## CASE STUDY 1 – UK-US RIGHTS FOR A MIDDLE EASTERN AIRLINE

### A Dubai-Manchester-Houston service by Emirates

1 This study considers the possible way in which a Middle East airline might use fifth-freedom rights from a UK regional airport to the US and assumes that Emirates might wish to mount a service from Dubai via Manchester to Houston. Such a route would directly affect the markets between:

- Dubai and Houston;
- Manchester and Houston;
- Manchester and Dubai;
- Manchester and destinations beyond Dubai.

### Emirates' operations to the UK

2 Emirates is a UAE based airline, with its hub at Dubai International Airport. The airline serves more than 70 destinations in 50 different countries, and as one of the fastest growing airlines in the world, now has a fleet of over 50 aircraft with an additional 45 Airbus A380s scheduled for delivery from September 2006.

3 At present, Emirates serves five different points in the UK directly from Dubai, three of which are regional airports. Table 1 illustrates the airline's current schedule and number of flights:

**Table 1 – Emirates' current schedule to the UK**

| *Destination* | *Flights* |
|---|---|
| Birmingham | Daily |
| Glasgow | Daily |
| Gatwick | 3 Daily flights |
| Heathrow | 4 Daily flights |
| Manchester | 2 Daily flights (a) |

*Source: OAG, September 2004*
*Note: (a) BA operates a code-share agreement on one of Emirates' two daily flights*

4 Each of the five points served in the UK by Emirates has at least a daily flight, and each of the flights fly directly to Dubai. Table 2 shows the number of passengers carried by Emirates over the last ten years from these airports. Until 1998, some of Emirates' flights were to Abu Dhabi but these were discontinued and the airline focused exclusively on services to Dubai. Emirates has flown from Gatwick since 1987, from Heathrow since 1991 and from Manchester since 1992. It introduced a direct service from Birmingham in late 2000 and from Glasgow in 2004.

**Table 2 – Emirates' passenger volumes on UK routes, 1994-2004**

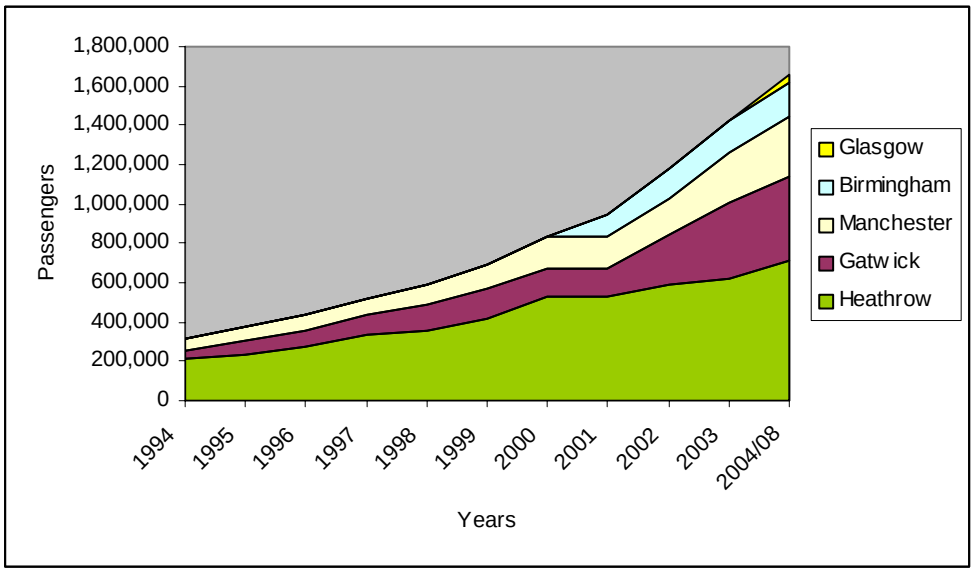
| *Year* | *Heathrow* | *Gatwick* | *Manchester* | *Birmingham* | *Glasgow* | *Total* |
|---|---|---|---|---|---|---|
| 1994 | 217,883 | 33,012 | 63,790 | -- | -- | 314,685 |
| 1995 | 230,919 | 78,789 | 67,653 | -- | -- | 377,360 |
| 1996 | 271,859 | 87,764 | 74,409 | -- | -- | 434,033 |
| 1997 | 332,850 | 100,284 | 86,703 | -- | -- | 519,837 |
| 1998 | 358,813 | 130,664 | 101,248 | -- | -- | 590,725 |
| 1999 | 413,326 | 153,222 | 123,085 | -- | -- | 689,633 |
| 2000 | 529,000 | 141,515 | 158,869 | 3,620 | -- | 833,005 |
| 2001 | 533,097 | 141,280 | 159,734 | 114,398 | -- | 948,509 |
| 2002 | 589,340 | 254,109 | 178,992 | 152,747 | -- | 1,175,188 |
| 2003 | 620,852 | 390,125 | 253,670 | 155,099 | -- | 1,419,747 |
| Yr to Aug04 | 707,112 | 428,054 | 311,539 | 166,966 | 46,442 | 1,660,112 |

*Source: CAA Airport Statistics (Reduced by 6% to account for non-revenue passengers)*
*Note: In the period 1994-1997, Emirates served Abu Dhabi as well as Dubai and the traffic volume for these years covers both points*

5 The data in Table 2 does not appear to show a clear interaction between the Emirates' services at the different airports. Although the growth of traffic at Birmingham in 2001 was accompanied by little growth on the three established routes, 2001 was a difficult year for long-haul services generally. Since then all the routes have grown but the rates of growth vary from year to year and airport to airport.

6 Emirates' total traffic has grown at an average rate of over 18% a year and it is now more than five times greater than that in 1994 (see Figure 1).

**Figure 1 – Emirates' passenger carryings, 1994-2004**




*Source: CAA Airport Statistics (Reduced by 6% to take account of non-revenue passengers)*

7 Table 3 shows Emirates' traffic carryings on its UK routes in the latest available twelve-month period. The seat factors on its established regional routes are relatively high compared with the London routes while the Glasgow route is still in its initial period.

**Table 3 – Emirates' UK-Dubai scheduled services in year to August 2004**

| | | *Point-to-point Passengers* | *Flights* | *Terminal Passengers* | *Transit Passengers* | *Total Passengers* | *Seats* | *Estimated Seat Factor* |
|---|---|---|---|---|---|---|---|---|
| | Birmingham | 166,966 | 739 | 166,966 | 0 | 166,966 | 228,817 | 73% |
| | Glasgow | 46,442 | 288 | 46,442 | 0 | 46,442 | 80,064 | 58% |
| | Gatwick | 428,054 | 2,201 | 435,450 | 0 | 435,450 | 718,248 | 61% |
| | Heathrow | 707,112 | 2,515 | 707,112 | 159 | 707,271 | 937,210 | 75% |
| | Manchester | 311,539 | 1,463 | 311,539 | 321 | 311,860 | 407,904 | 76% |
| *Total* | | *1,660,113* | *7,206* | *1,667,509* | *480* | *1,667,989* | *2,372,243* | *70%* |

*Source: CAA Airport Statistics (Reduced by 6% to account for non-revenue passengers)*

8 Emirates operates an A330-200 on Manchester-Dubai. It configures these aircraft in two different ways: with and without First Class. The aircraft with First Class has 12 First, 42 Business and 183 Economy seats whereas the other configuration has 27 Business and 251 Economy seats. Currently Emirates advertises a Business/Economy product on Manchester-Dubai and the statistics in the above table are consistent with a 278-seat aircraft. This suggests that a new service through Manchester might use this relatively high-density aircraft. However, Emirates does offer First Class on its London routes which have high levels of US connectors so it is possible that Emirates may wish to offer a First Class product on a service to the US. In this study it is therefore assumed that Emirates offers a daily A330-200 configured with 237 seats and that this is additional to its current twice-daily operation[1].

9 Another option would be for Emirates to run one of its current Manchester flights through to the US. Table 3 indicates that its Manchester-Dubai seat factor is already relatively high so through-running one of these services could result in a lack of seat availability for Manchester-Dubai passengers. In the short term this may be a less risky strategy for Emirates (see Study 4) and so this study, which is based on the assumption that Emirates adds a third daily service to Manchester which runs through to the US, arguably represents more of a medium-term possibility.

## Characteristics of Emirates' traffic

10 Analysis of survey data offers an insight into the nature of the traffic on the UK-Dubai sector. Table 4 shows the breakdown by journey type of the passengers on Emirates' services from Dubai in 2003.

[1] If a 278-seat configuration is assumed then the net benefits on Manchester-Houston will be slightly higher than those shown in Table 27.

**Table 4 – Emirates' UK-Dubai passengers by journey type in 2003**

| | | < - - - - - - - - - - - Connecting in - - - - - - - - - > | | | |
|---|---|---|---|---|---|
| | *OD* | *UK* | *Dubai* | *Both* | *Total* |
| Birmingham | 27,186 | 3,958 | 82,194 | 6,626 | 119,965 |
| | 23% | 3% | 69% | 6% | 100% |
| Manchester | 45,843 | 19,049 | 185,357 | 4,550 | 254,799 |
| | 18% | 7% | 73% | 2% | 100% |
| Gatwick | 63,057 | 25,961 | 201,595 | 124,537 | 415,151 |
| | 15% | 6% | 49% | 30% | 100% |
| Heathrow | 114,614 | 87,242 | 312,656 | 141,073 | 655,586 |
| | 17% | 13% | 48% | 22% | 100% |
| *Total* | *250,700* | *136,212* | *781,803* | *276,787* | *1,445,501* |
| | *17%* | *9%* | *54%* | *19%* | *100%* |

*Source: CAA O & D Survey, 2003*

11 OD or "end-to-end" or "local" passengers (i.e. those whose air journey does not involve a connection at either end of the route) account for only about a fifth of the total traffic on all four routes. At Gatwick, Birmingham and Manchester 75% or more of Emirates' passengers connect at Dubai and, even at Heathrow, the equivalent figure is 70%. 30% of Gatwick passengers connected both in the UK and in Dubai, while the equivalent figure for Manchester is only 2%.

**Table 5 - Emirates' UK-Dubai OD traffic by residence and journey purpose, 2003**

| | < - - - - - - - - - - UK - - - - - - - > | | | < - - - - - - - Foreign - - - - - - - > | | | < - - - - - - - - -Total - - - - - - > | | |
|---|---|---|---|---|---|---|---|---|---|
| | *Business* | *Leisure* | *Total* | *Business* | *Leisure* | *Total* | *Business* | *Leisure* | *Total* |
| Birmingham | 3,123 | 14,198 | 17,321 | 2,292 | 7,573 | 9,864 | 5,415 | 21,771 | 27,186 |
| | 11% | 52% | 64% | 8% | 28% | 36% | 20% | 80% | 100% |
| Manchester | 6,999 | 26,628 | 33,627 | 1,037 | 11,179 | 12,216 | 8,036 | 37,807 | 45,843 |
| | 15% | 58% | 73% | 2% | 24% | 27% | 18% | 82% | 100% |
| Gatwick | 9,571 | 46,372 | 55,943 | 773 | 6,341 | 7,114 | 10,344 | 52,713 | 63,057 |
| | 15% | 74% | 89% | 1% | 10% | 11% | 16% | 84% | 100% |
| Heathrow | 21,700 | 25,398 | 47,098 | 33,394 | 34,122 | 67,516 | 55,094 | 59,520 | 114,614 |
| | 19% | 22% | 41% | 29% | 30% | 59% | 48% | 52% | 100% |
| *Total* | *41,393* | *112,596* | *153,989* | *37,496* | *59,215* | *96,710* | *78,889* | *171,811* | *250,700* |
| | 17% | 45% | 61% | 15% | 24% | 39% | 31% | 69% | 100% |

*Source: CAA O & D Survey, 2003*

12 Table 5 shows a breakdown of Emirates' UK-Dubai end-to-end traffic by residence and journey purpose. There is a significant difference between Emirates' traffic at Heathrow compared with the other airports:

- About 20% of Emirates' passengers travelling from Heathrow to Dubai are UK residents travelling for leisure but this number increases to 50% or more at the regional airports and at Gatwick;
- At Gatwick, Manchester and Birmingham, business travellers account for no more than 20% of Emirates' traffic but, at Heathrow, there is an approximately even split between leisure and business passengers;
- Foreign business passengers form nearly a third of traffic at Heathrow but less than 10% at the other airports.

In summary, Emirates' traffic to/from the UK is growing remarkably quickly and its regional services depend heavily on the traffic connecting at its Dubai hub and on the UK leisure market.

## The Dubai-Houston market

13 If Emirates operate a Dubai-US service through Manchester, then it may well attract passengers who currently fly from Dubai to the UK and who then connect on to a US flight. Tables 6 and 7 show the five most popular US destinations for passengers arriving from Dubai, and connecting at Heathrow or Gatwick respectively.

**Table 6 – The main flows from Dubai to the US over Heathrow**

| | *Passengers* | *Share of total Dubai-LHR-US connectors* |
|---|---|---|
| Washington | 24,073 | 23% |
| Newark | 18,438 | 17% |
| New York | 11,271 | 11% |
| San Francisco | 11,176 | 11% |
| Los Angeles | 8,523 | 8% |

*Source: CAA O & D Survey, 2003*
*Note: In this table and in Table 7 passengers are classified by their final airport in the US. So a passenger who flies Dubai-Heathrow-Newark-Los Angeles is categorised as a Los Angeles passenger.*

**Table 7 – The main flows from Dubai to the US over Gatwick**

| | *Passengers* | *Share of total Dubai-LGW-US connectors* |
|---|---|---|
| Houston | 18,961 | 20% |
| Dallas | 15,047 | 16% |
| Atlanta | 8,087 | 9% |
| Newark | 4,251 | 4% |
| Detroit | 3,298 | 3% |

*Source: CAA O & D Survey, 2003*
*Note: See note to Table 6.*

14 Washington, Newark and New York are the three most popular destinations by Dubai-originating passengers travelling through Heathrow to the US, while Houston, Dallas and Atlanta are the Gatwick equivalents. Newark is the only city to appear in both lists. The Bermuda 2 agreement prevents airlines flying non-stop from Heathrow to US airports such as Houston, Dallas and Atlanta so that passengers often do not have an unrestricted choice between the two London airports and some connections involve a transfer between Heathrow and Gatwick.

15 Emirates currently has a direct service from Dubai to New York and the only other US destination featured on its website is Houston. Emirates advertises a service from Dubai to Houston over London on which it codeshares on Continental's Gatwick-Houston service.

16 A new service Dubai-Manchester-Houston could attract passengers away from the Emirates/Continental code-share and also from alternative connection possibilities at UK airports. Table 8 shows the number of passengers that flew from Dubai to Houston over London in 2003, and the airlines with which they flew in order to complete their journey.

**Table 8 – Passengers flying from Dubai to Houston (and vice versa) via a London airport.**

| | *Passengers travelling from London to Dubai* | | | | | | |
|---|---|---|---|---|---|---|---|
| *Passengers travelling from London to the US* | *BA* | | | *Emirates* | | | |
| | *Business* | *Leisure* | *Total* | *Business* | *Leisure* | *Total* | *Overall Total* |
| BA | 2,346 | 796 | 3,142 | 30 | 1,715 | 1,745 | 4,887 |
| Continental | 0 | 0 | 0 | 3,146 | 33,423 | 36,569 | 36,569 |
| *Total* | *2,346* | *796* | *3,142* | *3,176* | *35,138* | *38,314* | *41,456* |

*Source: CAA O & D Survey, 2003*
*Note: The table includes all passengers for whom Houston is the immediate airport in the US (whereas Tables 6 and 7 include those passengers whose final airport is Houston) and Dubai the immediate airport in the East. The table therefore includes passengers who connect at Houston or Dubai or both. It should also be noted that connecting flows can vary by direction; Table 8 covers both eastbound and westbound flows whereas Tables 6 and 7 cover only westbound flows.*

17 The code-share between Emirates and Continental appears to have captured the majority of passengers travelling via London. Approximately 90% of passengers flew with Emirates from Dubai to London, before catching a connecting direct flight with Continental direct to Houston. BA carries relatively few Dubai-Houston passengers and this can in part be attributed to the fact that BA only offers scheduled flights from Dubai to Heathrow, while the airline is only permitted to fly non-stop to Houston from Gatwick[2]. The inconvenience of having to travel between Heathrow to Gatwick or travel to Houston one-stop from Heathrow in order to fly with BA for the entire journey appears to make the Emirates-Continental service much the more attractive option.

18 However, the link-up between Emirates (EK) and Continental (CO) still involves a waiting time of over three hours in each direction, as is shown in Tables 9 and 10.

**Table 9 – Emirates/Continental Houston-London-Dubai Schedule**

| *Airline* | *Depart Houston* | *Arrive Gatwick* | *Waiting Time* | *Airline* | *Depart Gatwick* | *Arrive Dubai* |
|---|---|---|---|---|---|---|
| CO/EK | 1600 | 650 | 3hrs 10 mins | Emirates | 1000 | 2050 |
| CO/EK | 1900 | 955 | 3hrs 45 mins | Emirates | 1340 | 30 |
| | | | 10hrs 30 mins | Emirates | 2025 | 715 |

*Source: November OAG, 2004*

**Table 10 – Emirates/Continental Dubai-London-Houston Schedule**

| *Airline* | *Depart Dubai* | *Arrive Gatwick* | *Waiting Time* | *Airline* | *Depart Gatwick* | *Arrive Houston* |
|---|---|---|---|---|---|---|
| Emirates | 245 | 625 | 3 hrs 5 mins | CO/EK | 930 | 1350 |
| Emirates | 755 | 1135 | | | | |
| Emirates | 1455 | 1825 | | | | |

*Source: November OAG, 2004*

[2] In June 2004 BA operated a daily 777 from Heathrow to Houston over Chicago. The flight takes 2hr 15m longer than the non-stop flight from Gatwick westbound and 2hr 35m eastbound.

19 It is conceivable therefore that a through-plane routeing via Manchester could offer a time saving to passengers as well as avoiding the inconvenience of changing flights. It would also allow a true same-airline journey and provide more control to Emirates over areas such as pricing.

**Assumptions about Emirates' use of capacity**

20 The Dubai-Houston market (including passengers connecting at Dubai or Houston or both) is clearly quite substantial given that the routeing over London which carries 41,000 passengers is only one possible travel option, albeit perhaps the most popular one. If Emirates were to wish to offer a true online[3] product over Manchester (and there are doubts as to whether it would do this[4]), then it would need to dedicate a significant proportion of its aircraft to Dubai-US traffic. Here, it is assumed that 50% of the capacity (about 87,000 seats a year) is given over to this transit flow through Manchester and the remaining 50% is available for the local markets. Further, it is assumed (based on the data of Table 4) that on the Manchester-Dubai sector 20% of the local capacity will be used by Manchester-Dubai OD passengers and the remaining 80% by passengers travelling between Manchester and points beyond Dubai.

**Effect on UK airlines in the Dubai-Houston market**

21 Table 8 indicates that the Dubai-Houston market generates for BA the following sector passengers:

- 2,376 Business passengers on London-Houston
- 2,346 Business passengers on London-Dubai
- 2,511 Leisure passengers on London-Houston
- 796 Leisure passengers on London-Dubai

22 IPS data for 2003 indicates the average one-way yields for UK gateway-to-gateway passengers shown in Table 11.

**Table 11 – Average yields in 2003**

| | *Business* | *Leisure* |
|---|---|---|
| Heathrow-Dubai | £611 | £242 |
| Gatwick-Dubai | £468 | £317 |
| Gatwick-Houston | £727 | £209 |

*Source: IPS 2003*

If BA's revenue from a through passenger is equal to the sum of the sector fares, then these passengers may generate £3.9m revenue for BA.

[3] An online product implies that all the air travel takes place on the services of one airline and, in this instance, would be an Emirates' flight from Dubai to Manchester linking with an Emirates' flight from Manchester to Houston (or a through-plane service). In contrast, an offline connection involves the flights of two separate airlines but code-sharing allows the two airlines to offer an intermediate product with some of the attributes of an online connection.

[4] Emirates already has an apparently successful co-operation with Continental and a transatlantic fifth-freedom service may not fit too well with its hubbing strategy at Dubai where economies may be gained by retaining the compactness of the network.

23 It is difficult to predict how many of these passengers might be drawn to the new Emirates service and for this study it is assumed that Emirates might attract half of BA's current traffic. However, Heathrow and, to a lesser extent, Gatwick are congested and demand is suppressed at peak times. Because of this and there is the possibility that a passenger lost from a service at either of the airports can be replaced much more easily than one from a relatively thin route at Manchester. However, there are peaks and troughs in demand even for services from London and it would be overly optimistic to suggest that every lost passenger could simply be replaced at the same yield in the short term. This problem was discussed in the 1994 CAA study and it was concluded that, on a high seat factor flight, replacement in the Economy cabin could be assumed on up to 35% of occasions[5]. London is more congested now and it may therefore be appropriate to raise this short-term replacement rate generally to 50%. However, the Dubai-Houston flow is primarily business traffic and, as noted in the 1994 study, it may only be possible to replace numerically lost Business Class traffic with Economy passengers, possibly upgrading some higher-yielding Economy passengers.

24 For the purposes of this study therefore, it is assumed that BA might lose 50% of its traffic to the new service but with replacement the net loss might be 25% in terms of passenger numbers although there is a rather greater impact in revenue terms. Under these assumptions, BA may lose 2,000 sector passengers on both the London-Dubai and the London-Houston sectors equivalent to around £1.5m revenue.

[5] The study examined the effects of replacing traffic by lowering yield and of replacement stemming from reduced overspill at peak times, together with the implications of the sophisticated yield management techniques which airlines use extensively.

## The Manchester-Houston market

25 There are currently no direct services between Manchester and Houston so the main options open to a passenger with an OD in the North West region of England are:

- To fly from Manchester to an intermediate hub where a connection to Houston can be made;
- To travel by surface to Gatwick to catch a direct flight to Houston

### Flying from Manchester

26 Table 12 shows a list of typical options available to a passenger wishing to fly from Manchester to Houston in August 2004.

**Table 12 – Sample passenger options for a return trip from Manchester to Houston**

| *Airline* | *Via* | *Outbound Time* | *Cost* |
|---|---|---|---|
| 1) KLM | Amsterdam (AMS) | 24 hrs** | £674.20 |
| 2) Delta | Atlanta (ATL) | 13 hrs 38 mins | £705.10 |
| 3) BMI | Chicago (ORD) | 12 hrs 53 mins | £716.50 |
| 4) KLM | Amsterdam (AMS) | 13 hrs 30 mins | £724.20 |
| 5) Continental | Newark (JFK), Boston | 12 hrs 40 mins | £729.20 |
| 6) BA | London (LGW) | 13 hrs 0 mins | £731.80 |

*Source: The Expedia website on 14 July 2004 for a trip on 4 August returning on 18 August.*

*Notes: All flights are return flights*

** *Requires overnight stay*

27 Excluding the KLM option which required an overnight stay in Amsterdam, the indirect flight time was typically around 13 hours so there is scope for time savings through the introduction of a direct service from Manchester to Houston. The direct journey time[6] is estimated as averaging 9 hours 30 minutes, i.e. about ten hours westbound and nine eastbound. So, the time saving may be at least some three hours per sector.

### Surface to Gatwick

28 Table 13 shows the various methods and associated costs for passengers from the North West (Manchester is used in the example) who choose to travel by surface to Gatwick.

[6] The great circle distance between Manchester and Houston is 7,591 km. A regression of flight times (taking the average of eastbound and westbound times) against distance for a sample of UK-US routes indicated the relationship: *time in minutes = 87.6 + 0.0636*distance.*

**Table 13 – Return surface travel costs to Gatwick**

| | *Time/ticket cost from Manchester* |
|---|---|
| By Road | 4 hrs, 16mins - £44.16 |
| By Air | 45 mins - £63 |
| By Rail | 4 hours - £58.60 |

*Assuming that the passenger is travelling to London on 4 August and returning on 18 August*

*All prices are calculated as return trips*

*By Rail: All prices quoted are the cheapest available for the given journey at the time of going to press*

*Sources: By Road (AA website), by air (BA website), by rail (Trainline website)*

29 The cheapest method of arriving in London from both Manchester and Leeds is by road, at around £45, but this figure makes no allowance for parking charges. Otherwise, the train is the cheapest option, at just less than £60 from both Manchester and Leeds. This cost would have to be added to the cost of the flight ticket from London to Houston and as Table 14 indicates, the Expedia fares from London were at a broadly similar level to those from Manchester shown in Table 12.

**Table 14 – Sample passenger options for a return trip from London to Houston**

| *From* | *Airline* | *Via* | *Outbound Time* | *Return Cost* |
|---|---|---|---|---|
| 1) LHR | KLM | Amsterdam | 23 hrs 15 mins** | £673 |
| 2) LGW | Continental | Newark | 12 hrs 46 mins | £675 |
| 3) LHR | BA | Miami | 14hrs 38 mins*** | £690 |
| 4) LGW | Delta | Cincinnati | 13 hrs 25 mins | £701 |
| 5) LGW | BA | Direct | 10 hrs 10 mins | £715 |
| 6) LGW | Delta | Atlanta | 12 hrs 46 mins | £726 |

** Requires overnight stay
*** US leg operated by alliance member

30 IPS data indicates that typical average one-way equivalent fares for London-Houston are £727 for a business passenger and £209 for a leisure passenger (see Table 11). In the evaluation it is assumed that these typical yields apply to the new Manchester-Houston route[7] and that leisure passengers currently travelling indirectly from Manchester pay an additional £25 one way and business passengers £89 one way.

## Current travel patterns

31 Table 15 shows the number of passengers that flew from Manchester to Houston indirectly in 2003. The table only includes those passengers whose air journey ends at Houston but it does cover passengers using Manchester who originated in any region of England, not just the North West.

[7] A fifth-freedom airline's fares are likely to be less than those of a third/fourth-freedom airline but this could represent perceived quality differences.

32 The table shows that in 2003 there were approximately 15,500 passengers who flew from Manchester to Houston, via an intermediate point. The majority of these passengers flew through a US hub. The option of flying to a European gateway was taken by only a small number of passengers but some 5,000 passengers flew from Manchester to Gatwick, and then on to Houston. Most of passengers who flew indirectly from Manchester to Houston were leisure passengers, although the estimated journey purpose split is subject to sampling error.

**Table 15 – Passengers travelling between Manchester and Houston by air services**

| | *< - - - - - - - - UK - - - - - - - - >* | | | *< - - - - - - - - Foreign - - - - - - >* | | | *< - - - - - - - - Total - - - - - - - >* | | |
|---|---|---|---|---|---|---|---|---|---|
| | *Business* | *Leisure* | *Total* | *Business* | *Leisure* | *Total* | *Business* | *Leisure* | *Total* |
| via LGW | 1,158 | 3,111 | 4,269 | 918 | --- | 918 | 2,076 | 3,111 | 5,186 |
| | *22%* | *60%* | *82%* | *18%* | *---* | *18%* | *40%* | *60%* | *100%* |
| via US or Canadian gateway | 1,434 | 5,447 | 6,881 | 1,377 | 1,379 | 2,756 | 2,810 | 6,826 | 9,637 |
| | *15%* | *57%* | *71%* | *14%* | *14%* | *29%* | *29%* | *71%* | *100%* |
| via European hub | --- | 539 | 539 | --- | 229 | 229 | --- | 768 | 768 |
| | *---* | *70%* | *70%* | *---* | *30%* | *30%* | *---* | *100%* | *100%* |
| *Total* | *2,592* | *9,096* | *11,689* | *2,294* | *1,608* | *3,903* | *4,886* | *10,705* | *15,591* |
| | *17%* | *58%* | *75%* | *15%* | *10%* | *25%* | *31%* | *69%* | *100%* |

*Source:* *CAA O & D Survey, 2003*
*All passengers in the above table flew from Manchester to the intermediate airport*
*Data based on a small sample and subject to large sampling errors.*
*Notes:* *All passengers originating in all regions are included in the above table, not solely those Originating in the North West*

33 Very few passengers originating in the North West travelled by surface to London to fly to Houston in 2003. As previously stated, it is not possible to fly non-stop to Houston from Heathrow so most passengers chose the Gatwick option.

## The North West-Houston OD market

34 Table 16 summarises the market that currently exists for passengers originating in the North West of England and travelling to Houston or *vice versa*.

**Table 16 –North West-Houston OD Market Breakdown**

| *Mode of Travel* | *Flying From* | *Via* | *Passenger Numbers* |
|---|---|---|---|
| By air | Manchester | Direct | ---- |
| | Manchester | UK | 4,269 |
| | Manchester | Other | 6,270 |
| By surface | Gatwick | Direct | 330 |
| *Total* | | | *10,869* |

## The Manchester-Dubai market

35 Table 17 shows the surface origin of passengers using the four UK airports that offered direct services to Dubai in 2003. The table shows that Heathrow and Gatwick primarily serve the South East, Manchester the North West and Yorkshire/Humberside, and Birmingham the Midlands regions. However, it should be noted that some passengers from both the North West and the West Midlands still travelled via London rather than using the direct services from Manchester and Birmingham respectively.

**Table 17 - Surface origin of direct UK-Dubai OD Passengers in 2003**

| *By Surface and Air From* | *Heathrow* | *Gatwick* | *Manchester* | *Birmingham* | *Total* |
|---|---|---|---|---|---|
| East Anglia | 12,532 | 1,757 | --- | --- | 14,289 |
| East Midlands | 6,313 | --- | 2,197 | 10,312 | 18,822 |
| Northern Ireland | 1,128 | 1,447 | 0 | 745 | 3,321 |
| North West | 9,022 | 1,961 | 28,511 | 1,057 | 40,551 |
| Northern | 2,112 | 79 | 4,512 | --- | 6,702 |
| Scotland | 11,153 | --- | 2,726 | 1,367 | 15,247 |
| South East | 231,067 | 51,151 | 464 | --- | 282,683 |
| South West | 18,504 | 1,860 | 1,624 | 2,392 | 24,380 |
| Wales | 2,555 | 1,729 | 966 | --- | 5,250 |
| West Midlands | 2,818 | 5,787 | 464 | 12,144 | 21,213 |
| Yorkshire/Humberside | 7,141 | --- | 7,120 | 1,280 | 15,542 |
| *Total* | *304,345* | *65,771* | *48,585* | *29,299* | *447,999* |

*Source: CAA O & D Survey, 2003*
*Note: All passengers in the above table began their journey in one of the named UK regions and ended it in Dubai, or vice versa*
*Passengers travelling by air from, say, Glasgow to Heathrow and then on to Dubai are classified as having Scotland as their surface origin.*

36 More than 50% of passengers beginning their journey in the UK and ending it in Dubai originate in the South East of England. The North West is the second most popular region from which UK passengers fly directly to Dubai but it provides less than 10% of the total.

37 There is the possibility that Emirates could attract passengers flying indirectly from UK airports to foreign airports, and then onto Dubai. In the main passengers from the North West choosing this option will fly from Manchester and Table 18 shows the indirect Manchester-Dubai flows in 2003. These estimates cover passengers arriving by surface from all UK regions and just over 60% of the 18,000 total are passengers from the North West.

**Table 18 – Manchester-Dubai indirect OD traffic over foreign hubs in 2003**

| *Airport* | *Indirect via* | *Passengers* |
|---|---|---|
| Manchester | Amsterdam | 2,993 |
| | Basle | 81 |
| | Paris | 1,884 |
| | Doha | 8,028 |
| | Frankfurt | 1,572 |
| | Istanbul | 1,192 |
| | Munich | 2,005 |
| | Prague | 751 |
| | *Total* | *18,505* |

*Source: CAA O & D Survey, 2003*
*Note: There are no passengers reported as having travelled indirectly from Gatwick to Dubai*

## The North West-Dubai OD market

Table 19 summarises the North West-Dubai OD market in 2003

**Table 19 - The OD market between Dubai and the North West Catchment Area**

| *Mode of Travel* | *Flying From* | *Via* | *Passenger Numbers* |
|---|---|---|---|
| By air | Manchester | Direct | 28,511 |
| | Manchester | UK | 5,882 |
| | Manchester | Other | 11,357 |
| By surface | Other UK airports | Directly/Indirectly | 2,808 |
| *Total* | | | *48,558* |

*Note: The number of North West passengers flying from Manchester to Dubai via another UK airport has been estimated from the CAA survey at Manchester and differs slightly from the number estimated in Table 20 which is based on the survey at Heathrow and at Gatwick.*

## The Manchester-beyond Dubai markets

38 Table 20 shows the surface origin of passengers who fly from the respective UK airports, and then connect in Dubai.

**Table 20 –Surface origin of traffic connecting in Dubai in 2003**

| *By Surface and Air From* | *Heathrow* | *Gatwick* | *Manchester* | *Birmingham* | *Total* |
|---|---|---|---|---|---|
| East Anglia | 11,857 | 4,966 | --- | 489 | 17,312 |
| East Midlands | 9,433 | 7,643 | 6,040 | 21,728 | 44,844 |
| Northern Ireland | 1,823 | 1,322 | 1,596 | 845 | 5,586 |
| North West | --- | 1,932 | 92,571 | 1,395 | 95,898 |
| Northern | 3,161 | 3,286 | 11,377 | --- | 17,824 |
| Scotland | 12,747 | *7,369* | 3,309 | 3,989 | 27,414 |
| South East | 269,046 | 162,484 | 1,119 | *1,803* | 434,452 |
| South West | 22,169 | 15,291 | --- | 4,448 | 41,908 |
| Wales | 13,617 | 2,583 | 8,597 | --- | 24,797 |
| West Midlands | 4,565 | 735 | 15,587 | 52,331 | 73,218 |
| Yorkshire & Humberside | 8,331 | 5,961 | 48,770 | --- | 63,062 |
| Other | 0 | 2,310 | 478 | 511 | 3,299 |
| *Total* | *356,750* | *215,882* | *189,443* | *87,541* | *849,615* |

*Source: CAA O & D Survey, 2003*
*Note: All passengers in the above table began their journey in one of the named UK regions, flew non-stop to Dubai, and then connected there (or vice versa)*
*Passengers travelling by air from, say, Glasgow to Heathrow and then on to Dubai are classified as having Scotland as their surface origin.*

39 Table 4 showed that 73% of passengers who started their air journey at Manchester with Emirates connected at Dubai onto another flight. Table 21 shows the most popular onward destinations for these 185,000 passengers in 2003. UK carriers currently serving these destinations (and any of the other points beyond Dubai) from any UK airport may be affected by any increase in frequency by Emirates to its Dubai hub.

**Table 21 – The main onward destinations beyond Dubai for Manchester-Dubai passengers**

| | *Passengers* | *Share of onward traffic* |
|---|---|---|
| Perth | 23,074 | 12% |
| Bangkok | 20,324 | 11% |
| Johannesburg | 19,482 | 11% |
| Islamabad | 14,335 | 8% |
| Sydney | 11,739 | 6% |

*Source: CAA O & D Survey, 2003*

40 These five destinations contributed nearly half of Emirates' Dubai connectors and over 30% of its total Manchester-Dubai passengers. Australia has two entries in the top five final destinations and for the purposes of this study the UK-Australia market has been taken as typical. The results obtained by evaluating the impact of Emirates on UK passengers and UK airlines in the North West-Australia market have then been scaled up to represent all the relevant destinations beyond Dubai.

41 Table 22 shows the number of passenger that flew from Manchester to Dubai with Emirates in order to catch a connecting flight onto Australia.

**Table 22 – Scheduled passengers flying from Manchester to Australia via Dubai**

| | *Passengers* | *Share of total connectors at Dubai* |
|---|---|---|
| Perth | 23,074 | 12% |
| Sydney | 11,739 | 6% |
| Brisbane | 6,283 | 3% |
| Melbourne | 2,080 | 1% |
| Hobart | 480 | 0% |
| Townsville | 184 | 0% |
| *Australia total* | *43,839* | *24%* |

*Source: CAA O & D Survey 2003*

42 24% of passengers flying from Manchester to Dubai in order to catch a connecting flight ultimately end their journey in Australia. The 44,000 passengers that chose this route represent the largest market beyond Dubai and are likely to be affected by any increase in frequency between Manchester and Dubai.

43 The other main options for passengers from the North West who travel to Australia is to fly from Manchester to a hub other than Dubai, including Heathrow, or to travel by surface to London to fly directly or indirectly. Table 23 shows the number of passengers that flew from Manchester to Australia over an intermediate foreign hub. North West originating passengers make up about half of the total indirect traffic from the airport to Australia.

**Table 23 – Manchester-Australia indirect OD traffic in 2003**

| *Airport* | *Indirect via* | *Passengers* |
|---|---|---|
| Manchester | Amsterdam | 215 |
| | Paris | 2,316 |
| | Dubai | 43,839 |
| | Frankfurt | 10,669 |
| | Kuala Lumpur | 44,931 |
| | Chicago | 639 |
| | Philadelphia | 484 |
| | Singapore | 81,690 |
| | Zurich | 396 |
| | *Total* | *185,179* |

*Source: CAA O & D survey, 2003*
*Note This table does not include those passengers who fly to the airports named, and then fly indirectly to Australia*

44 Table 24 shows the breakdown of North West originating passengers who travelled by air from Manchester to London and who then flew directly or indirectly to Australia.

**Table 24 – North West passengers travelling via an air connection at London**

| | *Passengers* | *Share* |
|---|---|---|
| By Air, via UK, Direct | 34,783 | 78% |
| By Air, via UK, Indirectly(a) | 9,542 | 22% |
| *Total* | *44,325* | *100%* |

*Note: (a) This represents 50% (the assumed North West share) of passengers surveyed at Heathrow who had flown from Manchester and who were about to fly indirectly to Australia.*

45 Of those that travelled by air to London from Manchester, the majority (or 65%) did so with the intention of taking a direct flight to Australia. 35% of passengers flying from the North West flew to London in order to catch an indirect flight.

## The North West-Australia OD market

46 The approximate size of the North West-Australia market can therefore be estimated as follows:

**Table 25 - The North West-Australia OD market**

| *Mode of Travel* | *Flying From* | *Via* | *Passenger Numbers* |
|---|---|---|---|
| By air | Manchester | Direct | --- |
| | Manchester | UK direct | 34,783 |
| | Manchester | UK indirect | 9,542 |
| | Manchester | Other | 88,955 |
| By surface | Other UK airports | Directly/Indirectly | 10,741 |
| *Total* | | | *144,021* |

## The economic evaluation

### Assumptions

47 The scenario that has been hypothesised is one where Emirates introduces a new daily Dubai-Manchester-Houston service. The effects on UK passengers, UK airlines and UK airports in all the directly affected markets – Dubai-Houston (and connections via this sector), Manchester-Houston, Manchester-Dubai and the Manchester-beyond Dubai markets - are included in the analysis.

48 The economic evaluation for all four markets is based on the effects on the North West as the core of the Manchester catchment area and the results are scaled up to take into account the effects in the Manchester catchment area which lies outside the North West. The economic evaluation for the Manchester-beyond Dubai markets uses Manchester-Australia as an example and is then further scaled up to account for all the beyond markets.

49 The sample routeings are intended to be representative of the potential impacts if fifth-freedom rights on routeings such as these can be viably exploited. In each of the markets a set of attraction factors (CPICs and CPIFs) has been chosen for the proposed services using the factors for existing services and the need for the new services to achieve a realistic seat factor if they are to prove viable. There is clearly a large element of judgement required and the results should be interpreted in this light rather than as predictions of the actual outcome should any of the specific routeings be operated in practice.

### Benefits to passengers

50 Emirates' Manchester-Houston route may, with fifth-freedom rights, provide the only direct service from Manchester[8]. The comparison of different journey options indicates that the most likely alternative is an indirect flight. The main gain to passengers who are currently interlining over London would be the time savings from travelling directly and possibly a fares gain by avoid the "add-on" charges of £25 and £89 one way. Here it is assumed that the fares for a direct Manchester-Houston flight will equal the London levels. It is possible that Manchester fares will fall below those on the London-Houston sector but it seems equally possible that they will be higher. An indirect flight may involve a connection time of three hours or so. The study assumes a value of time equivalent to £53.90 per hour for business passengers and £9 per hour for leisure passengers[9]. Third, passengers would be saved the inconvenience of making a connection but only time and fare savings have been included in the estimate of benefits.

### Scaling factors

*Markets beyond Dubai*

51 Australia has been taken as representative of markets beyond Dubai. Passengers to Australia represent about 24% of the passengers who connect at Dubai

[8] This depends on whether other carriers might enter this route if fifth-freedom rights were available.

[9] 2000 value of time figures were inflated using the Growth in National Income per head (data obtained from the Office of National Statistics). These figures were then further inflated to take into account the rise in the real value of time between 2000 and 2003 (2.19% per annum, in accord with DFT guidelines).

and, in order to take account of the other markets, a scaling factor of 4.2 (i.e. 1.0/0.24) has been used to multiply the estimated impacts of Emirates' carrying more UK-Australia passengers. This assumes that the effects will be similar in markets other than Australia. Although there may be different effects in some of these other markets, this assumption would not seem likely to bias the results, particularly given the degree of uncertainty in any of the markets.

*The Manchester catchment area*

52 In order to convert the passenger data for the North West to cover the whole of Manchester's catchment area, a scaling factor has been calculated as follows: the relative size of the local market (North West originating passengers are considered as the local market) compared to the national market has been calculated using a number of long-haul routes currently operating out Manchester. Table 26 shows the proportions which the North West contributes towards Manchester's traffic in various market segments.

**Table 26 - The regional share of passengers on Manchester air services**

| | *Domestic* | *SHS* | *LHS* | *SHC* | *LHC* | *Total* |
|---|---|---|---|---|---|---|
| East Anglia | 0% | 0% | 0% | 0% | 0% | 0% |
| East Midlands | 5% | 3% | 4% | 7% | 6% | 5% |
| North West | 78% | 66% | 51% | 50% | 42% | 58% |
| Northern | 2% | 3% | 6% | 4% | 9% | 4% |
| Northern Ireland | 0% | 0% | 0% | 0% | 0% | 0% |
| Scotland | 0% | 1% | 1% | 2% | 14% | 2% |
| South East | 0% | 0% | 1% | 0% | 0% | 0% |
| South West | 0% | 0% | 0% | 1% | 1% | 0% |
| Wales | 2% | 3% | 3% | 4% | 2% | 3% |
| West Midlands | 3% | 5% | 6% | 7% | 13% | 6% |
| Yorkshire/Humberside | 10% | 17% | 28% | 25% | 13% | 21% |
| *Total* | *100%* | *100%* | *100%* | *100%* | *100%* | *100%* |
| **Scaling Factor** | **1.3** | **1.5** | **2.0** | **2.0** | **2.4** | **1.7** |

*Source:* *CAA O & D Survey, 2003*
*Key:* *SHS – Short Haul Scheduled*
*LHS - Long Haul Scheduled*
*SHC - Short Haul Charter*
*LHC - Long Haul Charter*

53 For example, North West passengers make up 51% of the total scheduled traffic on long haul routes from Manchester so each of the values calculated for the impact on North West passengers and of these passengers on UK airlines and airports from the introduction of the Emirates' service is multiplied up by a factor of 2.0 (i.e. 1/0.51) in order to get an estimate of the equivalent effect on the UK as a whole.

## Results of the economic evaluation

The results are as follows:

**Table 27 – Year 1 impact of Emirates' Dubai-Manchester-Houston service**

| | *DXB-IAH* | *MAN-IAH* | *MAN-DXB* | *MAN-BEYOND DXB* | *Total* |
|---|---|---|---|---|---|
| UK direct passenger benefits (£m) | --- | 1.83 | 0.49 | *8.64* | 10.96 |
| UK indirect passenger benefits (£m) | --- | 0.78 | --- | --- | 0.78 |
| UK airline revenues (£m) | -1.49 | -1.04 | -0.15 | -2.22 | -4.90 |
| UK airline profits (£m) | -1.45 | -1.01 | -0.14 | -2.17 | -4.77 |
| Aviation-related spend in the UK (£m) | --- | 6.31 | 3.63 | 2.71 | 12.65 |
| Aviation-related profit (£m) | --- | 1.94 | 1.12 | 0.81 | 3.87 |
| Tourism spend in the UK (£m) | --- | 1.01 | 0.20 | 0.76 | 1.97 |
| Tourism profit (£m) | --- | 0.13 | 0.03 | 0.10 | 0.26 |
| *Net effect on UK (£m)* | *-1.45* | *3.68* | *1.49* | 7.38 | *11.09* |

*Note: The split between routeings of "UK airport-related profit" may be notional. In the above table, for example, the airport effects on the eastbound sector are the sum of the "MAN-DXB" and "MAN-beyond DXB" effects (and include the contribution of the capacity dedicated to the Dubai-Houston transit passengers).*

54 The seat factor on the Manchester-Houston sector is relatively low at 55% despite the assumptions made about the size of the transit flow. This reflects the apparently small Manchester-Houston demand.

55 The size of the net benefit to the UK depends on the assumption that Emirates would add a new service to its existing two Manchester services. As noted above, it is possible that Emirates would simply through run one of its existing services. This would create a negative effect on the Manchester-Dubai and Manchester-beyond Dubai markets if some of the capacity currently available to UK passengers is taken up by Dubai-Houston transit passengers. The negative effect on these two markets could be sufficient to offset the gains on the westbound sectors and the possibility that fifth-freedom rights might be used in a way less beneficial to the UK is explored in Study 4.