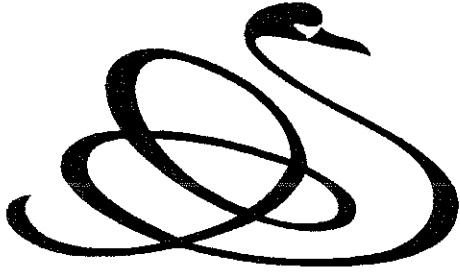


York Aviation

**MANCHESTER AIRPORT GROUP
ECONOMIC IMPACT OF THE MAG AIRPORTS:
UPDATE REPORT**

June 2008



York Aviation

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1 INTRODUCTION

Background

- 1.1 In June 2006 Manchester Airport Group (MAG) published a detailed report by York Aviation on the economic impact of its four airports. This short report presents an update of some key elements of this analysis for each airport. Primarily, this focuses on:
- the employment and income impact of each airport;
 - an updated assessment of the business focussed connectivity offered by Manchester (MAN) and East Midlands (EMA) airports.
- 1.2 It should be noted that the results presented in this report are based upon desk research and new original research has not been undertaken.

Economic Impact Framework

- 1.3 The overall approach that we adopt in considering the economic impact of airports is based on a framework of five categories of effect as set out in **Table 1.1**. This is the standard framework for analysis advocated by ACI Europe and provided the central structure to the original 2006 report. This update report focuses on:
- the employment and income supported by each airport through the direct, indirect and induced effects described below. These effects can be estimated in a robust fashion. However, as these estimates look further into the future they are more sensitive to individual assumptions and to other inputs to the modelling process, most notably the passenger and freight forecasts for each airport, and consequently should be treated with greater caution. The estimates in this report have been based on the survey work undertaken for the original 2006 report¹;

¹ A more detailed explanation of the methodology used to derive these estimates can be found in this report.

**Table 1.1:
Framework of Economic Impact Analysis**

Impact Category	Definition	Examples
Direct On-Site	Employment and income 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.		

- the issue of catalytic impact is more complex. These benefits stem not from the volume of passengers or flights but from an airport's ability to provide connectivity at high levels of frequency to the 'right' destinations. This connectivity enables business travel and supports business productivity, enables trade and influences company location decisions. As such, it is not possible to estimate this effect robustly in terms of employment or income. The 2006 report presented a wide range of evidence that enabled an assessment to be made of the importance of each airport in these terms. We have not sought to repeat this assessment here as this evidence remains valid. However, we have revisited our connectivity index for MAN and EMA to provide an up to date analysis of each airport's relative ability to support catalytic benefits.

Future of Air Transport Progress Report

1.4 In December 2006, the Government presented a Progress Report setting out progress made in implementing the policies and proposals set out in the Future of Air Transport White Paper. This Progress Report highlighted an increasing emphasis on ensuring that air transport meets its external costs and that development of airport capacity meets stringent environmental tests, particularly at Heathrow. Revised air passenger forecasts were presented, which balanced updated assumptions about the cost of carbon with the higher than anticipated growth in air travel, mostly on short haul low fare air services, since the White Paper had been published. Overall, the demand forecasts were similar to those which underpinned the White Paper, taking all factors into account.

1.5 In terms of the economic importance of air services, the Progress Report reaffirms the continuing role of airports in not only providing jobs and prosperity through their operation but also in facilitating economic activity other sectors of the economy:

"The importance of aviation to the economy is rising as a result of broader economic trends:

- *growing global economic integration, which leads to increasing business travel and greater movement of international freight: about one-quarter of the UK's visible trade by value is carried by air;*
- *rising disposable incomes in the UK, which enables more people than ever before to travel abroad for leisure;*
- *increases in the number of foreign visitors and residents travelling to and from the UK;*
- *the UK's success in acting as a hub for international air travel: 15 per cent of international air passengers are flying to or from a UK airport.²*

1.6 The Progress Report then goes on to specifically identify evidence in relation to the role of air services in supporting international competitiveness and in facilitating international trade and travel³.

² Air Transport White Paper Progress Report 2006 – Department for Transport. Page 5.

³ Air Transport White Paper Progress Report 2006 – Department for Transport. Page 24.

Structure of this Report

1.7 This report is structured as follows:

- in **Sections 2 to 5** we present our assessment of the economic impact of Manchester Airport, East Midlands Airport, Bournemouth Airport and Humberside Airport respectively;
- in **Section 6** we present our assessment of the national impact of MAG.

2 MANCHESTER AIRPORT

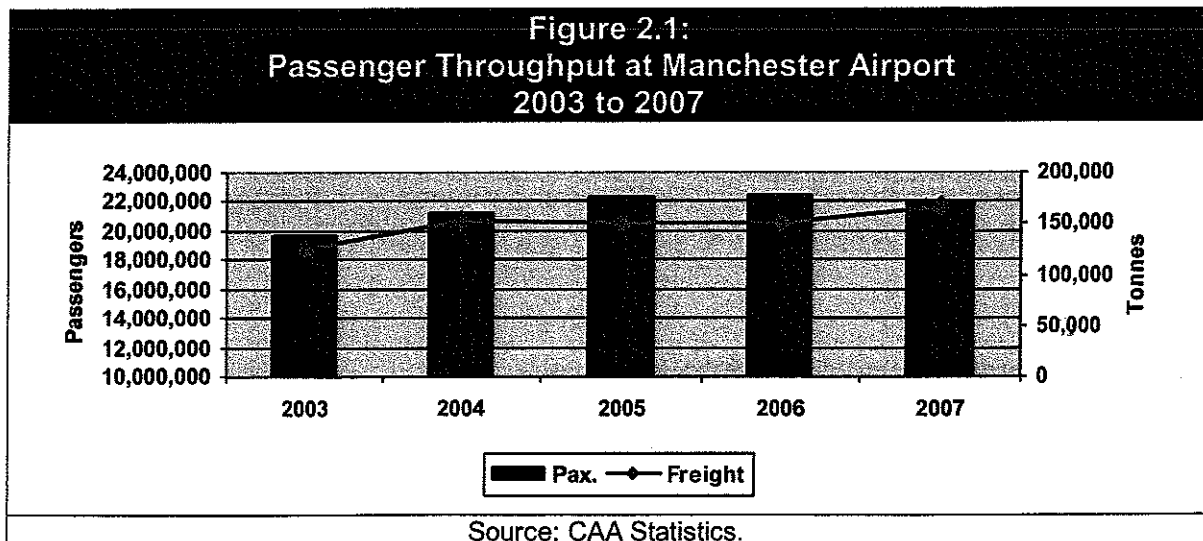
Introduction

2.1 In this Section, we consider the economic impact of the largest of the MAG airports, Manchester. We organise this discussion under the following main headings:

- Developments at the Airport;
- Employment and Income Impact;
- Connectivity at Manchester Airport.

Developments at the Airport

2.2 In **Figure 2.1** we show the passenger throughput at Manchester between 2003 and 2007. This demonstrates that in recent years passenger growth at the airport has slowed considerably and between 2006 and 2007 passenger numbers declined slightly. Since 2003, passenger numbers have grown by around 2.9% per annum. However, the airport remains by far the largest regional airport in the UK.



- 2.3 Over the same period freight throughput has grown by around 7% per annum to around 165,000 tonnes per annum in 2007. MAN is the second largest regional airport in the UK in terms of freight throughput behind EMA.
- 2.4 Currently, the long term forecasts for the airport are being revisited. However, in **Table 2.1** we set out the master plan forecasts for the airport.

**Table 2.1:
Master Plan Forecasts of
Passenger Traffic at Manchester Airport**

	2005	2015	2030	Growth 2005-2030
Passengers (millions):				
Low Growth	22.4	37	50	223%
High Growth		39	55	246%
Freight (Tonnes)				
Low Growth	149,968	270,000	n/a	n/a
High Growth		270,000	n/a	n/a
Source: Manchester Airport.				

- 2.5 The Master Plan envisages the Airport growing substantially over the period to 2030, with passenger throughput increasing to between 37 mppa and 39 mppa in 2015, and then on to between 50 mppa and 55 mppa in 2030. Freight is also forecast to grow significantly to around 270,000 tonnes per annum by 2015.
- 2.6 The passenger throughput in 2007 and the master plan forecasts set out are central to our estimates of the employment and income impact of the airport.

Employment and Income Impact

- 2.7 In **Tables 2.2** and **2.3** we set out our revised estimates for the employment and income impact of MAN in 2007 based on:
- the observed passenger throughput in 2007 of 22.1 million passengers per annum (mppa);

- an assumed growth in productivity on-site since 2005 of 1.8%⁴ and a productivity growth rate of around 2% for the North West economy as a whole taken from the latest Cambridge Econometrics regional forecasts;
- the results of the on-site survey undertaken at Manchester Airport in 2005/06.

**Table 2.2:
Employment Impact of
Manchester Airport in 2007
(Full-time equivalents)**

Location of Employment	Direct		Indirect	Induced	Total
	On-Site	Off-Site			
Greater Manchester	16,520	2,110	10,150	7,100	35,880
Cheshire		700	2,310	1,620	4,630
Elsewhere in the North West			460	320	780
North West Region	16,520	2,810	12,920	9,040	41,290

Notes: All employment estimates have been rounded to the nearest 10 jobs.
The location of employment refers to the location of the workplace not the area of residence of the employee.
The employment estimates do not include any catalytic impacts.

Source:
York Aviation LLP.

**Table 2.3:
Income Impact of
Manchester Airport in 2007
(£ million at 2007 prices)**

Area	Direct		Indirect	Induced	Total
	On-Site	Off-Site			
Greater Manchester	£320	£54	£243	£170	£788
Cheshire	£73	£12	£55	£39	£179
Elsewhere in the North West	£15	£2	£11	£8	£36
North West Region	£408	£69	£310	£217	£1,004

Notes: All income estimates have been rounded to the nearest £1 million.
The income estimates do not include any catalytic impacts.

Source:
York Aviation LLP.

⁴ This is based on the historical rate of productivity growth at MAN over the period 1997 to 2005. It is also in line with the lower end of productivity growth found at large European airports as part of our research for ACI Europe.

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2.8 In 2007 we estimate that around 18,600 people were employed directly on site at Manchester Airport. This equates to around 16,520 full time equivalents. A further 2,810 ftes are employed by organisations directly involved in the operation of the Airport but located in the immediate surrounding area. When indirect and induced effects are included, across the North West, the Airport supports around 41,290 ftes in total. This results in a contribution to regional income of around £1,004 million.

2.9 Extrapolating forward on the basis of the forecasts set out in Table 2.1, we have set out estimates of the future impact of Manchester Airport for two representative future years, 2015 and 2030 in Table 2.4 and 2.5 for the low growth scenario.

Table 2.4: Projected Employment Impact of Manchester Airport Low Growth Scenario (Full-time equivalents)					
Employment Category	Direct		Indirect	Induced	Total
	On-Site	Off-Site			
2015:					
Greater Manchester	23,920	3,050	14,470	10,120	51,560
Cheshire		1,020	3,290	2,300	6,610
Elsewhere in the North West			660	460	1,120
North West Region	23,920	4,070	18,420	12,890	59,290
2030:					
Greater Manchester	25,860	3,300	14,530	10,160	53,850
Cheshire		1,100	3,310	2,310	6,720
Elsewhere in the North West			660	460	1,120
North West Region	25,860	4,400	18,490	12,940	61,690
Notes: All employment estimates have been rounded to the nearest 10 jobs. The employment estimates do not include any catalytic impacts.					
Source: York Aviation LLP.					

Table 2.5:					
Projected Income Impact of Manchester Airport					
Low Growth Scenario					
(£ million at 2007 prices)					
	Direct		Indirect	Induced	Total
	On-Site	Off-Site			
2015:					
Greater Manchester	£535	£91	£406	£284	£1,317
Cheshire	£122	£21	£92	£65	£300
Elsewhere in the North West	£24	£4	£18	£13	£60
North West Region	£681	£116	£517	£362	£1,676
2030:					
Greater Manchester	£723	£123	£549	£384	£1,779
Cheshire	£165	£28	£125	£87	£405
Elsewhere in the North West	£33	£6	£25	£17	£81
North West Region	£920	£156	£699	£489	£2,265
Notes: All income estimates have been rounded to the nearest £1 million. The income estimates do not include any catalytic impacts.					
Source: York Aviation LLP.					

2.10 In **Table 2.6** and **2.7** we set out our estimates of the employment and income impact of Manchester Airport under the high growth scenario.

Table 2.6:					
Projected Employment Impact of Manchester Airport					
High Growth Scenario					
(Full-time equivalents)					
Employment Category	Direct		Indirect	Induced	Total
	On-Site	Off-Site			
2015:					
Greater Manchester	24,780	3,160	14,990	10,490	53,420
Cheshire		1,050	3,410	2,390	6,850
Elsewhere in the North West			680	480	1,160
North West Region	24,780	4,210	19,080	13,350	61,430
2030:					
Greater Manchester	27,950	3,560	15,700	10,990	58,210
Cheshire		1,190	3,570	2,500	7,260
Lancashire			710	500	1,210
North West Region	27,950	4,750	19,990	13,990	66,690
Notes: All employment estimates have been rounded to the nearest 10 jobs. The employment estimates do not include any catalytic impacts.					
Source: York Aviation LLP.					

Table 2.5:
Projected Income Impact of Manchester Airport
High Growth Scenario
(£ million at 2007 prices)

	Direct		Indirect	Induced	Total
	On-Site	Off-Site			
2015:					
Greater Manchester	£562	£95	£427	£298	£1,382
Cheshire	£128	£22	£97	£68	£315
Elsewhere in the North West	£26	£4	£19	£14	£63
North West Region	£715	£122	£543	£380	£1,760
2030:					
Greater Manchester	£792	£135	£602	£421	£1,949
Cheshire	£180	£31	£137	£96	£444
Elsewhere in the North West	£36	£6	£27	£19	£89
North West Region	£1,008	£171	£766	£536	£2,481
Notes: All income estimates have been rounded to the nearest £1 million. The income estimates do not include any catalytic impacts.					
Source: York Aviation LLP.					

2.11 The Airport's Master Plan envisages a substantial growth in passenger numbers by 2030 under both the low and high growth scenarios. With this growth in activity at the Airport comes additional employment and prosperity. In 2015, we estimate that the Airport will support generate between £1,676 million and £1,760 million of income (at 2007 prices) in the North West and support between 59,290 and 61,430 fte jobs in the region. By 2030, this impact is forecast to grow to between £2,265 million and £2,481 million of income (at 2007 prices) and between 61,690 and 66,690 fte jobs.

Connectivity at Manchester Airport

2.12 In our 2006 report we introduced the concept of the value connectivity index. This analysis has been developed in recent years by York Aviation. It seeks to examine the relative 'connectedness' of an airport in terms of its route network's ability to serve business focussed destinations. This index therefore provides a proxy indicator of an airport's ability to support catalytic or wider economic benefits in its catchment area economy. This tool has gained considerable recognition, for instance being used in the recent Eddington Report. Since 2006, York Aviation has continued to refine this measure and consequently an updated analysis for Manchester Airport is shown below. It should be noted that this is not comparable with the index set out in our 2006 report.

2.13 Briefly⁵, the value connectivity index compares the destinations served by an airport against a ranking of world cities derived by the Globalisation and World Cities Network (GaWC) at Loughborough University. This research examined the location decisions of a group of 74 advanced service firms in cities around the world and on this basis identified a hierarchy of global cities that can be seen as an indicator of these cities usefulness and importance as business destinations. The results of this research are summarised below in **Table 2.6**. A score has been allocated to each of the cities in the list of between 1 and 10. An airport's connection to any of these cities is then weighted according to the frequency of service to that destination. These weightings are designed to reflect the differing value of initial and then incremental connectivity, giving greater weight to initial connectivity and early frequency build and then tailing off at higher frequencies where little additional connectivity benefit is being gained.

Table 2.6:	
Globalisation and World Cities Network Inventory of World Cities	
Alpha World Cities	
London, Paris, New York, Tokyo, Chicago, Frankfurt, Hong Kong, Los Angeles, Milan, Singapore	
San Francisco, Sydney, Toronto, Zurich, Brussels, Madrid, Mexico City, Sao Paulo, Moscow, Seoul	
Gamma World Cities	
Amsterdam, Boston, Caracas, Dallas, Düsseldorf, Geneva, Houston, Jakarta, Johannesburg, Melbourne, Osaka, Prague, Taipei, Washington, Bangkok, Beijing, Montreal, Rome, Stockholm, Warsaw, Atlanta, Barcelona, Berlin, Buenos Aires, Budapest, Copenhagen, Hamburg, Istanbul, Kuala Lumpur, Manila, Minneapolis, Munich, Shanghai	
Evidence of World City Formation	
<i>Relatively Strong Evidence</i>	
Athens, Auckland, Dublin, Helsinki, Luxembourg, Lyon, Mumbai, New Delhi, Philadelphia, Rio de Janeiro, Tel Aviv, Vienna	
<i>Some Evidence</i>	
Abu Dhabi, Almaty, Birmingham, Bogota, Bratislava, Brisbane, Bucharest, Cairo, Cleveland, Cologne, Detroit, Dubai, Ho Chi Minh City, Kiev, Lima, Lisbon, Manchester, Montevideo, Oslo, Rotterdam, Riyadh, Seattle, Stuttgart, The Hague, Vancouver	
<i>Minimal Evidence</i>	
Adelaide, Antwerp, Arhus, Baltimore, Bangalore, Bologna, Brazilia, Calgary, Cape Town, Colombo, Columbus, Dresden, Edinburgh, Genoa, Glasgow, Gothenburg, Guangzhou, Hanoi, Kansas City, Leeds, Lille, Marseille, Richmond, St Petersburg, Tashkent, Tehran, Turin, Utrecht, Wellington	
Source:	
'Introducing GaWC: Researching World City Network Formation' by P.J. Taylor, D.R.F Walker and J.V. Beaverstock.	

⁵ A more detailed explanation of the methodology can be found in Appendix A.

2.14 As described above, the connectivity index is a relative measure. In other words MAN needs to be compared to something meaningful to give the indicator meaning. We have, therefore, compared MAN performance against two groups:

- the main airports serving the English core cities group;
- a number of other major European airports serving cities comparable to Manchester in size and status.

2.15 The results of this analysis in relation to the main airports serving the English Core Cities are set out in **Table 2.7**.

**Table 2.7:
The Value Connectivity of Manchester Airport
English Core Cities Analysis**

City	Main Airport	Score	Index
Manchester	Manchester	142	100
Birmingham	Birmingham	95	67
Bristol	Bristol	66	46
Leeds	Leeds Bradford	49	34
Nottingham	East Midlands	46	33
Newcastle	Newcastle	44	31
Liverpool	Liverpool	37	26
Sheffield	Doncaster Sheffield	3	2

Source: York Aviation.

2.16 MAN is by the best connected of this group of airports, substantially above its nearest rival, Birmingham. This makes Manchester the best connected of the English Core Cities. However, it is also important to consider MAN's role in relation to some of the other Core Cities. The air transport market in the UK is complex, with many airports and major cities relatively close to each other and consequently there is substantial overlap between airport catchment areas. MAN is within around one hours drive of Leeds, Liverpool and in Sheffield. Considering the relatively low connectivity offered by the smaller airports closest to these cities, it must also be assumed that MAN acts as the primary international gateway for business travel for these cities as well. In other words, MAN has firmly established itself as the primary provider of business focussed connectivity for the North of England.

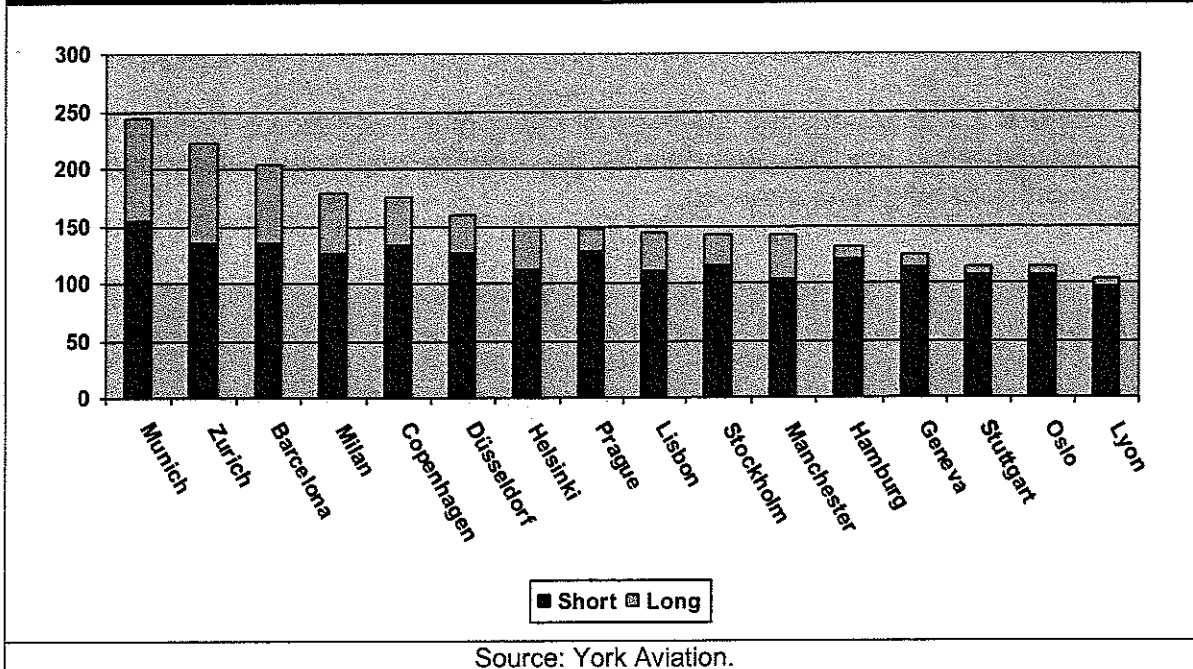
- 2.17 The results in terms of our analysis of European comparators are set out in **Table 2.8**. In the main the results of this analysis are less positive. Manchester ranks relatively low within this comparator group, with a substantial number of comparator cities having access to a substantially greater quantum of business focussed connectivity.
- 2.18 **Figure 2.1** examines the make-up of the connectivity scores in more depth, concentrating on the elements of the connectivity score stemming from short⁶ and long haul services.

City/Airport	Score	Index
Munich	244	172
Zurich	223	157
Barcelona	204	144
Milan (Malpensa)	179	126
Copenhagen	175	123
Düsseldorf	160	113
Helsinki	150	106
Prague	148	104
Lisbon	143	101
Stockholm	142	100
Manchester	142	100
Hamburg	132	93
Geneva	125	88
Stuttgart	115	81
Oslo	114	80
Lyon	104	73

Source: York Aviation.

⁶ Domestic services have been included within short-haul for the purposes of this analysis.

Figure 2.1:
Value Connectivity of European Comparators
Short and Long Haul Services



Source: York Aviation.

2.19 This analysis demonstrates two key points:

- firstly, Manchester's short haul network is amongst the weakest in the group. Only Lyon ranks below Manchester. This may reflect the recent expansion of low fares services at the airport, which tend to offer lower frequencies and often focus on more leisure orientated destinations. The sale of BA Connect to Flybe and the consequent change in focus in this network may also be a factor;
- secondly, Manchester's long-haul network is relatively extensive, ranking sixth within group. However, in absolute terms it is some way behind airports such as Munich, Zurich and Barcelona.

- 2.20 Overall, it seems clear that MAN is a vital asset not just for Manchester but much of the North of England. It provides by far the most effective international gateway for business travellers. However, its performance in comparison to airports serving European cities of similar status is less positive. Expansion and deepening of the route network is required if the airport's catchment area economies are not to be disadvantaged compared to their European rivals.



**APPENDIX A:
CALCULATION OF THE VALUE CONNECTIVITY MEASURE**



Introduction

Below we have set out some more details as regards the calculation of the value connectivity 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 value connectivity 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

As described in the main body of the report, a destination's score is determined by the city destination's position in the GaWC ranking of world cities shown in **Table A1**.

This hierarchy was derived from research undertaken by the GaWC in to the location decisions of 74 advanced service firms (for instance accountants, advertising agencies and legal firms). Based on both the presence of these firms and the size of this presence, the GaWC ranked 122 cities as either Alpha, Beta, Gamma or Emerging World Cities, including a number of sub-bands. We have taken these results as a proxy for these cities' positions as global business centres and we have scored each city on this basis between 1 and 10. For instance, London and New York would both score 10, while Turin and Utrecht would score 1.

Table A1: Globalisation and World Cities Network Inventory of World Cities	
Alpha World Cities	
London, Paris, New York, Tokyo, Chicago, Frankfurt, Hong Kong, Los Angeles, Milan, Singapore	
Beta World Cities	
San Francisco, Sydney, Toronto, Zurich, Brussels, Madrid, Mexico City, Sao Paulo, Moscow, Seoul	
Gamma World Cities	
Amsterdam, Boston, Caracas, Dallas, Düsseldorf, Geneva, Houston, Jakarta, Johannesburg, Melbourne, Osaka, Prague, Taipei, Washington, Bangkok, Beijing, Montreal, Rome, Stockholm, Warsaw, Atlanta, Barcelona, Berlin, Buenos Aires, Budapest, Copenhagen, Hamburg, Istanbul, Kuala Lumpur, Manila, Minneapolis, Munich, Shanghai	
Evidence of World City Formation	
<i>Relatively Strong Evidence</i>	
Athens, Auckland, Dublin, Helsinki, Luxembourg, Lyon, Mumbai, New Delhi, Philadelphia, Rio de Janeiro, Tel Aviv, Vienna	
<i>Some Evidence</i>	
Abu Dhabi, Almaty, Birmingham, Bogota, Bratislava, Brisbane, Bucharest, Cairo, Cleveland, Cologne, Detroit, Dubai, Ho Chi Minh City, Kiev, Lima, Lisbon, Manchester, Montevideo, Oslo, Rotterdam, Riyadh, Seattle, Stuttgart, The Hague, Vancouver	
<i>Minimal Evidence</i>	
Adelaide, Antwerp, Arhus, Baltimore, Bangalore, Bologna, Brazilia, Calgary, Cape Town, Colombo, Columbus, Dresden, Edinburgh, Genoa, Glasgow, Gothenburg, Guangzhou, Hanoi, Kansas City, Leeds, Lille, Marseille, Richmond, St Petersburg, Tashkent, Tehran, Turin, Utrecht, Wellington	
Source: 'Introducing GaWC: Researching World City Network Formation' by P.J. Taylor, D.R.F Walker and J.V. Beaverstock.	

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 is substantially more limited.

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 value connectivity 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.

