan is to produce a Strategic Development Plan which will supersede the councils' existing Structure Plans in due course.

This Strategic Development Plan is currently under development. The Development Plan Scheme, published in January 2009, sets out the target timescales for the production of the Plan and envisages a 'Main Issues Report' by December 2009, and submission of the final Draft Plan to Ministers by March 2012.

The West Edinburgh Planning Framework 2008

he West Edinburgh Planning Framework is prepared jointly by the Scottish Government, Scottish Enterprise and the City of Edinburgh Council and was last updated in 2008, providing a more detailed basis for future investment in the area. The Framework sets out a long-term strategic vision for West Edinburgh[63] as an area considered to be nationally important in terms of economic development, global connectivity, transport, and the environment. It has the status of Scottish Planning Policy (SPP) and will be a material consideration in development management decisions. It will also serve as an important input to the Development Plan for the area.

The importance of the Airport is explicitly recognized, and the need to match its growth with sustainable transport infrastructure:

"To realise the area's full potential as a driver of the Scottish economy and high quality gateway to the world, it is important that as the Airport grows, and new development comes on-stream, the sustainable transport infrastructure is in place, including walking, cycling and public transport networks, together with management of road traffic and parking facilities, to mitigate congestion on the road network, and reduce environmental impacts."[64]

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[62] Ibid, page 33.
[63] West Edinburgh is defined for the purposes of the Framework as the area encompassing the A8 Corridor from Gogar to Newbridge interchanges including the Airport and land between the Airport and the A8, as well as land south of the A8 from the City Bypass through to the Ratho Station area.
[64] West Edinburgh Planning Framework 2008, paragraph 9.

Further support for the safeguarding of development land at Edinburgh Airport, subject to sustainable transport initiatives, is set out as follows:

"The West Edinburgh Planning Framework 2008 is a strategic policy document which seeks to promote the area's sustainable economic development. Central to this is the provision of a land use planning framework to enable Edinburgh Airport to meet the significant growth forecasts set out in the White Paper 'The Future of Air Transport' (December 2003) and articulated in the Edinburgh Airport Master Plan (July 2006). The Framework does not determine that growth will take place to the extent forecast; it merely ensures that if growth does take place, the disposition of land uses around the Airport will allow it to do so. It therefore supports expansion of Edinburgh Airport south of its current land holding, which will take it to at least 2020. The issue of whether the Airport ultimately requires a second main parallel runway can be left to subsequent reviews of the West Edinburgh Planning Framework 2008 based on forecasting at that time with the land safeguarded within the Green Belt in the meantime."[65]

A key investment is the planned delivery of a rail station in the vicinity of Gogar to improve accessibility from other parts of Scotland and the UK and reduce journey times. This will also incorporate a high quality public transport interchange to the Edinburgh Tram and the delivery of the Edinburgh Tram connection to Edinburgh Airport. For reference, we have included the West Edinburgh Planning Framework Vision Map in Appendix B.

The Rural West Edinburgh Local Plan

The Rural West Edinburgh Local Plan (RWELP) covers Edinburgh Airport and the surrounding area and was adopted on 1 June 2006, although it was recognised at the time that alterations may be necessary to take account of airport expansion requirements.

The updated West Edinburgh Planning Framework (WEPF) 2008 (referred to above) sets out proposals relating to the expansion of the Airport, which are taken into account in a proposed Alteration to the RWELP, published in October 2008, which will make the RWELP consistent with the WEPF. Alteration 9 in this document covers the Airport specifically:

"(Policy ED5 Edinburgh Airport)
(Proposals within the Existing Airport Boundary) Proposals for the development and enhancement of Edinburgh Airport will be supported within the existing airport boundary defined on the Proposals Map, where consistent with an approved Edinburgh Airport Master Plan. Other airport-related uses will only be permitted where it can be demonstrated that these have strong and direct functional and locational links with the airport and are compatible with the operational requirements of the airport and other relevant Council policies.

[65] Ibid, paragraph 10.

(Proposals within the Area of Airport Expansion) In the area identified for airport expansion, airport and airport-related uses will be supported provided these are consistent with an approved Edinburgh Airport Master Plan. In the part of this area currently occupied by the Royal Highland Showground, proposals which accord with Policy ED6 will be supported until the site is required for airport expansion. Elsewhere in the area identified for airport expansion and until the land is required for this purpose, proposals which are not for airport or airport related uses will be supported where these are small scale and ancillary to an existing use or of a temporary nature.

(All Proposals) All development proposals within the boundary of the existing airport and the proposed expansion area should take account of the guidance contained in the West Edinburgh Strategic Design Framework and be acceptable in terms of:

- *scale and location*
- *accessibility by public transport*
- *traffic generation*
- *landscaping*
- *habitat protection and enhancement; and*
- *impact on setting, including wider townscape and green belt impacts and impacts on views.*

(Long Term Safeguard) Land to the north of the existing airport boundary is safeguarded to provide a second main parallel runway if required in future to meet air passenger growth forecasts. Within this area, normal green belt policy will apply (policies E5 and E6). In addition, proposals which would prejudice the long-term expansion options of Edinburgh Airport will not be supported."[66]

These proposed alterations are currently out to consultation.

City of Edinburgh Economic Development Plan 2009-2012

The City of Edinburgh Council Economic Development Plan 2009-2012 was approved by the Council's Economic Development Committee on 16 December 2008. It identifies a number of challenges for Edinburgh in the near future. These include:

[66] Rural West Edinburgh Local Plan Alteration, Draft for Consultation, October 2008, page 12.

"The impact of the global financial crisis on the city's financial services sector, which directly employs over 10% of the workforce (30,000 jobs), accounts for the city's top five employers, and indirectly influences the well being of many other sectors through its supply chains and through the personal spending of its employees. The precise impact of this crisis on the Edinburgh economy is difficult to predict at this stage but there is no doubt that its heavy reliance on financial services is likely to make it more vulnerable to the loss of jobs, Gross Value Added (GVA) and confidence than many of its international competitors. If we lose even a fraction of the jobs in this sector, the ramifications for the cluster as a whole (e.g. the significant element of the legal profession which specialises in financial services) will be serious."[67]

The Plan also notes that the prospect of a recession across the UK economy and around the world which is likely to dent consumer spending within the city and amongst Edinburgh's visitors and potentially hamper the prospects for inward investment.

These considerations could also affect the rate of growth of Edinburgh Airport, although it is difficult to quantify the extent to which this may be the case.

Nevertheless, the Plan sets out a Vision for Edinburgh that by 2015 the City will lead the most successful and sustainable city region in Northern Europe. Six supporting objectives are identified to:

- attract £500m of new private sector investment into physical regeneration;
- attract an additional £100m in new commercial investment;
- increase the GVA of domestic businesses by 1% p.a. above the average;
- increase visitor spend in the city by 15%;
- bring 3,000 underprivileged people into sustainable employment, education or training;
- strengthen the connectivity of the city region nationally and internationally (specifically, producing a robust case for Tram Line 3, for the Forth Crossing and for the development of West Edinburgh in support of the Airport).

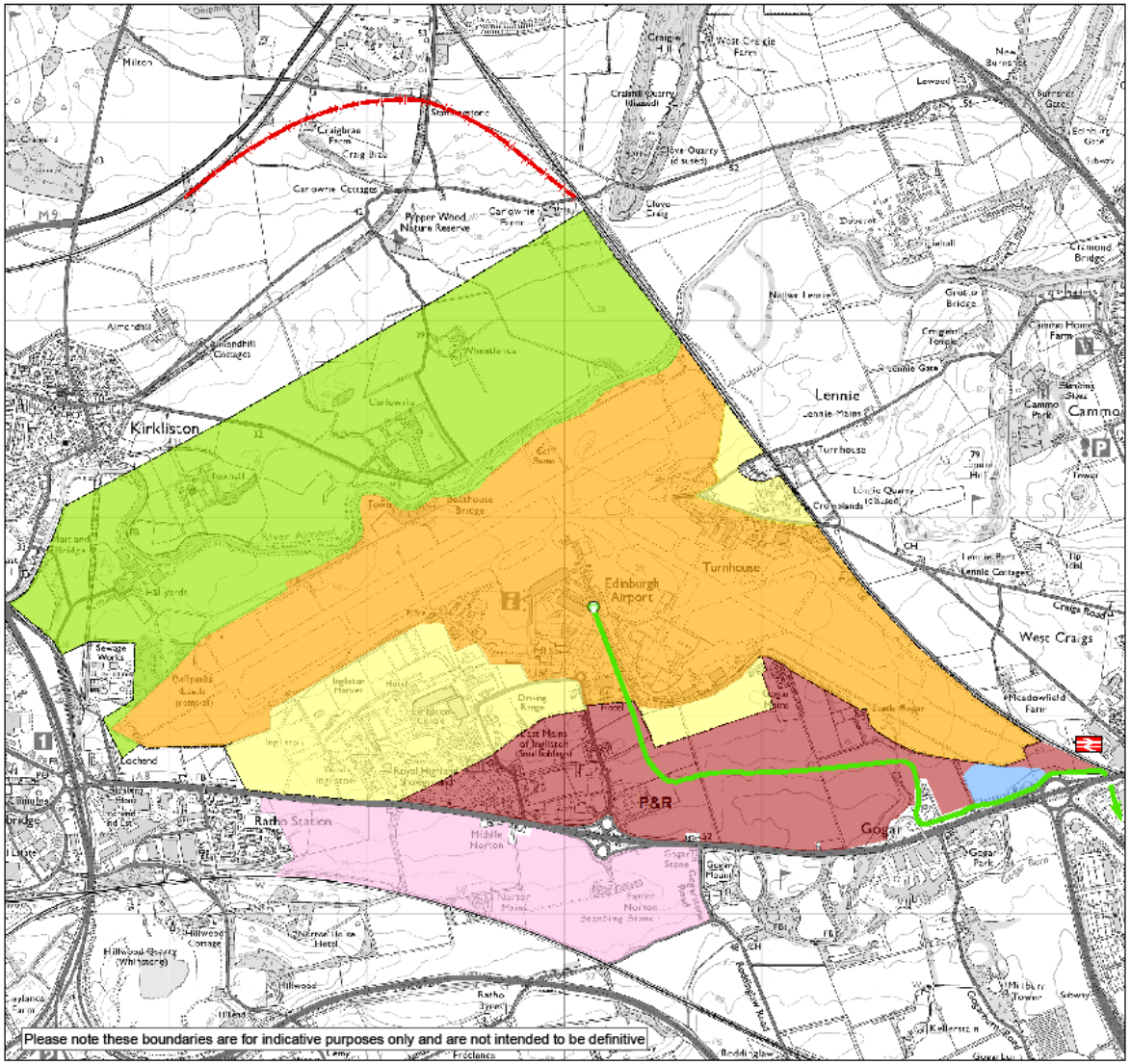
Edinburgh Airport will clearly have an important role to play in meeting these objectives and the Plan offers support to the Airport in achieving its objectives.

Conclusion

[67] Proposed Economic Development Plan 2009-2012, Edinburgh City Council, December 2008, Part A2.

There is clear and strong support in national, regional and local policy for the continued development of Edinburgh Airport, which is seen as being of critical importance to the achievement of Edinburgh's role as a globally connected world city and the consequent economic and social benefits for its City-Region and for Scotland as a whole. This will be supported through the air links the Airport provides and the role it can play in attracting inward investment, fostering international trade, stimulating inbound tourism and enhancing cultural links.

APPENDIX B: WEST EDINBURGH PLANNING FRAMEWORK VISION MAP



VISION MAP

West Edinburgh Planning Framework 2008

- Tram Line
- Dalmeny Rail Chord
- Existing Edinburgh Airport Boundary
- Airport Expansion post 2013
- International Business Gateway
- Tram Depot
- Scotland's National Showground
- Proposed Rail Station in Gogar Vicinity
- Land to be safeguarded as greenbelt for airport expansion
- 2030 Proposed Edinburgh Airport Boundary

APPENDIX C: CALCULATION OF THE VALUE CONNECTIVITY INDEX

Introduction

Below we have set out some more details as regards the calculation of the VCI measure. This has been organised under the following main headings:

- ✈ Airport Route Networks;
- ✈ Destination Scoring;
- ✈ Calculating Frequency Weights;
- ✈ The Total Airport Score.

Airport Route Networks

The first of the two central components of the VCI measure is to analyse the route network of each airport. This is done using the OAG schedules guide for a fixed point in the near future. This identifies for each scheduled destination served by an airport:

- ✈ the destination city, which is used to determine its score (see below);

- ✈ the world area in which the city is located to enable identification of the correct weighting scheme;

- ✈ the number of direct weekly frequencies offered by airlines, excluding code shares, which forms the basis for calculation of the score weight.

Destination Scoring

A destination's score is determined by the city destination's position in the GaWC ranking of world cities shown in **Table B1**.

The hierarchy was derived from research undertaken by the GaWC on the location decisions of 175 advanced service firms (e.g., accountants, advertising agencies and legal firms). Based on both the presence of these firms and the size of this presence, the GaWC ranked 526 cities as either Alpha, Beta, Gamma or Emerging World Cities, including a number of sub-bands. These results were used as a proxy measure ranking cities' relative position as global business centres. Each city was scored between 1 and 10 with, for example, London and New York scoring 10, while Poznan and Bordeaux would score 1.

Table C1: Globalisation and World Cities Network Inventory of World Cities 2008
Alpha ++ World Cities
New York, London
Alpha + World Cities
Hong Kong, Paris, Singapore, Tokyo, Sydney, Beijing, Shanghai
Alpha World Cities
Milan, Madrid, Seoul, Moscow, Toronto, Brussels, Mumbai, Buenos Aires, Kuala Lumpur
Alpha – World Cities
Warsaw, Sao Paulo, Jakarta, Zurich, Mexico City, Amsterdam, Bangkok, Dublin, Taipei, Rome, Istanbul, Chicago, Lisbon, Frankfurt, Stockholm, Vienna, Budapest, Prague, Athens, Caracas, Auckland, Santiago
Beta + World Cities
Melbourne, Los Angeles, Barcelona, Johannesburg, Washington, Manila, Atlanta, Bogota, Delhi, San Francisco, Tel Aviv, Bucharest, Berlin, Helsinki, Oslo, Dubai, Geneva, Copenhagen, Riyadh, Hamburg, Cairo
Beta World Cities
Bangalore, Luxembourg, Jeddah, Munich, Kuwait, Dallas, Boston, Kiev, Lima, Miami
Beta – World Cities
Houston, Guangzhou, Düsseldorf, Sofia, Beirut, Nicosia, Karachi, Montevideo, Rio De Janeiro, Montreal, Bratislava, Nairobi, Ho Chi Minh City
Gamma + World Cities
Panama City, Chennai, Casablanca, Brisbane, Denver, Vancouver, Stuttgart, Quito, Zagreb, Guatemala City, Cape Town, Minneapolis, San Jose, Santo Domingo, Ljubljana, Seattle, Shenzhen, Manama
Gamma World Cities
Guadalajara, Antwerp, Philadelphia, Rotterdam, Perth, Lagos, Manchester, Amman, Portland, Riga, Wellington, Detroit, Guayaquil
Gamma – World Cities
Porto, St Petersburg, **Edinburgh**, Tallinn, San Salvador, San Diego, Port Louis, Calgary, Birmingham (UK), Almaty, Islamabad, Doha, Vilnius, Colombo
Evidence of World City Formation
High Sufficiency
Columbus, Phoenix, Cleveland, Adelaide, Tegucigalpa, **Glasgow**, Monterrey, Dhaka, Hyderabad, San Juan, Hanoi, Lahore, Tunis, Lyon, Leeds, Kansas City, Tampa, Pittsburgh, Orlando, Belgrade, Charlotte, Indianapolis, La Paz, Osaka, Canberra, Georgetown, Managua, Asuncion, Baltimore, Bristol, St Louis, Bologna, Accra, Nassau, Ottawa, Cologne, Lausanne, Medellin, Sacramento, San Jose, Milwaukee, Richmond, Las Vegas
Sufficiency
Christchurch, Memphis, Hamilton, Jerusalem, Krakow, Belfast, Porto Alegre, Chengdu, Nashville, Basle, Honolulu, Pune, Omaha, Raleigh, Reykjavik, Newcastle, Dar es Salaam, Macau, Valencia, Hartford, Lusaka, Durban, Curitiba, Leipzig, Aberdeen, Marseille, Baku, Cali, Dresden, Liverpool, Ankara, Penang, Salt Lake City, Muscat, Austin, Gabarone, Tianjin, Puebla, Winnipeg, Harare, Nagoya, Nanjing, Tashkent, Dalian, Southampton, Tijuana, Kaohsiung City, Tulsa, Rochester, Seville, Edmonton, Skopje, Strasbourg, Halifax, Labuan, Kingston, Birmingham, Utrecht, Genoa, Cincinnati, Johor Baharu, Tbilisi, Bremen, Nantes, Cardiff, Aarhus, Abu Dhabi, New Orleans, Chihuahua, Hanover, Queretaro, Buffalo, Quebec, Turin, Cebu, Bilbao, Libreville, Bordeaux, Poznan
Source: *"The World According to GaWC 2008"* – Globalisation and World Cities Network.

This allows any destination served by an airport to be scored on this basis for its usefulness as a business destination. It should be noted that any city outside of this ranking is assumed to score 0. In other words within this system a connection to New York is worth considerably more than a connection to Glasgow, while a connection to Glasgow is worth more than a connection to Alicante (not in the list).

Calculating Frequency Weights

The final stage in assessing the value of an airport's connections to a particular destination is to consider the 'quality' of the connection. This is done in terms of the number of frequencies on offer each week to that destination. The basic premise is that the greater the number of connections the better the service.

However, there are two subtleties to be considered:

- a long haul service will generally speaking never achieve the same number of connections as a short-haul service and consequently the weightings applied to long haul and short haul services should recognise this difference;

- at some point, additional frequency adds little to the sum of connectivity. For instance, for a short-haul service a daily connection is good in that it provides basic connectivity. However, a twice daily service is substantially better as it will often allow a day return business trip. However, the additional of an 11th daily service over a 10th daily service offers only a marginal benefit.

In order to reflect these issues, we have analysed the market penetration of short and long haul services operating from UK regional airports to identify a curve that estimates the proportion of the market that will be captured at any level of frequency. We have then assumed that the point at which 85% of the market will be captured represents a weighting of 1 to be applied to the destinations score. A different weighting scheme is used for short and long haul services.

For instance, for a service to Paris operating at 21 frequencies a week has a frequency weight of 0.79. Paris as a destination scores 10. Therefore, the score for the service is 7.9.

The Total Airport Score

The total VCI score for an airport is simply the sum of the individual scores for each route. For instance, an airport operating the following three services would score 15.2:

- Paris – 21 services per week with a total route score of 7.9;
- New York – 7 services per week with a total route score of 6.4;
- Glasgow – 35 services per week with a total route score of 0.9.

APPENDIX D: CALCULATION OF JOURNEY TIME SAVINGS

Approach

1 A standard approach used by government in the appraisal of transport projects, such as new roads, involves the use of journey time savings as a measure of economic benefit. The same approach can also be applied to the expansion of an existing transport facility, such as EDI, by comparing the projected journey times of travellers under alternative scenarios.

2 In economic theory, if a project reduces journey times the economic value of that saving is equal to the largest sum that each person would be willing to pay in order to save that amount of time.

3 In practice, reliable data is not available on what people would be prepared to pay for journey time savings. Therefore, a procedure that is widely adopted is to value a person's time as being equal to the amount that he/she could earn during the time saved.

4 The rationale for this procedure stems from the concept of an individual's labour supply function. Assuming that institutional arrangements allow the individual to choose the number of hours of work, in order to persuade him/her to part with an hour of leisure (that is, to do another hour of work) he/she must be paid at least the average hourly wage, and more than this average for each additional hour of leisure foregone. For marginal deviations from the chosen hours of work, the use of the average hourly wage is appropriate.

5 There are, however, a number of other factors to be borne in mind:

- ✈ in practice, workers are seldom given the choice of working hours and so the average hourly wage may not be a reliable guide to the marginal value placed by a worker on an hour of leisure foregone;
- ✈ the social value of a worker's hourly output will only be equal to the hourly wage where perfect competition prevails and there are no uncorrected economies or diseconomies of production;
- ✈ the time saved by the existence of a transport facility may not always be used to generate additional output in the economy as a whole (net of external effects);
- ✈ the time spent travelling may not always produce disutility for the traveller.

6 In using the journey time savings approach, attention needs to be paid to such factors as the specific type of travel involved, the relevant alternatives available to the traveller and the purpose of the journey.

7 Whilst there may, in certain circumstances, be problems involved in interpreting the results of using average hourly income in order to value journey time savings, it represents the most appropriate approach in the context of EDI because:

- the alternative journeys will generally involve travelling long distances either on congested roads or on trains to other airports. It is difficult to see how this, in general, can produce anything but disutility for the traveller;

- the journey times saved by the expansion of EDI would often be substantial.

Key Assumptions

8 In order to estimate the journey time savings attributable to the expansion of EDI, it has been necessary to make assumptions in relation to the following factors:

- passenger forecasts;

- the pattern of alternative journeys which would be made by passengers if the expansion of EDI does not take place;

- the origin/destination of journeys currently made via EDI;

- the mode of transport used to reach the airports;

- journey times by the assumed modes of transport between the origin/destination points and the airports;

- the purpose of travel;

- the valuation of the time savings identified.

Passenger Forecasts

9 In order to calculate the number of passengers displaced two sets of forecasts were required (as described in Section 2):

- Master Plan Scenario;
- Constrained Scenario.

10 The difference between these passenger forecasts is the number of displaced passengers. Passengers begin to be displaced in 2013 as market

development at EDI begins to suffer from capacity constraints if further investment is not made. By 2030, around 11 mppa are being displaced.

Alternative Journey Patterns

11 The alternative journey patterns for those passengers assumed to be displaced from EDI have been derived on the basis of the latest Civil Aviation Authority (CAA) Passenger Surveys.

12 We have calculated displacement factors, allocating displaced EDI passengers to other airports, for those passengers originating in the Scotland and the North West, North East and Yorkshire & Humberside.

13 Eleven alternative airports have been included in the analysis: Aberdeen, Glasgow, Inverness, Leeds Bradford, Gatwick, Heathrow, Manchester, Durham Tees Valley, Newcastle, Prestwick and Stansted. This is because in 2005 these eleven airports accounted for the vast majority of passengers from the above areas that did not travel via EDI.

14 If the expansion of EDI does not take place, the displacement of passengers is assumed to occur in line with the penetration of these alternate airports in the existing regional market not flying via EDI for four market segments (Domestic, International Scheduled Short-Haul, International Scheduled Long-Haul and International Charter).

15 We have assumed that the passengers displaced from EDI can be accommodated at the alternative airports where this is necessary depending on the balance between diverted and stimulated passengers. In relation to a number of the alternative airports, this may increasingly be an unrealistic assumption. In practice, it is likely that the displacement of passengers from EDI would lead to a complex redistribution of traffic between a number of airports. We have simplified this process to only allow distribution across the six airports listed.

Journey Origin/Destination

16 In order to calculate the journey times to/from EDI and alternative airports, we have assumed a single point of origin/destination in each of the following:

- the Local Authority districts within Scotland;
- the counties within the North West, North East and Yorkshire & Humberside.

17 The proportions of EDI terminal passengers starting or ending their journeys at these points have been derived from the 2005 CAA Passenger Surveys.

Around 97% of passengers originate in Scotland, of which 60% are on domestic flights, 28% on short-haul flights and 10% on long-haul flights.

18 It should be noted that we have not assumed any growth in the catchment area of EDI as the number of passengers handled by the Airport expands over the period to 2030. Whilst such a growth in the catchment area is likely to occur, its nature and scale is uncertain and adopting such an assumption could have introduced a bias into the analysis.

Mode of Surface Transport

19 Although the CAA Passenger Surveys distinguish between private cars, hire cars, taxis, charter coaches and public buses, we have assumed that all modes of transport have the same surface access time based on the road access time. While there is an argument for making an allowance for different modes, in reality the time differences are minimal in relation to the overall analysis and it is difficult to adequately predict likely changes in surface access preferences over the period to 2030.

Journey Times

20 The journey times by road have been estimated using the AA website. This website selects the optimum route between two specified points and calculates the journey time based on assumed average speeds for different categories of road. We have not assumed any change in surface journey times over time.

Purpose of Travel

21 The purpose of travel, in terms of either business or leisure, is important because of the implications for the valuation of the journey time saved. Based on the 2005 CAA Passenger Surveys, we have made the following assumptions:

- ✈ around 56% of passengers on domestic flights, 28% of passengers on short haul flights and 22% of passengers on long haul flights were travelling on business;

- ✈ all passengers on international charter flights are assumed to travel for leisure purposes.

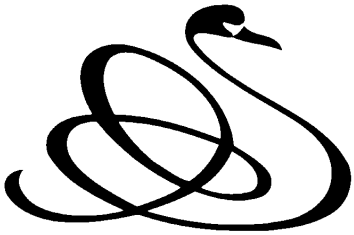
Valuation of Time Savings

22 In order to value the journey time savings attributable to the expansion of EDI we have used the guidelines set out by the Department for Transport in the SPASM Rules and Modelling and User Guide[68], which was issued as part of the Consultation on the Future Development of Air Transport. These values were used in relation to the surface access, wait and transit times for air passengers as part of the Department for Transport's forecasting and appraisal processes relating to the Future of Air Transport White Paper. These values have also been approved by Department for Transport economists in relation to examining journey time savings stemming from route development fund activity in the UK.

23 This results in a value of time per hour (at 2009 prices) of £65.41 for UK business passengers, £75.02 for foreign business passengers and £10.95 for leisure passengers. These values grow at 2.03% per annum to reflect increases in the real value of time.

[68] Department for Transport, SERAS Supporting Documentation, 'Rules and Modelling: A Users Guide to SPASM', January 2002, Halcrow Group Limited and Scott Wilson Kirkpatrick and Company Limited, paragraphs B33-B35.

APPENDIX E: ON-SITE EMPLOYER SURVEY QUESTIONNAIRE



York Aviation

EDINBURGH AIRPORT
EMPLOYER SURVEY

A survey on behalf of
Scottish Enterprise
and BAA Edinburgh

January 2009

Ref No:

Introduction

York Aviation is undertaking an economic impact assessment of Edinburgh Airport, in support of the West Edinburgh Development Partnership. A key part of this work requires us to gather information from employers located on-site at the Airport and we would be grateful for your responses to the questions set out below. Where precise data is not readily available, we would prefer you give estimates rather than no response at all.

We would emphasise that any financial or other information that you provide will be treated in the strictest confidence. This will be seen only by staff of York Aviation and under no circumstances will there be a disclosure of any financial information from individual employers to any third parties.

We are distributing this form by post with a pre-paid envelope for return. We are also sending the form out by e-mail and please feel free to return the form electronically if you prefer to richard.kaberry@yorkaviation.co.uk

If you have any questions please call Richard Kaberry at York Aviation on 01625 614051

Please return the completed form
no later than Monday 9 February 2009

Thank you.

Name of your Company or Organisation:

Type of Business:
(e.g. airline, handling agent, control authority, retailer, etc.)

Name of Respondent:

Position in Company:

Contact Telephone Number:

Employment Information

1 How many staff (including sub-contractors) does your organisation currently employ on-site at Edinburgh Airport? *(Please enter a number in the relevant boxes in the following table))*

Current Employment On-Site at Edinburgh Airport		
	Permanent	**Seasonal**
Full-Time		
Part-Time		
Note: Full-Time = 30 or more hours per week. Part-Time = less than 30 hours per week. Permanent = more than 6 months per year. Seasonal = 6 months or less per year.		

2 How many staff (including sub-contractors) does your organisation currently employ off-site in activities that are both functionally and wholly/largely related to your operations at Edinburgh Airport? *(Please enter a number in the relevant boxes in the following table)*

Current Employment Off-Site near Edinburgh Airport		
	Permanent	**Seasonal**
Full-Time		
Part-Time		

Financial Information

3 What was the total turnover of your organisation at Edinburgh Airport in your last accounting year?

Turnover at Edinburgh Airport	**Year**

£

4 What were the total **wage/salary payments** of your organisation for employees based at, or close to[69], Edinburgh Airport in your last accounting year (as listed in Questions 1 and 2)? *(excluding PAYE, National Insurance and other on-costs)*

Wage/Salary Payments	**Year**

£

5 What was the total operating profit in relation to your company's activites at, or close to, Edinburgh Airport in your last accounting year? *(Please enter the amount and the year*

Profits	**Year**

£

[69] where the employees' primary areas of work relate to Edinburgh Airport

6 What was the total expenditure on purchases of **goods and services** of your organisation for operations based at, or close to[70], Edinburgh Airport in your last accounting year (excluding Uniform Business Rate and VAT)?

Goods & Services	**Year**
£	

7 As accurately as you are able to estimate, please indicate what percentage of your expenditure on goods and services was with suppliers located in the following areas? *(Please enter a percentage in the relevant boxes in the following table)*

Expenditure on Purchases of Goods and Services by Location of Supplier	
Local Authority Areas	**Percentage Expenditure**
On-site at Edinburgh Airport (i.e. bought from another company on site, e.g. fuel, food, ground handling etc)	%
Districts surrounding the Airport*	%
Elsewhere in Scotland	%
Elsewhere in the UK	%
Outside the UK	%
Total	**100%**
* Surrounding districts are Edinburgh City, West Lothian, Midlothian, East Lothian, Scottish Borders, Falkirk, Clackmannanshire and Fife.	

Thank you very much for completing this questionnaire.
Please return it no later than 9 February 2009.

Any financial information will be treated in the strictest confidence.

[70] where the goods and services are related to operations at Edinburgh Airport

APPENDIX F: ORGANISATIONS CONSULTED

List of Organisations Consulted

BAA Edinburgh

CBI Scotland

Edinburgh and Lothians Chamber of Commerce

Edinburgh City Council

Scottish Development International (SDI)

Scottish Enterprise

Scottish Financial Enterprise

Scottish Government

Visit Scotland