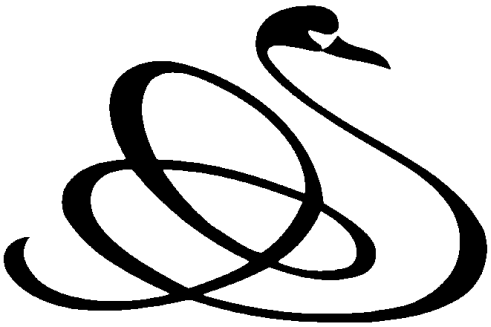


York Aviation

in association with

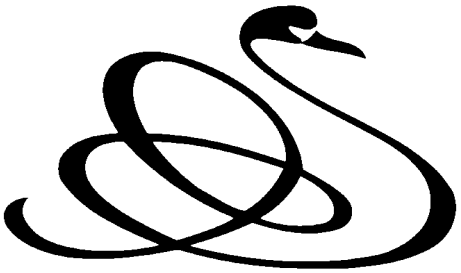
CTAIRA
THE SPECIALIST AVIATION CONSULTANCY

CIVIL AVIATION AUTHORITY

THE STRATEGIC IMPORTANCE OF LONDON TO AIRLINES

Final Report

October 2013



York Aviation

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Dated: 14th October 2013 .....

CIVIL AVIATION AUTHORITY

THE STRATEGIC IMPORTANCE OF LONDON TO AIRLINES

Contents

EXECUTIVE SUMMARY

In July 2013 the Civil Aviation Authority (CAA) commissioned York Aviation and CTAIRA to consider whether or not London has a strategic importance to airlines such that its fundamental attractiveness might limit the ability of airlines to switch away to different locations in the UK, Europe or further afield in response to a rise in airport charges and increase the market power of the main airports that serve the city.

The objective of the study was "to examine whether London could be (or is) of strategic importance to airlines, in terms of economic drivers at both the macro- and microeconomic level. This involved exploring whether London offers the airlines attributes that they would find it difficult to replicate at alternative airports in Europe or further afield, such that they would be reluctant to switch away from London if airport charges were to be increased.

Defining Strategic Importance

At the outset of this analysis, it should be recognised that the concept of strategic importance is not currently defined within the existing literature around market power assessment. It is ultimately a difficult and amorphous concept that could mean a range of things. What exists currently is really more a collection of possible effects and ideas that could be of relevance in defining such a concept.

Our analysis has identified a number of features that need to be considered within any definition:

- Non transitory – the effect must last in to the longer term;
- London not airport specific – features must relate to London not any particular airport;
- Multifaceted – it is likely that different features will be important to different airlines and that no one feature will make London unique;
- Relative – as no feature is likely to be unique, London's position needs to be considered as relative to others;
- Related to a definable economic concept;
- Focussed on marginal effects – different features and changes will impact airlines differently. Consideration needs to be given to impacts at an airline level rather than in terms of the average.

Based on these concepts, or London to be of strategic importance to airlines, there must be supply and demand features in place in London that mean that withdrawing from or reducing operations in London or ceasing to grow in London and moving the relevant capacity to other cities results in a long run reduction in profitability reflecting an opportunity cost for the airline greater than that associated with an increase in airport charges.

London and its Competitors: Key Features

We have identified a range of indicators that seek to articulate both the volume and essential underlying value of London compared to a series of European competitors. These include a range of dynamic traffic drivers, such as population, GDP and GDP per capita, as well as key structural determinants, including the number of corporate headquarters, attraction as a tourist destination and the airline structure. These are summarised in **Table 1**.

Table 1: Macro Environment Indicators

	London	Paris	Milan	Frankfurt	Munich	Madrid	Brussels	Amsterdam
Values								
GDP (£ bn)[1]	$731.2	$669.2	$289.3	$226.9	$210.3	$264.0	$245.3	$322.3
GDP per capita[2]	$51,978	$53,881	$37,938	$51,637	$54,526	$40,007	$45,607	$45,970
Employment (m)[3]	7.9	6.1	3.6	2.5	2.3	3.0	2.4	3.9
Population (m)[4]	14.1	12.4	7.6	4.4	3.9	6.6	5.4	7.0
Fortune Global 500 HQs[5]	17	19	2	4	4	5	3	5
Tourism Arrivals (000s)[6]	15,106	8,404	2,075	1,596	2,135	3,431	2,285	4,202
European Cities Monitor Score[7]	0.84	0.55	0.12	0.32	0.19	0.25	0.25	0.26
Size of Air Transport Market[8]	131.4	88.8	36.7	60.3	38.4	45.2	19.0	51.0
Business Passengers (m)[9]	31.5	n/a	n/a	n/a	17.3	n/a	6.1	16.3
Connecting Passengers[10]	28.8	21.3	1.1	31.5	15.0	14.9	3.0	20.9
Point to Point Passengers (m)[11]	102.5	67.5	35.6	28.9	23.4	30.3	16.0	30.1
One Way Premium Class Seats (m)[12]	9.4	6.5	1.9	3.0	1.1	1.9	1.2	3.2
One Way Long Haul Seats[13]	27.0	16.5	1.9	13.2	3.6	5.6	2.1	8.7

Sources:
1 to 4 - Brookings Institute MetroMonitor 2012
5 - Fortune Global 500,
6 – Euromonitor Top City Destinations and City of Frankfurt
7 - Cushman & Wakefield European Cities Monitor 2011
8 to 10 Civil Aviation Authorities and Airport Websites
12 to 13 – OAG

There are a number of key messages that come through from this initial overview analysis that go a long way towards explaining why London might be of strategic importance to airlines and why it is served to the extent that it is:

- London is essentially in a league of its own. It is the first ranked city on all but three indicators and where it is not the difference is not material;
- it should also be noted that in the main London is not just 'better' but is often substantially better in relation to its competitors on the basis of these key indicators;
- the only city that is close to London in terms of fundamental attributes is Paris.

We have considered a number of features of London in more detail given their particular potential importance in supporting its potential strategic importance:

- London as a Balanced Outbound Inbound demand source - this balance in directionality of flow provides security and opportunity to airlines as it means that there is the potential to sell tickets in volume at both ends of the route. Whilst there might be a range of different reasons for serving London given by airline managements, the common theme both in public statements and during our discussions is the attractiveness that London offers in terms of volume and value as an inbound and outbound demand source;
- The Value of Business Travellers - there were some 31.5 million business travellers using the London airports in 2012. London had by far the largest identifiable business demand pool within Europe. Passengers travelling on business offer the potential for higher yields as they tend to book later and on peak time flights which can be revenue managed to maximise the returns. Furthermore, business passengers have a much greater propensity to purchase premium class fares, which are core drivers of profitability for the FSCs;
- Size and Diversity of demand in the London Area - the size and diverse nature of the fulfilled demand in London suggests that it is fundamentally different to the others and in consequence airlines as group have chosen to serve it differently to other cities. This is reflected in its structure and suggests an underlying demand that is fundamentally stronger. In combination, the size and diversity of London offers airlines opportunities to operate a significant geographic range of routes, using different products and business models to meet and fulfil the needs of individual passenger demand segments. Elsewhere, where this volume and diversity is not as great, the ability to segment and fulfil demand need is not as well established.

Looking forward, London expected is to remain amongst the fastest growing cities in the group in terms of population, and improving wealth, with GDP per capita growth above average for the group. This suggests that the conditions will continue to exist in London to drive both volume and value growth in the medium term and retain, and indeed possibly enhance, its position as Europe's leading economic centre. In other words its potential strategic importance to airlines is expected to persist if not increase.

Airline Behaviours and Reactions

We have considered the behaviour and reactions of the two main airline types that serve London and considered what this evidence suggests about the fundamental attractiveness of London and, therefore, potentially its strategic importance to individual airlines.

We have focussed our attention primarily on airlines that have a choice in terms whether or not to serve London. During the course of this research, we have come to a view that for full service airlines for which London is their 'home' base, in other words primarily British Airways or Virgin Atlantic, the strategic importance of London to them is almost self-evident.

For Full Service Carriers based away from London, the key issue is whether London is seen as an origin or source of demand or as a destination for foreign demand. It would appear both from our analysis and the interviews undertaken with airlines that London is seen as unique in terms of its strength as both an origin demand pool and attractive destination. International demand aggregators see London as a source of originating demand as well as a destination from the other side of their hubs.

Understanding how London compares to its comparators in relation to its attractiveness for full service airlines from this perspective is difficult. Ultimately, most major European cities have relatively mature bases of passenger demand and are served by the main network airlines and have been for some time. The one group where some conclusions might be drawn from analysis of recent traffic development patterns is with the Gulf based airlines. The pattern that emerges is stark. These airlines entered London much faster and with much greater capacity than at the other European cities. This highlights not only the strength of London as an area of strong source and destination demand but also the hub and spoke structure of Air France and Lufthansa.

However, the attractiveness of London for overseas Full Service Carriers does need to be set in the context of their wider activities. London is an important and potentially highly profitable route but for such airlines it is a small part of their overall network. This does not mean, however, that issues around the irreversibility of any decision to exit or reduce presence in London due to capacity constraints will not be a consideration.

The nature of the hub and spoke network in London is also worth further mention to the extent that it is likely to have differential impacts on different groups of FSCs. This relates primarily to the shadow effects of alliances. The home alliance for London is oneWorld, built around the British Airways hub at Heathrow. It is by far the largest oneWorld airport in Europe. This creates an additional attractor for London in relation to airlines that are part of oneWorld.

For LCCs based in London, we have identified the size of the demand base in London and the balance between inbound and outbound traffic as the core drivers of attractiveness that make London unique.

The balanced nature of demand means that the economics of any route become easier as there are two traffic flows to rely upon, thereby significantly increasing the potential size of the demand base and also potentially decreasing risk for the airline by giving the opportunity to sell tickets at both ends of the route and providing some protection against changing economic circumstance at one end or the other. It has also been helpful in enabling these LCCs, particularly Ryanair, in developing their multibase strategy. London is able to play a core role as an anchor to the whole network and a solid 'banker' route from which to build a base. This central role in its network is something that been emphasised by Ryanair in public statements.

The sheer size of London has been important from two perspectives particularly:

- aircraft utilisation – the breadth and diversity of passenger demand, particularly in terms of generated demand, has enabled both airlines to maximise aircraft utilisation by mixing timings and sector lengths to reach an optimal allocation of capacity;
- route 'churn' – both easyJet and Ryanair have played a significant role in driving the number of destinations served from London. However, many of these destinations have, over time, matured and, in order to maintain growth, or in Ryanair's case maintain its position, both airlines have had to continually seek out new routes. The size and diversity of London, particularly in terms of the portion of passenger demand that is largely indifferent to its end destination, has been central to this ability.

LCCs based away from London represent a much smaller proportion of London traffic and it is perhaps reasonable to say that they have proved a much more volatile segment of London traffic. The pattern of development observed suggests that this group do consider London to be an attractive opportunity based on its underlying features and this has been emphasised to us by a number of airlines consulted as part of this work.

This is particularly evident from the way that Wizz has connected to London as it has opened new bases in Central and Eastern Europe and how Norwegian has built up its links over time, culminating ultimately in opening its Gatwick base and switching to the 'Home' LCC category. However, for this group, the strategic importance of London may be relatively limited.

Variance Across the London System

In addition to considering the potential strategic influence of London as a whole, we have also considered in overview the extent to which this influence might vary across the London system. We have examined primarily:

- for FSCs, the variance in the influence of key strategic drivers at Heathrow and Gatwick;
- for LCCs, the variance in the influence of key strategic drivers at Gatwick and Stansted;

Our analysis of catchment areas suggests that Heathrow may offer better access to some of the demand features of London that make it special. This may provide some clue as to the pattern of development in the FSC airline segment in London. However, at the same time, this position needs to be viewed with caution as ultimately it is difficult to argue that the catchment areas are not substantially shared.

For FSCs the other issue that merits particular mention here is the issue of network feed traffic for oneWorld airlines. This creates an additional attraction factor for London for this group. Ultimately, this position is driven by Heathrow. Gatwick ultimately does not operate as a hub and there simply isn't the presence of other oneWorld members at the airport to drive an additional level of attraction.

For LCCs, the pattern is in some ways less clear. Our catchment analysis does not identify significant differences between Gatwick and Stansted in relation to business travel or the balance of inbound and outbound traffic. However, Gatwick's catchment does appear to offer higher average salaries and on some measures it does offer larger demand pools. This fits with comments that have been made by airlines in relation to the two airports.

Conclusions

On a wide range of economic and related measures London represents the strongest origin and destination base of demand in Europe. It is, therefore, for airlines a fundamentally attractive opportunity with potential to deliver high levels of profitability. Consequently, it is unlikely that the combination of volume and value that defines London can be replicated elsewhere and that therefore airlines are likely to face reduced long term profitability if they are forced to switch marginal capacity, either routes, frequencies or aircraft, away from London. However, the extent to which this will influence decision making will vary with individual airlines.

1 INTRODUCTION

Background

1.1 In July 2013 the Civil Aviation Authority (CAA) commissioned York Aviation and CTAIRA to consider whether or not London has a strategic importance to airlines such that its fundamental attractiveness might limit the ability of airlines to switch away to different locations in the UK, Europe or further afield in response to a rise in airport charges and increase the market power of the main airports that serve the city.

1.2 The existence of such an effect has been mooted by a number of airlines both in the most recent market power assessments of the main London airports and in respect of previous assessments. In its examination of the market power of the main London airports (Heathrow, Gatwick and Stansted) the CAA has overtly recognised *"the inherent attractiveness of London and its strategic importance to airlines"*[1] as a factor in imparting market power to the airports. There is also a recognition that within this airlines' own strategies and objectives mean that they will address the strategic opportunity that London is considered to offer in different ways[2], or more particularly by addressing the traffic opportunity using different airports.

1.3 This report sets out our findings in relation to this research.

Scope of the Study

1.4 The objective of the study was to "to examine whether London could be (or is) of strategic importance to airlines, in terms of economic drivers at both the macro- and microeconomic level. This involved exploring whether London offers the airlines attributes that they would find it difficult to replicate at alternative airports in Europe or further afield, such that they would be reluctant to switch away from London if airport charges were to be increased.

1.5 The primary focus of the work is to consider the strategic importance of London in the round, identifying common factors across airline types and across London's airports. However, we have also considered whether the fundamental drivers are different in relation to:

[1] Stansted Market Power Assessment – developing our minded to position January 2013 paragraph 15 page 6.

[2] It is also important to consider the significance of London at an airline level against the background of the airline's total activity.

- Full Service Carriers (FSCs), Low Cost Carriers (LCCs) and to some extent Charter airlines;
- FSCs operating at Heathrow as compared to Gatwick;
- LCCs operating at Gatwick as compared to Stansted.

Our Approach

1.6 This assignment has primarily used existing, publicly available information. As such, the information available to us is subject to caveats regarding the accuracy of individual data sources and the consistency of data across different sources. However, we believe that what is presented in this report provides a reasoned and sensible review of the available evidence. This publicly available information has been supplemented twelve interviews with key airlines and airline alliance management. The purpose of these interviews was to test theories, understand the position of individual airlines in relation to London and to seek clarification in relation to previously expressed views. We have not sought to collect additional quantitative data through this process.

Structure of the Report

1.7 This report is structured as follows:

- in **Section 2** we consider what we mean by strategic importance and the implications of this definition for our analysis;
- in **Section 3** we focus on the features and structures within London that drive its attractiveness and consider the position of London in comparison to other European cities;
- in **Section 4** how the features of the London's demand and supply conditions identified have impacted on airline behaviour and, indeed, what this behaviour reveals about London's importance;
- in **Section 5** we focus in on the specific cases of FSCs operating at Heathrow and Gatwick and LCCs operating at Gatwick and Stansted;
- in **Section 6** we set out our conclusions.

2 DEFINING STRATEGIC IMPORTANCE

Introduction

2.1 In the Section, we consider what is meant by the strategic importance of London from an airline perspective and what this then implies in terms of the direction of our analysis.

Previous Definitions of Strategic Importance

2.2 At the outset of this analysis, it should be recognised that the concept of strategic importance is not currently defined within the existing literature around market power assessment. It is ultimately a difficult and amorphous concept that could mean a range of things. What exists currently is really more a collection of possible effects and ideas that could be of relevance in defining such a concept:

- the Competition Commission has identified a range of potential sources of what it calls switching costs that could face airlines if they are forced to change their behaviour or plans based on a rise in airport charges. These include 'one-off' physical relocation related costs, for instance the need to relocate or recruit staff to a new location, the loss of sunk investments or costs relating to long term commitments to an existing base, one off marketing costs relating to new services, losses of economies of scale or the loss or reduction in the ability to benefit from network effects. These are, however, in the main short to medium term effects and are not related to a specific geographic location. Hence, it is unclear whether the particular benefits or otherwise of a specific city location such as London would be reflected within these switching costs. However, the Competition Commission did recognise a situation which is perhaps more relevant to the issue under consideration here. It referred to a situation in which a price rise leads to an airline switching capacity to an airport that has a less attractive location in terms of the airline yields it can generate. Hence, the airline would be forced to accept lower yields from its employment of capacity over the long term. It did, however, recognise that losses of this nature relating to the switch may be offset by the crystallisation of slot values at congested airports;

- the CAA notes in the Heathrow Market Power Assessment Minded To document that *"in addition to the traditional switching costs tied to operations at the airport, airlines at Heathrow may face strategic switching costs in switching between London airports, or to other non-London airports in the UK or continental Europe"*[3]. It then cites a number of comments from airlines about London, notably its size and value compared to others, that drive these airlines' commitment to London. The specific influence of Heathrow in terms of network effects is also noted. Similar statements are made in relation to Gatwick and Stansted, albeit the impact or otherwise of network effects for FSCs is noted. These statements have generally been reinforced by our discussions with airlines. It should, however, be recognised that these documents do not actually seek to define strategic importance;

- Manchester Airport Group's submission in relation to the Stansted Minded To document picks up on this point, noting that strategic importance is not defined by reference to any specific economic concepts, such as barriers to entry or exit, sunk costs or high set up costs, and that instead the justification appears to rely on research undertaken by Ryanair (described below);

- in 2011 Ryanair commissioned RBB Economics to consider airline bargaining power at Stansted. The analysis reported a number of reasons as to why Ryanair required a strong presence in London which related to overall strength of the Ryanair brand:

  - *"A strong presence in London affects the brand value of an airline;*

  - *Thickness of demand in London allows a very large number of routes to be served from the same base, which in turn allows for efficient aircraft utilisation. Switching aircraft to bases with thinner demand would make schedule optimisation and therefore the efficient use of aircraft more difficult;*

  - *New routes can be launched with lower risk from London than they can from non-London airports. For example, none out of 8 new routes in London launched in the past 12 months ran at losses, whereas [...] of 254 routes between two non-London airports launched in the past 12 months were loss making;*

[3] Pages 153 to 157.

- *Ryanair has already invested significant sunk costs in marketing its London bases, which would be lost were it to reduce its network of London-based routes. Given the option value[4] associated with the ability to operate a significant base in London in the future (for example, when new capacity is brought online and airport charges fall to reflect spare capacity as a result), Ryanair is unwilling to give up its existing presence."[5]*

The paper also identifies a similar concept to that set out by Competition Commission, suggesting that by having to move aircraft away from London, the airline would reduce overall profitability, as the opportunities on offer elsewhere are likely to be sub-optimal. If they were not, given the flexibility and ability to grow within Ryanair's fleet, they would have already been taken up.

2.3 We have not commented here on the individual merits of the different arguments or ideas described above. Instead, below, we have set out what we consider to be the essential features that might define strategic importance for airlines.

Essential Features of Strategic Importance

2.4 Based on the above, we have identified a number of features that should inform a definition of strategic importance:

[4] An option value is the willingness to pay in the present to maintain a presence in London in order to maintain the ability to offer services at a future point in time.
[5] Ryanair: Assessment of Airline Bargaining Power at Stansted Airport – RBB Economics (2011). Page 16.

- Non-Transitory – costs or benefits should persist in to the long term, i.e. this does not relate to 'one off' switching costs, such as staff relocation or marketing of new routes. Whilst there has been considerable focus on switching and its associated costs, the reality is that to justify switching, the option being considered needs to offer either better or less worse outcomes than that currently being operated. It is also important to distinguish between what is perhaps best described as tactical switching in response to a change in near term conditions and strategic switching in response to a long term change or a new opportunity. The recognition of the need to "churn" routes to achieve the most effective deployment of capacity and capital suggests that this is a normal business action that could be taken for a number of reasons. These include where a route fails to live up to expectations and as such any costs associated should surely be seen as a normal business expense but equally it could be the result of demand maturing and a new opportunity coming forward. A change in a route is just as likely to occur because the forecast outcome failed to materialise, as it is due to a change in so called administered costs;

- London not Airport Specific – costs and benefits should relate to London or parts of London not to the features of individual airports. For instance, access to network effects at Heathrow is not an indication of the strategic importance of London in and of itself. The volume or nature of network feed that is attracted to London and that uses Heathrow might be;

- multifaceted – the comments from airlines noted by the CAA and our own discussions with airlines suggest London is important for a range of reasons, such as the volume of traffic, the value of that traffic, its position as a global tourism destination, the combined strength of inbound and outbound segments, synergies between key economic sectors and historic relationships. This demonstrates two important points. Strategic importance may mean different things to different airlines, as different airlines will value particular features differently. Similarly, it is unlikely that London has any single feature that makes it unique. If it is strategically important to airlines, this is likely to reflect a combination of features that together make it unique or at least substantially more attractive than the alternates;

- relativity – building on the multifaceted nature of strategic importance, if we accept that it is highly unlikely that any particular feature of London is actually unique but that it is simply 'better' in relation to a number of the key drivers of volume and value, this suggests that we must consider the features of London in comparison with potential alternate locations or in relation to alternate strategies;

- related to a definable economic concept – the comments made by MAG in relation to the existence or otherwise of strategic switching costs are reasonable. Without a definition of strategic importance, it is very difficult to relate such an effect back to any identifiable economic concept. Our consideration of this issue suggests that ultimately the concept of strategic importance relates to an opportunity cost for airlines in not serving London. If they are forced to alter their pattern of service to or from London in response to a change in prices and that change means that in the long run they are less profitable, they have incurred an opportunity cost by switching. Therefore, if this opportunity cost in relation to not serving London is high enough, airlines will be prepared to absorb increases in airport charges to remain in London;

- marginal versus average effects - whilst there is a tendency to consider what might be best described as an average outcome, the basis of a decision by an airline to serve, and then increase or decrease their presence in London (or indeed any city), whilst reflecting a number of homogeneous and generally external factors will also, and perhaps more importantly, reflect a range of company specific factors and influences. As a consequence, the impact of any change in deployment will similarly be company specific. However, it is important to take a view on the outcomes of change for a range of airlines. Just as an airline might not reasonably expect all of the services that it operates to or from a particular origin or destination to be profitable or contribute all of the time but continue with the schedule or flying pattern, so the impacts should be considered "in the round". In other words individual airlines, against the background of the London opportunity which is recognised by all airlines as offering strong inbound and outbound segments, will and do have company specific reasons for changing their presence including: route maturity, actual performance falling short of forecasts (for whatever reason including over optimism); better opportunities becoming available elsewhere as opportunities arise or, as in the case of the LCCs in particular, where one airport might stop providing financial support and where another airport offers an "attractive package" which moves the balance of attraction.

Furthermore, whilst London may be seen as an important destination or origin in its own right, it is also necessary to consider the relative importance of London in an airline's network, as that will condition the nature of the response in relation to any change in the operating environment from whatever source.

2.5 Below, we have tried to distil these features in to a definition of strategic importance that enables us to analyse London's features and the impact on airlines' behaviour of these features.

A DEFINITION OF THE STRATEGIC IMPORTANCE OF LONDON

2.6 For London to be of strategic importance to airlines, there must be features of London that mean that withdrawing from or reducing operations in London or ceasing to grow in London and moving the relevant capacity to other cities results in a long run reduction in profitability reflecting an opportunity cost for the airline greater than that associated with an increase in airport charges.

2.7 However, profitability needs to be viewed in a broad sense and in the context of ownership. There are clearly a number of cases where the ownership of the airline results in routes being flown for national strategic reasons[6] rather than for reasons of corporate profitability. In such a case, whilst the traffic volumes may be insufficient to generate profits for the airline on the route, the importance is the city pair connection with London. However, there are also cases, particularly in respect of Heathrow, where the best option for the airline is may be to realise the value of its slots and serve one of the other London airports. In the past we have also seen airlines, including amongst others Swiss, transfer some of its Heathrow slots in return for a financial consideration as that represent the best alternative against a background of a need for cash.

Implications for Our Analysis

2.8 This definition of strategic importance implies a number of requirements for our analysis:

[6] This refers to situations where an airline is still substantially publicly owned and a link to London is felt to be sufficiently important to overall economic development and prosperity that these wider economic benefits outweigh any financial losses associated with the operation of the route.

- there is a need to consider a range of features of London, both macro and micro, and airlines' reactions to them;

- there is a need to consider London's features in comparison to other key leading European cities. In some ways this is problematic as it could be argued that there are not really any real comparators to London in terms of the combination of features that the city offers. The only real options are Paris and to some extent Milan. However, we have also identified a second tier of comparators, including Brussels, Frankfurt, Madrid and Munich. In relation to LCCs, there is also a different potential strategic response. Rather than seek to replicate conditions in London in another European city, these airlines could simply disperse their available capacity across their European bases. We consider this possibility within our analysis;

- the need to consider London's relative position introduces challenges in terms of data consistency and availability. Other countries and by extension cities do not have the same level of detail in terms of the data that is available as regards their air transport demand and supply characteristics. Our analysis is therefore conducted within the confines of what is available. This suggests that evidence of airline behaviour and their 'revealed' preferences in relation to London versus other locations will be crucial;

- it is about much more than just volume of demand. There is a need to consider the value drivers as well. Whilst an airline will indeed concentrate its activities firstly on traffic volume and then value, the attraction of any city is its value and this is a reflection of the volume and structure of the traffic, particularly in terms of business passengers. Although it should be a reasonable assumption that all airlines seek to maximise profits and cash, no matter what label might be attached to their operating model, there are a small number, in government ownership where the air connections that the airline brings, and the associated economic impacts, are considered to be more important than the financial performance of the airline[7]. For the majority of airlines the objective is to attract the highest possible average revenue per passenger. Indeed this and the associated change in focus has been clearly evident amongst the European LCCs in general and those based or serving the UK origin and destination demand in particular. This is despite the fact

[7] See above.

that by far the greater percentage of their business is leisure/price sensitive traffic. This implies the need to consider the demand and supply structure of London versus other cities, including access to demand, diversity, ability to serve the underlying demand effectively, seasonality and its sheer size;

- there is a need to distinguish between "potential demand", which is a reflection of a combination of a range of macroeconomic and related factors, and "realisable demand", which reflects the ability of airlines to address the opportunity, which in some part also is a function of the availability of sufficient appropriately timed slots at airports in each city;

- most examinations of market power appear to be dominated by demand side considerations. We believe that it is also important to consider the issues from a supply side perspective. As with demand, supply is clearly also not homogeneous, whether in terms of the segments of the demand served, or in terms of the airline operating model. Notwithstanding this, there is clear evidence in some areas of what is perhaps best described as convergence, as LCCs seek to take more time sensitive traffic from longer established airlines. However, their success in achieving this objective will increasingly depend upon their reach into the corporate sales segment as well as having what might be considered to be the necessary timings and frequencies. In this respect, it is important to distinguish between short haul and long haul and furthermore between what is origin traffic, what is destination traffic and also by journey purpose;

- although we might talk about London in aggregate terms, it represents the combination of two way flows and factors at both ends of the route for a large number of individual city pairs. To this end, we must be clear on the differences between the determinants of inbound and outbound traffic flows and the consequences for airlines of their principal direction of flow. Indeed from a supply side perspective and in respect of the short haul segment in particular, it is important to distinguish between the strategies and behaviours of the airlines that are based in London and those which serve London from a non-UK base. This is perhaps most clearly evident when comparing the strategies and behaviours of the established Pan-European airlines, easyJet and Ryanair, which have bases in a number of European countries, and the competing "FSCs" which still tend to have the majority of their operations based in their country of registration.

- in the context of considering the potential strategic importance of London in relation to the market power of the city's three largest airports, there is also a need to consider the evolution of supply and demand conditions and how the situation has changed and might continue to change and the implications of this for the concept of strategic importance.

2.9 This paper examines the basis for the view that London is strategically important for airlines and also the contention that they may be disadvantaged if they switch away from serving London and secondly the relative attractiveness of each of the airports in the London system[8]. In essence there are a number of key questions to address which include:

- why would airlines that have a choice consider operating to/from London compared with competing origins or destinations?
- why do airlines serve London to the extent that they do?
- why might they not serve London?
- why might they stop serving London?
- is London the best option for the airlines operating here (which could realistically move) and if so why?
- what are the reasons for airport choice within the London system?
- why is this position likely to persist?

2.10 We have employed an approach which combines an analysis of traffic, airline networks and changes which in effect is a revealed preference approach, with a series of airline interviews combined with an analysis of comments made by airline managements in respect of routes, cities and airports, and the application of judgmental analysis to bring in a stated preference dimension.

[8] The distribution of, in particular, short haul leisure demand between routes will reflect a range of factors including, the relative value of Sterling (particularly vs. the Euro), price, the availability of accommodation and the attributes of the destination – although a significant proportion of short haul leisure travellers would appear to be "destination indifferent". As a result a more appropriate focus for short haul leisure traffic may be traffic volume rather than anything on a more disaggregated basis. In this respect it is also a natural or normal business process for airlines to match capacity with demand using, if necessary, fares to stimulate demand.

3 LONDON AND ITS COMPETITORS: KEY FEATURES

Introduction

3.1 In this Section, we consider the potential features of London that might make London strategically important to airlines. Initially, we consider London's position compared to a range of European competitors before examining particular features in relation to London specifically. We also consider how London's current position has come about and how its fundamental attractiveness might change in the future.

Overview of the Macro Environment for Airline Operations

3.2 In essence we have sought to identify and evaluate the common factors which make London attractive for all airlines and how these factors compare with potential competitor cities or regions. An overview of the key results from this analysis are set out in **Table 3.1**.

3.3 We have identified a range of indicators that seek to articulate both the volume and essential underlying value of London as an opportunity. These include a range of dynamic traffic drivers, such as population, GDP and GDP per capita, as well as key structural determinants, including the number of corporate headquarters, attractiveness as a tourist destination and the airline structural presence.

3.4 For each indicator, we have presented:

- the absolute value;
- the ranking of each city on that indicator;
- a score for each indicator, where the highest value scores ten and the other values are derived based on a scale set by the highest score at the top and zero at the bottom.

3.5 We have also presented the average rank for each city and the average score to provide an overview of each city's performance across the range of indicators. It should be recognised that this average rank or score is not intended to be a perfect reflection of relative positions but to provide a basic summary statistic.

Table 3.1: Macro Environment Indicators	London	Paris	Milan	Frankfurt	Munich	Madrid	Brussels	Amsterdam
Values								
GDP ($ bn)[1]	$731.2	$669.2	$289.3	$226.9	$210.3	$264.0	$245.3	$322.3
GDP per capita[2]	$51,978	$53,881	$37,938	$51,637	$54,526	$40,007	$45,607	$45,970
Employment (m)[3]	7.9	6.1	3.6	2.5	2.3	3.0	2.4	3.9
Population (m)[4]	14.1	12.4	7.6	4.4	3.9	6.6	5.4	7.0
Fortune Global 500 HQs[5]	17	19	2	4	4	5	3	5
Tourism Arrivals (000s)[6]	15,106	8,404	2,075	1,596	2,135	3,431	2,285	4,202
European Cities Monitor Score[7]	0.84	0.55	0.12	0.32	0.19	0.25	0.25	0.26
Size of Air Transport Market[8]	131.4	88.8	36.7	60.3	38.4	45.2	19.0	51.0
Business Passengers (m)[9]	31.5	n/a	n/a	n/a	17.3	n/a	6.1	16.3
Connecting Passengers[10]	28.8	21.3	1.1	31.5	15.0	14.9	3.0	20.9
Point to Point Passengers (m)[11]	102.5	67.5	35.6	28.9	23.4	30.3	16.0	30.1
One Way Premium Class Seats (m)[12]	9.4	6.5	1.9	3.0	1.1	1.9	1.2	3.2
One Way Long Haul Seats[13]	27.0	16.5	1.9	13.2	3.6	5.6	2.1	8.7
Rank								
GDP	1	2	4	7	8	5	6	3
GDP per capita	3	2	8	4	1	7	6	5
Employment	1	2	4	6	8	5	7	3
Population	1	2	3	7	8	5	6	4
Fortune Global 500 HQs	2	1	8	5	5	3	7	3
Tourism Arrivals (000s)	1	2	7	8	6	4	5	3
European Cities Monitor Score	1	2	8	3	7	5	5	4
Size of Air Transport Market	1	2	7	3	6	5	8	4
Number of Business Passengers	1	n/a	n/a	n/a	2	n/a	4	3
Connecting Passengers	2	3	8	1	5	6	7	4
Point to Point Market	1	2	3	6	7	4	8	5
One Way Premium Class Seats	1	2	6	4	8	5	7	3
One Way Long Haul Seats	1	2	8	3	6	5	7	4
Average Rank	1.3	2.0	6.2	4.8	5.9	4.9	6.4	3.7
Score								
GDP	10	9	4	3	3	4	3	4
GDP per capita	10	10	7	9	10	7	8	8
Employment	10	8	5	3	3	4	3	5
Population	10	9	5	3	3	5	4	5
Fortune Global 500 HQs	9	10	1	2	2	3	2	3
Tourism Arrivals (000s)	10	6	1	1	1	2	2	3
European Cities Monitor Score	10	7	1	4	2	3	3	3
Size of Air Transport Market	10	7	3	5	3	3	1	4
Business Passengers	10	n/a	n/a	n/a	5	n/a	2	5
Connecting Passengers	9	7	0	10	5	5	1	7
Point to Point Passengers	10	7	3	3	2	3	2	3
One Way Premium Class Seats	10	7	2	3	1	2	1	3
One Way Long Haul Seats	10	6	1	5	1	2	1	3
Average Score	**10**	**8**	**3**	**4**	**3**	**4**	**3**	**4**

Sources:
1 to 4 - Brookings Institute MetroMonitor 2012
5 - Fortune Global 500,
6 – Euromonitor Top City Destinations and City of Frankfurt
7 - Cushman & Wakefield European Cities Monitor 2011
8 to 10 Civil Aviation Authorities and Airport Websites
12 to 13 – OAG

3.6 There are a number of key messages that come through from this initial overview analysis that go a long way towards explaining why London might be of strategic importance to airlines and why it is served to the extent that it is:

- London is essentially in a league of its own. It is the first ranked city on all but three indicators and where it is not the difference is not material. Amongst the selected peer group, London represents the largest economy and has the largest population and labour market. It is also the number one tourism destination (by a significant margin) and it has the largest air transport demand, with the highest business component[9] and largest number of premium class seats. In terms of our ranking and scoring mechanism, London has an average rank of 1.3 and an average score 10. It would appear that London is able to offer both greater volume and greater value, which we consider to be the key components for success of any air transport centre;

- it should also be noted that in the main London is not just 'better' but is often substantially better in relation to its competitors on the basis of these key indicators. Its population is 14% larger than the nearest rival, its point to point traffic is 52% larger than the nearest competitor, tourism arrivals are around 80% higher and the number of long-haul seats on offer is nearly 64% higher than its nearest rival. The size of London's point to point air passenger traffic is a particular demonstration of its strength. This is at least partly a reflection of London's position at the start of the LCC era, where the regulatory environment and the availability of capacity enabled easy entry;

- the only city that is close to London in terms of fundamental attributes is Paris. In air transport terms, whilst Frankfurt is the third most important air transport centre, this is a reflection of the Lufthansa and wider STAR hub and spoke system rather than the local "traffic drivers". The position is at least partly a function of the LCCs position as regards London. The focus of attention of the LCCs on London, not only as easyJet and Ryanair accelerated their growth, but also as any new LCC has come forward is revealing. This reflected the coincidence of a set of particularly favourable circumstances, notably ease of entry and availability of airport capacity. These circumstances were not evident at the time in either Paris particularly (and indeed more widely France) or elsewhere at the right time, although the position has now changed here and also in a number of other European cities.

3.7 Below, we have considered a number of these features further and presented evidence as to why they are potentially important in making London a strategically important location for airlines.

[9] Purpose of travel data is very limited but it seems reasonable based on the evidence available to suggest that London has by some way the largest source of business travel demand.

London as a Balanced Source of Outbound and Inbound Demand

3.8 We have identified in Table 3.1 that London is by far the largest destination in terms of tourism arrivals. This points to one of the key features of London that drives its fundamental attractiveness to airlines. It is fundamentally a balanced source of outbound and inbound travellers. This balance in directionality of flow provides security and opportunity to airlines as it means that there is the potential to sell tickets in volume at both ends of the route. The available demand is, therefore, almost by definition larger and there is a degree to which it provides reduces risk by acting as something of a hedge in relation to exchange rates and in isolating part of the demand from adverse economic conditions affecting one end of the route or the other. Whilst there might be a range of different reasons for serving London given by airline managements, the common theme both in public statements and during our discussions is the attractiveness that London offers in terms of volume and value as a source of inbound and outbound demand.

3.9 Demand for services between any two city pairs reflects factors at both ends of the route although those at one end may dominate if the route is predominantly in one direction[10]. In respect of London our analysis of the top 50 routes in 2012 measured in terms of passenger volumes, shows that some 10% might be classed as predominantly outbound, 32% as predominantly inbound and 58% as broadly balanced.

3.10 If we look in more detail by airport for the top 25 routes at each airport in passenger volumes, the extent of the variation is clear (see **Table 3.2**). Balanced routes are the largest group at all the London airports other than Gatwick.

[10] There may also be a number of other effects which prevent potential demand from being realised relating to supply side factors. Frankfurt for example, whilst a large European airport, depends for most of its traffic on Lufthansa and its Star partners aggregating demand over the hub.

Table 3.2: Classification of Top 25 Routes by Passenger Volume at Each Airport									
	2008			2010			2012		
	No. Outbound	No. Inbound	No. Balanced	No. Outbound	No. Inbound	No. Balanced	No. Outbound	No. Inbound	No. Balanced
LHR		8	17		10	15		10	15
LGW	15	1	9	14	2	9	15	3	7
STN	4	2	19	4	2	19	5	6	14
LTN	6	1	18	10	2	13	10		15
LCY	2	2	21	2	10	13	4	6	15
Total	**27**	**14**	**84**	**30**	**26**	**69**	**34**	**25**	**66**
Source: CAA Passenger Surveys.									

3.11 **Table 3.3** also provides a perspective on the impact of airline structure and its effects on traffic flows as well as the nature and richness of London. In terms of passenger numbers just over half the traffic by route is what we have described as “balanced” in terms of a two way flow. From within the other categories; outbound short haul leisure accounted for over 16% of total London area traffic in 2012, with inbound leisure accounting for some 12% of total traffic. Indeed, in total, leisure traffic accounts for around 75% of all traffic, which has been the key to the opportunity for the LCC airlines and their development. What is also of interest is the importance of inbound business traffic. This underlines the airlines’ view of London not only as a good two way demand source but also with a meaningful share of higher value business traffic.

Table 3.3: Structure of Passenger Demand by Route Directionality (000s)

			2008			2010			2012		
			Outbound	Inbound	Balanced	Outbound	Inbound	Balanced	Outbound	Inbound	Balanced
LHR	Short Haul	Business	70	4,656	8,886	43	5,973	6,187	22	5,830	6,460
		Leisure	260	5,818	12,890	200	9,036	10,637	247	9,621	11,802
	Long Haul	Business	210	3,159	5,741	56	2,518	5,019	50	3,583	4,765
		Leisure	1,317	7,326	16,166	661	7,062	18,274	485	10,512	16,094
LGW	Short Haul	Business	1,586	520	2,566	1,125	540	2,448	964	1,364	2,413
		Leisure	14,771	875	6,288	13,214	1,390	7,262	13,273	3,060	7,691
	Long Haul	Business	257	65	583	177	0	218	275	14	133
		Leisure	3,350	186	2,271	3,217	0	1,400	3,606	86	913
STN	Short Haul	Business	431	328	3,422	298	300	2,411	249	365	1,936
		Leisure	4,228	1,214	12,309	4,294	1,151	9,660	4,088	1,700	9,072
	Long Haul	Business	0	0	18	0	7	0	0	0	0
		Leisure	10	0	120	1	164	0	0	0	0
LTN	Short Haul	Business	393	13	1,474	372	275	963	383	16	1,052
		Leisure	3,951	178	3,897	3,173	230	3,435	3,832	338	3,728
	Long Haul	Business	0	0	0	0	0	29	0	0	27
		Leisure	55	0	0	0	0	170	0	0	147
LCY	Short Haul	Business	77	147	1,603	16	665	1,059	37	211	1,367
		Leisure	104	55	1,268	27	275	716	210	167	1,002
	Long Haul	Business	0	0	0	0	0	13	13	0	0
		Leisure	1	0	0	0	0	7	9	0	0
Total London Airports	Short Haul	Business	2,557	5,664	17,950	1,856	7,753	13,067	1,655	7,786	13,228
		Leisure	23,314	8,141	36,653	20,908	12,081	31,710	21,650	14,886	33,295
	Long Haul	Business	467	3,223	6,341	234	2,526	5,279	339	3,596	4,925
		Leisure	4,732	7,512	18,557	3,879	7,226	19,850	4,100	10,598	17,154

Source: CAA Passenger Surveys.

The Value of Business Travellers

3.12 In Table 3.1 we concluded that there were some 31.5 million business travellers using the London airports in 2012. This was by far the largest identifiable source of business demand within Europe.

3.13 Passengers travelling on business offer the potential for higher yields as they tend to book later and on peak time flights which can be revenue managed to maximise the returns. **Table 3.4** shows the average one way fare paid by business travellers at each of the London airports taken from CAA Passenger Survey data for 2012[11]. The premium paid by business passengers is clear.

[11] Availability of fares data is limited and while the CAA Passenger Survey is not a perfect source we believe it acts as a helpful indicator.

3.14 For short haul airlines, the minimum requirement to attract business passengers are appropriately timed services offering a double daily frequency. The overlap of the London catchment areas combined with a focus on business oriented destinations with frequency has enabled easyJet to increase its share of business traffic largely at the expense of its competitors. Success in this segment is, however, a function not only of routes and frequencies but also corporate penetration

Table 3.4: Average One Way Fares by Purpose of Travel at London Airports

Haul	Purpose	LCY		LGW		LHR		LTN		STN		All Airports	
Dom.	Business	£122	56%	£76	33%	£100	59%	£57	19%	£57	22%	£83	48%
	Leisure	£78		£57		£63		£48		£47		£56	
Short Haul	Business	£148	41%	£90	20%	£155	62%	£75	6%	£70	24%	£116	60%
	Leisure	£105		£75		£96		£71		£56		£72	
Long Haul	Business	£1,414	46%	£380	25%	£633	93%	£189	4%	n/a	n/a	£609	90%
	Leisure	£971		£305		£328		£182		n/a		£320	

Source: CAA Passenger Survey 2012.

3.15 Furthermore, business passengers have a much greater propensity to purchase premium class fares, which are core drivers of profitability for the FSCs. **Tables 3.5** and **3.6** show the differential between premium class fares at the different London airports and also the distribution of passengers purchasing premium class fares across the different sector types and purposes of travel. It demonstrates clearly the essential value of premium class demand for airlines and the role of business passengers in fulfilling this demand (albeit that clearly a significant proportion of business passengers travel in economy class even on long haul flights). London's position as the largest business demand centre and the largest source of demand for premium class seats is therefore fundamental to its attractiveness.

3.16 London's strength in this area is linked fundamentally to the power and nature of its economy. London is the most important financial and business services centre in Europe and is a major location for corporate headquarters for companies from a wide range of sectors. This corporate client base underpins the strength of the business segment and the city's position as a truly global centre drives the demand for long haul, often premium class, business travel. It should also be recognised that function drives two-way travel. As described above, London is a key origin demand source with business travellers flying out, but it is also an important business destination drawing people in.

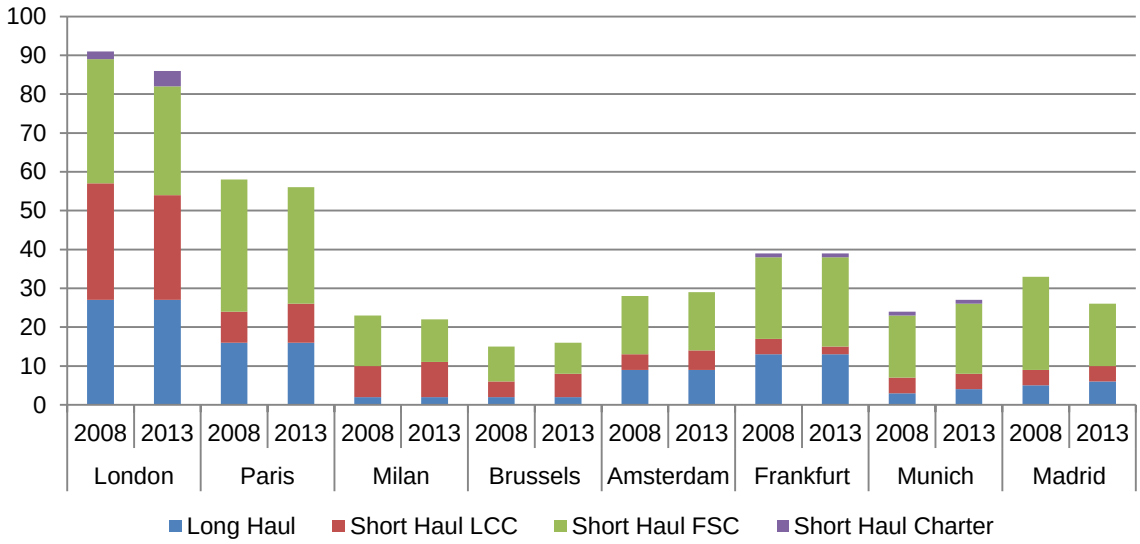
Table 3.5: Average One Way Fares for Premium and Economy Classes at the London Airports			
		Premium	Economy
LCY	Domestic	£166	£108
	Short Haul	£197	£125
	Long Haul	£1,494	£160
LCY Total		**£281**	**£122**
LGW	Domestic	£109	£65
	Short Haul	£184	£77
	Long Haul	£576	£301
LGW Total		**£451**	**£93**
LHR	Domestic	£148	£86
	Short Haul	£278	£117
	Long Haul	£874	£337
LHR Total		**£721**	**£202**
LTN	Domestic	n/a	£51
	Short Haul	n/a	£71
	Long Haul	n/a	£183
LTN Total		**£943**	**£71**
STN	Domestic	£70	£50
	Short Haul	£124	£58
	Long Haul	n/a	n/a
STN Total		**£113**	**£57**
Source: CAA Passenger Survey 2012.			

Table 3.6: Propensity to Purchase Premium Class Seats by Purpose of Travel			
	Premium	Economy	Grand Total
Domestic	**1%**	**99%**	**100%**
Business	2%	98%	100%
Leisure	0%	100%	100%
Short Haul	**1%**	**99%**	**100%**
Business	3%	97%	100%
Leisure	1%	99%	100%
Long Haul	**13%**	**87%**	**100%**
Business	30%	70%	100%
Leisure	9%	91%	100%
Grand Total	**3%**	**97%**	**100%**
Source: CAA Passenger Survey 2012.			

Size and Diversity of London's Air Transport Demand

3.17 Whilst the structure of London's air transport demand reflects the focus and strategies of the airlines operating from the airports in the region, the size of London's demand base also results in a more diverse traffic structure than seen elsewhere, as can be seen in **Figure 3.1**. The much greater presence in absolute terms and in many cases percentage terms of LCCs in London versus the other cities is indicative of the strength of the underlying point to point segment. The hub and spoke nature of Paris CDG, Amsterdam, Frankfurt and Munich all show through in the number of seats offered by the respective full service carriers at these airports, reflecting the importance of network and reach rather than the local passenger demand for these airline airport combinations. They are in other words fundamentally different in the nature of their attractiveness.

Figure 3.1: Seat Capacity by Haul and Airline Segment (millions)

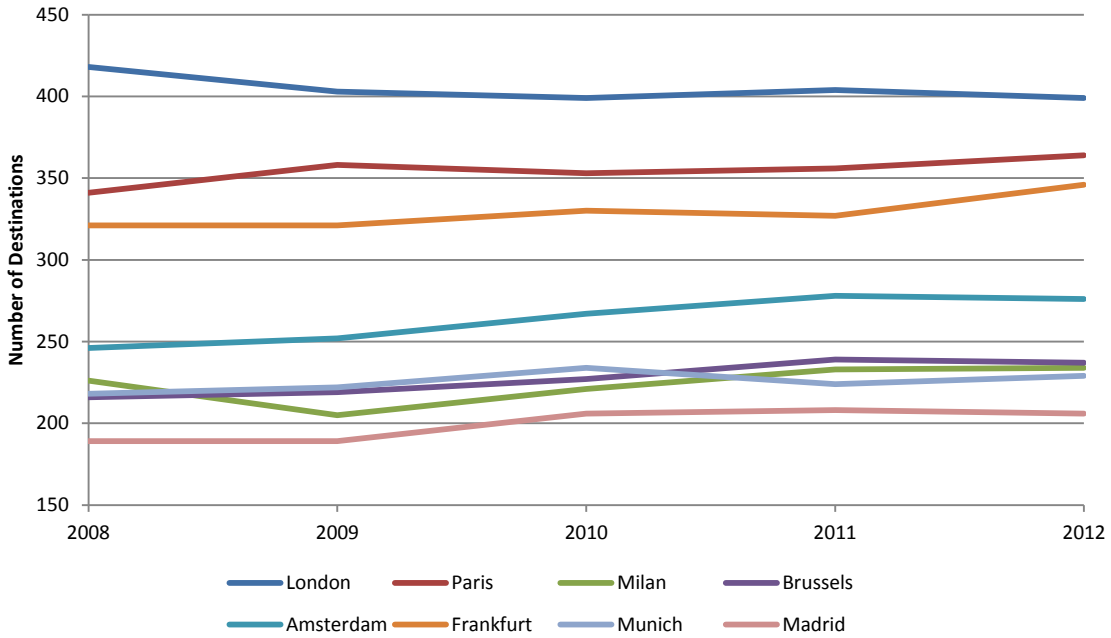


Source: OAG.

3.18 This chart also begins to hint at the hierarchy in Europe in terms of the fundamental attractiveness of the different cities along with **Figure 3.2** below. The chart above shows LCC presence in London declining slightly, while a number of others, and most notably Paris, have seen LCC presence expand. This is reflected in the number of destinations served in each city over time. In London, the growth of the LCCs drove growth in the total number of destinations served prior to 2008.

3.19 However, as demand has matured, the number of destinations has remained broadly steady. Others, notably Paris, have, however, continued to grow the number of destinations offered. Against the background of very large aircraft orders, the LCCs were able to address these cities too and whilst the number of destinations served from London has declined slightly from the heights of 2008, those to/from most other cities have increased. It is possible to examine destinations from a life cycle perspective and in particular where over time new short haul (LCC served) routes become more "marginal" in terms of their contribution. In this respect it is inevitable that a number of routes that are served from "peer group" cities and that have become "accessible" are likely to be more remunerative than the increasingly marginal routes that might be served out of London. In other words, this pattern of development is in fact a reflection of London's fundamental attractiveness in terms of the volume and value of its point to point passenger demand. Its core attractiveness led to it being developed first and that attractiveness holds the core of operations seen in London in place as other cities enter the growth phase.

Figure 3.2: Number of Destinations Served by City

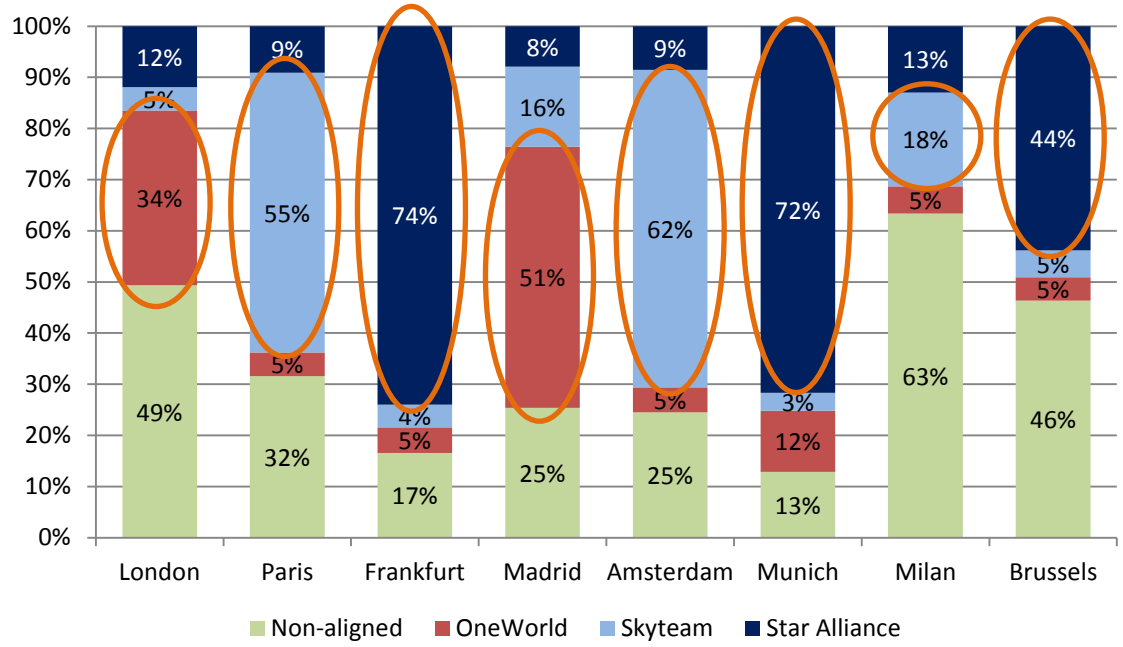


Source: OAG

3.20 Analysis of the position of the various airline alliances in London and in the comparator city further reinforces the message about London's structure and what it indicates about the underlying strength of demand. The alliances provide a 'shadow effect' strengthening the underlying position of the 'home' airline in a hub and spoke network. They are a reflection of history and the long term development arising from strategies to leverage growth to support an airline network far larger than the local demand might support.

3.21 **Figure 3.3** shows the share of seat capacity by airline alliance in each city. With the exception of Milan, where Alitalia's well documented problems have clearly impacted on the position, London has by a considerable margin the smallest presence from the home alliance, oneWorld, at 34% of seats. This is in stark contrast to cities such as Frankfurt, Amsterdam and Munich, where the home alliance can make up nearly 75% of seats. Even Paris, which, as we have noted above, is probably the closest to London in terms of the fundamentals of its underlying demand, has a Skyteam presence of 55% of seats.

Figure 3.3: Seat Capacity by City and Airline Alliance



Note: 'Home' alliance circled in orange.
Source: OAG.

3.22 Considering the destination mix across the various comparator cities is also helpful in both demonstrating that airlines find London an attractive opportunity to serve but also in understanding why. Again, this is essentially about the existence of demand balance in London. London's route network is highly diverse and better balanced in terms of its geographic coverage than most of the competitor cities. This is a reflection of a number of things:

- the strength of outbound passenger segments – this would suggest that London's home passenger demand is sufficiently large that they can support travel to wide range of destinations. This a fundamental attractor for airlines with bases in London;

- the strength of London as a destination – it suggests that London is an important destination for a wide range of areas of the world. This is a core attractor for inbound airlines in particular or those looking for the security of two-way flows where tickets can sold in volume at both ends of the route;

3.23 It also provides a positive in terms of network reach for airlines operating hub and spoke models and seeking to feed traffic to partner airlines.

3.24 **Table 3.7** uses a quotient analysis[12] to examine the relative strengths and weaknesses of the route networks across our comparator cities in terms of geographic coverage. A quotient of greater than 1 suggests a strength and less than 1 a weakness.

3.25 While London clearly has areas of strength, primarily relating to historic links, such as Southern Africa, South Asia and North America, its network is generally more geographically balanced than the other cities. It is does not display the same number of extremes in individual regions and quotients are often close to 1.

3.26 Paris and Frankfurt are probably the closest in terms of geographic balance, but both exhibit more extreme peaks, Africa and the Caribbean for Paris, and primarily Asia for Frankfurt. These again reflect historic links to a significant degree. However, this also needs to be thought of in the context of the evidence of the extent of the importance of the hub and spoke model in each city. For Frankfurt particularly, its breadth is probably more about the need to capture network feed than the strength of the underlying demand.

[12] A quotient shows the ratio of the % of seats offered by City A to a particular world region compared to the % of seats offered across all cities to that world region.

Table 3.7: Route Network Strengths & Weaknesses – Destination Region Quotients								
Quotients	London	Paris	Frankfurt	Madrid	Amster-dam	Munich	Milan	Brussels
Africa : Central/Western Africa	0.8	2.3	0.7	0.6	0.8	0.0	0.1	2.2
Africa : Eastern Africa	0.9	2.2	0.6	0.0	2.0	0.1	0.4	0.8
Africa : North Africa	0.5	2.5	0.6	0.6	0.6	0.3	0.8	1.9
Africa : Southern Africa	1.6	0.6	1.7	0.2	1.4	0.7	0.0	0.2
Asia : Central Asia	0.7	0.2	3.3	0.2	3.0	0.0	0.4	0.0
Asia : North East Asia	0.9	1.3	1.9	0.1	1.5	0.9	0.4	0.1
Asia : South Asia	1.8	0.7	1.4	0.0	0.6	0.6	0.3	1.2
Asia : South East Asia	1.3	0.9	1.7	0.1	1.6	0.7	0.4	0.2
Europe : Eastern/Central Europe	1.0	0.8	1.3	0.4	0.8	1.7	1.1	1.3
Europe : Western Europe	0.9	0.9	0.8	1.2	1.0	1.1	1.3	1.1
Latin America : Caribbean	0.9	2.0	0.5	1.7	1.1	0.1	0.2	0.3
Latin America : Central America	0.4	1.0	0.8	4.6	1.4	0.1	0.0	0.1
Latin America : Lower South America	0.5	1.2	1.2	3.6	0.7	0.3	0.4	0.0
Latin America : Upper South America	0.0	1.0	0.8	5.9	1.7	0.0	0.0	0.0
Middle East	1.3	0.9	1.4	0.4	0.8	0.8	0.8	0.5
North America	1.5	0.9	1.3	0.5	1.2	0.6	0.2	0.6
Source: York Aviation analysis of OAG.								

3.27 Overall, the size and diverse nature London's demand base suggests that it is fundamentally different to the others and in consequence airlines as group have chosen to serve it differently to other cities. This is reflected in its structure and suggests an underlying demand that is fundamentally stronger. In combination, the size and diversity of London offers airlines opportunities to operate a significant geographic range of routes, using different products and business models to meet and fulfil the needs of individual passenger demand segments. Elsewhere, where this volume and diversity is not as great, the ability to segment and fulfil passenger need is not as well established. This is particularly an issue for airlines based in London. This reinforces the messages drawn out in Table 3.1.

The Evolution of London's Current Position

3.28 London's position as Europe's leading economic centre is long established. Its position as a commercial and trading centre has evolved as the global economy has changed however its pre-eminence has not been challenged for some time. Although consistent time series data on the economic performance of individual cities is difficult to come by, **Table 3.8** below shows the recent performance of our comparator group on two key metrics since 1993. We have selected three time periods:

- 2011/2012 - the latest available;
- the minimum growth year between 2007 and 2011 showing the impact of the global recession on each city;
- the long run trend between 1993 and 2007, showing evolution up to the global recession.

Table 3.8: Past Economic Performance

	1993 to 2007		2007-2011 (minimum year)		2011-12	
	GDP per capita	Employment	GDP per capita	Employment	GDP per capita	Employment
London	3.5%	1.5%	-5.3%	-2.3%	-1.0%	1.8%
Paris	1.8%	0.8%	-3.3%	-1.5%	0.0%	0.0%
Milan	1.1%	1.0%	-7.5%	-1.4%	-2.7%	-0.3%
Frankfurt	1.4%	0.5%	-3.9%	0.5%	0.6%	1.3%
Munich	2.1%	0.8%	-4.8%	0.8%	0.4%	1.9%
Madrid	2.6%	3.8%	-4.5%	-5.5%	-1.6%	-4.3%
Brussels	2.1%	1.0%	-3.1%	0.0%	-1.0%	0.2%
Amsterdam	2.4%	1.5%	-3.8%	-1.3%	-0.9%	-0.2%

Source: Brookings Institute MetroMonitor 2012.

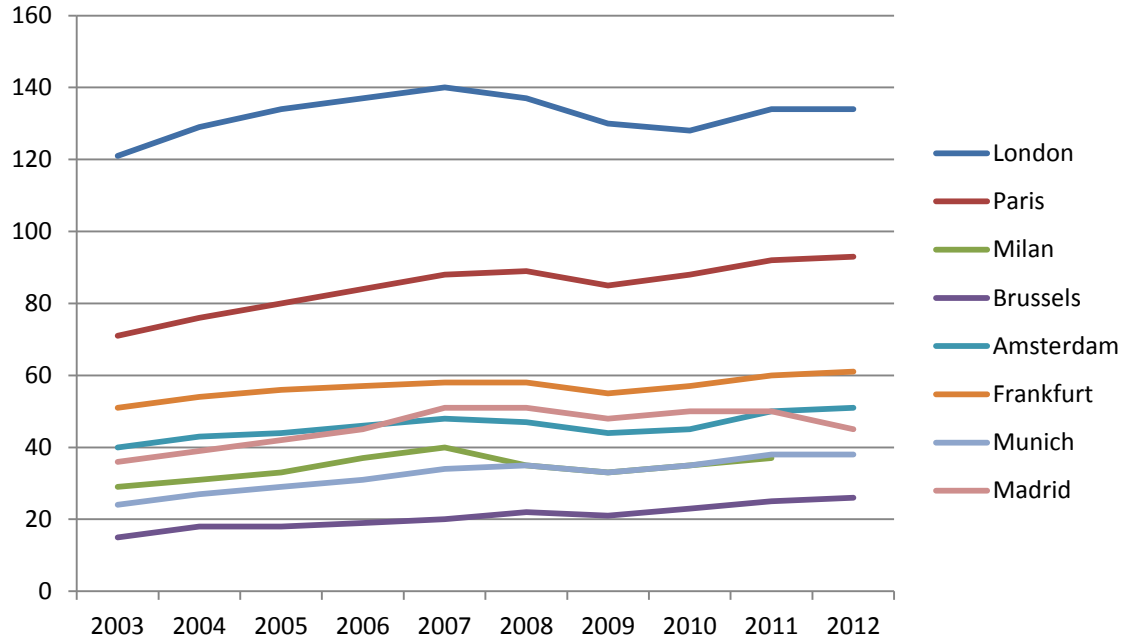
3.29 This demonstrates that London has performed consistently strongly over the last 20 years, but has been relatively badly affected by the global financial crisis. Its long term growth in GDP per capita (1993 to 2007) has been substantially higher than any of its comparators and its ability to generate employment is right at the top end of the group, with only Madrid above it.

3.30 The impact of the global recession in London was severe and GDP per capita and employment performance were amongst the worst of the group. However, the city's economy is now recovering with employment growth particularly strong.

3.31 Overall, this pattern helps to explain how London's attractiveness has developed. Put simply, over the long term, it has been the fastest growing and most dynamic major city in Europe.

3.32 **Figures 3.4** and **3.5**[13] shows the evolution of the various cities' traffic over the last ten years. Given our findings in relation to the strength and attractiveness of London as a whole and indeed the performance of London's economy over the last 20 years, the results are at first glance somewhat surprising. London has experienced by far the slowest rate of growth in passenger numbers over the last 10 years (although it has still grown substantially in volume terms). Between 2003 and 2012, passenger numbers at the main London airports grew by around 11%. This compares to around 30% in Paris, 26% in Milan, 68% in Brussels, 28% in Amsterdam, 19% in Frankfurt, 58% in Munich and 27% in Madrid.

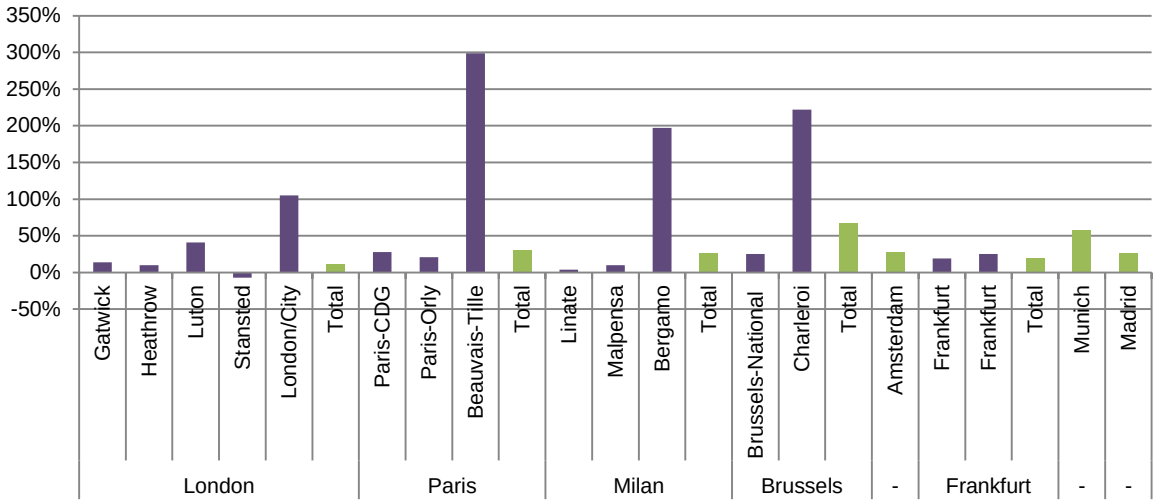
Figure 3.4: Passenger Traffic by City (millions)



Source: Eurostat.

[13] The detailed data behind these charts can be found in the Data Appendix in **Table A1**.

Figure 3.5: Growth in Passenger Demand by Airport by City 2003 to 2012



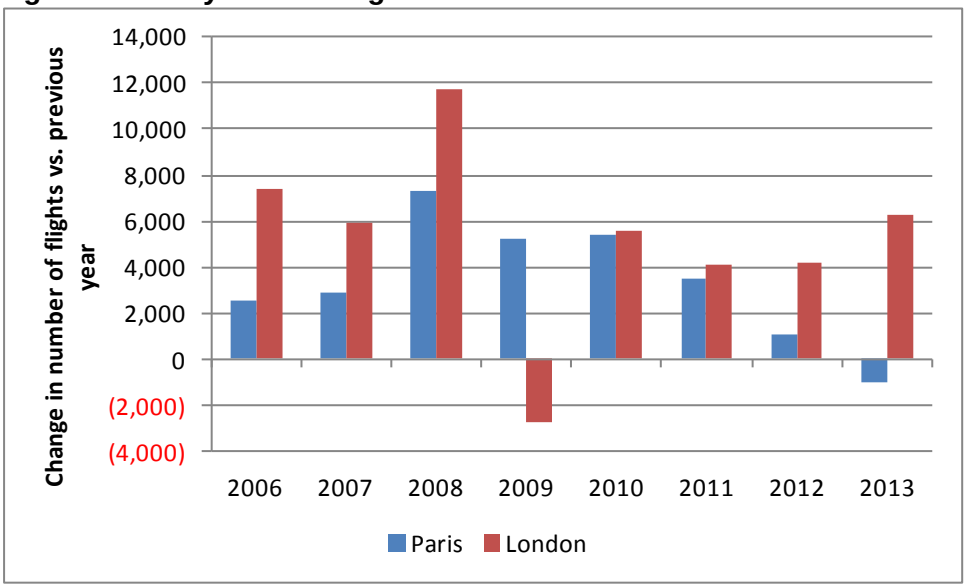
Source: Eurostat.

3.33 There are, however, a number of factors that need to be considered when examining these trends:

- as with almost anything, selection of the time period has a bearing on the interpretation of the data and any trends. Until the global financial crisis, growth in passenger numbers for London was the strongest within the peer group. However, since that time London has yet to recover to previous levels of passenger numbers, reflecting the weakness at Stansted and, in particular, the decision of Ryanair to allocate growth away from Stansted[14]. At the same time, the main LCCs have started to build out their presence in other cities as conditions have become more favourable. **Figures 3.6** and **3.7** demonstrate this point in relation to Paris. They show the changes in capacity for easyJet and Ryanair for London and Paris between 2005 and 2013. The patterns in part reflect firstly an opening up of Paris and weakness in the London economy and then the impact of a recovering London economy.

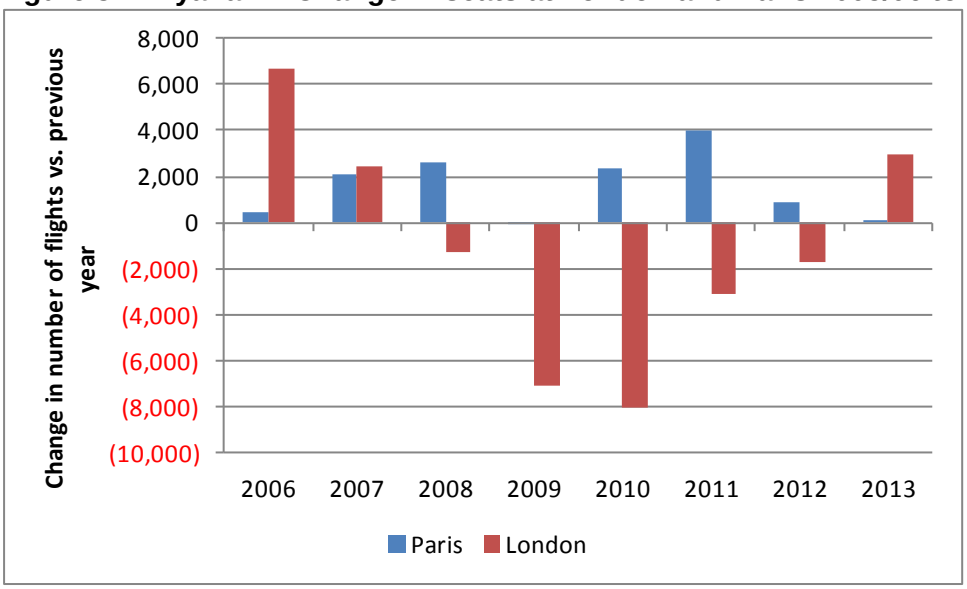
[14] It is also a reflection of the particular sensitivity of low fare traffic to the economic background and also in the case of Ryanair the structure of its traffic.

Figure 3.6: easyJet – Change in seats at London and Paris 2005/06 to 2012/13



Source: DIIO

Figure 3.7: Ryanair – Change in seats at London and Paris 2005/06 to 2012/13



Source: DIIO

- there is also the issue of subsidy and support for LCC development through discounted airport charges and other mechanisms against a background where for some LCCs their yields across a number of cities and on an increasing number of routes are broadly similar. In these circumstances the availability or otherwise of financial support is likely to become an important determinant underlying fleet deployment decisions and of the consequent traffic effects[15]. Combined with the recession, the withdrawal of discounts at Stansted in 2008 has clearly had a substantial impact on traffic performance at that Airport;

- demand maturity - London is one of the oldest major air transport centres in the world and may be more mature than some of the competitor cities within the group, particularly in terms of the development of LCC services. In these circumstances it is perhaps unsurprising that it will tend to grow more slowly. However, we do not believe that this is the primary driver of the trend. Indeed, the majority of the growth that has occurred in the London system since 2003 has been the result of the LCCs and primarily easyJet and Ryanair and their aircraft deployment decisions. However, this is not to say that these airlines have not changed their behaviour in the face of demand maturity. As their "traditional" destinations have showed maturity their focus for growth in London would appear to have moved towards attracting more and higher yield traffic from their full service competitors[16];

- capacity constraints in the London system - as is common knowledge, Heathrow is essentially full and has been for a considerable period of time. As a result, following a significant jump in 2004, passenger numbers have been essentially flat over the period. Similarly, Gatwick is suffering from significant capacity constraints at peak times. However, this is a reflection of its traffic structure and the preponderance of outbound short haul leisure routes. This again, prima-facie, would appear to have impacted on passenger growth over the period.

[15] The issue of whether financial support for an airline acts as a market distortion is an important issue particular where the route fails to become self sustaining following the withdrawal of the support.
[16] To this end network density and frequency are particularly important.

As identified above, the counterpoint to this is the performance of Stansted over the period. While during the early part of the period, through to 2007, the airport grew quickly, perhaps benefitting to some degree from constraints elsewhere, it has been in decline following a significant increase in payable airport charges in 2008 and the impact of the economic slowdown. However, ultimately, it should and has been recognised that the airport offer within the London area is not homogenous. The airports possess different characteristics both in terms of the geographical space they serve and indeed in terms of their suitability and attractiveness to different airline types. Therefore, it has not been possible for free capacity at one airport in the London area to completely relieve the constraints elsewhere and as a result growth has been impaired. In the context of the impact of constraint on growth, it is also interesting to note Frankfurt's performance. Until the opening of its new runway in 2011, Frankfurt Airport was suffering similar if not as extreme issues to Heathrow in terms of runway capacity constraints. It is notable that the city of Frankfurt has been the second worst performer in terms of air passenger demand growth over the last 10 years.

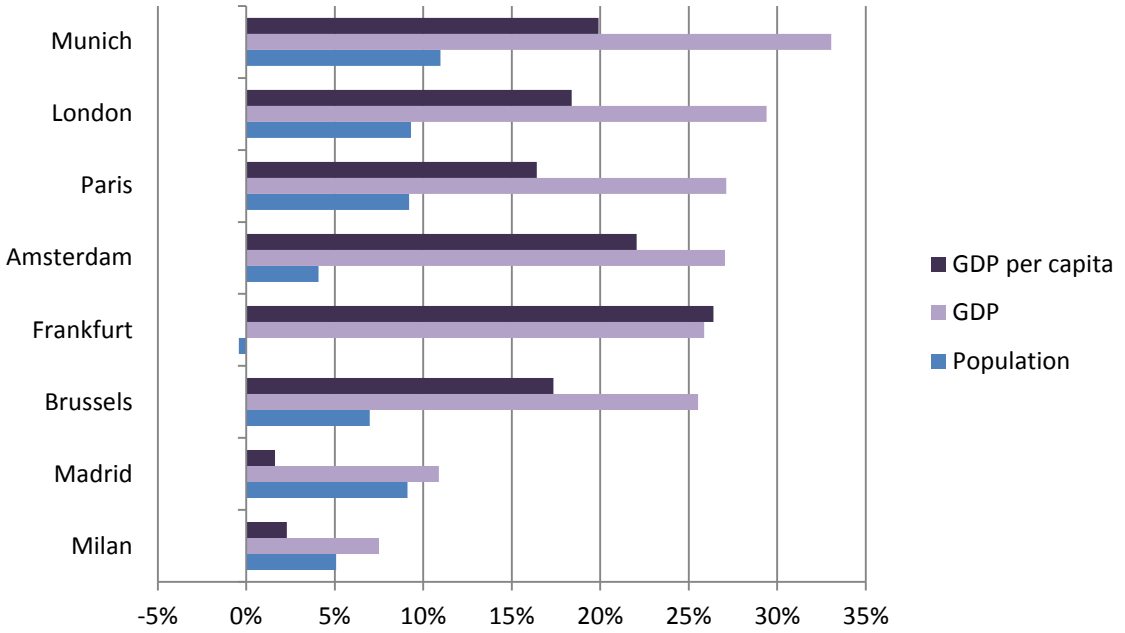
3.34 Overall, this would suggest that there may be a limited amount that can be learned about London's fundamental attractiveness and its potential strategic importance to airlines at this macro level from its historic traffic performance.

Expected Changes in Key Macro Factors

3.35 London's position in the future will also be a key factor in its ability to exert a strategic influence over airline manager's deployment decisions. Fundamentally, this is about whether, as a city and hence its role as a source of origin and destination demand, it is likely to retain the current relative advantages identified compared to its main European competitors.

3.36 **Figure 3.8** sets out forecasts for three key macro indicators for each of our comparator cities.

Figure 3.8: Growth in Key Economic Metrics 2010 to 2025



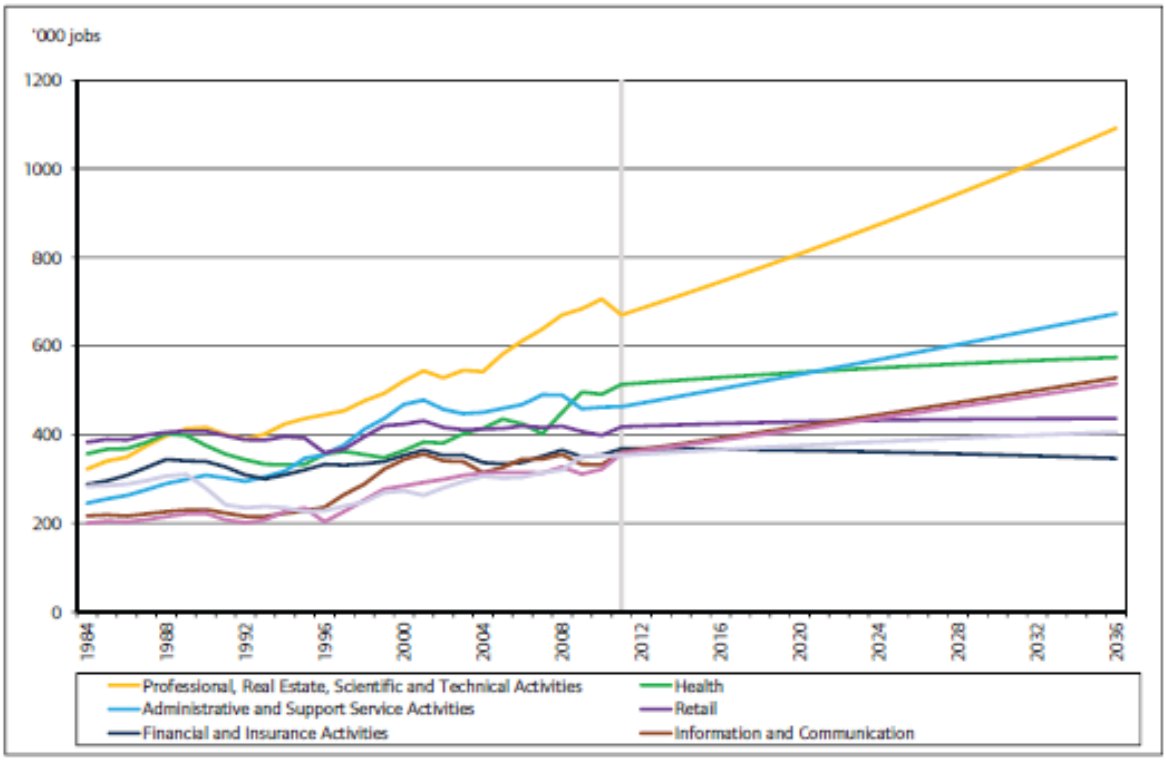
Source: McKinsey Global Institute Urban World.

3.37 The data has been ranked in terms of the most fundamental traffic driver, GDP, over the 2010-2025 period. Whilst it appears that Munich will grow by more over the period this is from a lower base and the reality is that over this fifteen year period growth is broadly similar and that the positions of the cities are unlikely to change from the ranking that we showed in Table 3.1.

3.38 This growth is expected to be driven by both increased population, with London expected to remain amongst the fastest growing cities in the group in terms of population, and improving wealth, with GDP per capita growth above average for the group. This suggests that the conditions will continue to exist in London to drive both volume and value growth in the medium term and retain, and indeed possibly enhance, its position as Europe's leading economic centre.

3.39 It is also important to recognise the breadth and depth of the London economy. Despite the focus on the financial sector and its problems over the last five years, London's economy is diverse and is driven by a range of sectors. **Figures 3.9** and **3.10** show the GLA's projections of employment by sector and occupations in the London economy. This supports the view set out above, that London will grow significantly over the coming decade. Inevitably uncertainties remain. However, this economic diversity means that London will be in a strong position whatever the nature of growth in the global economy and will be in a good position to widen the gap to its key European rivals.[17]

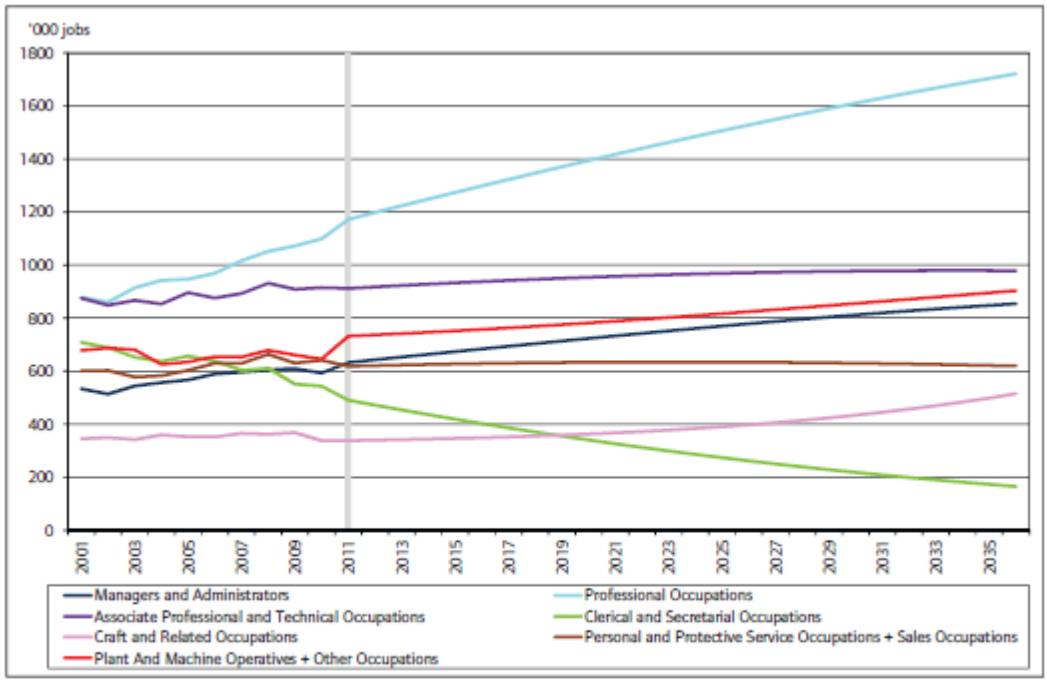
Figure 3.9: Employment projections for London's larger sectors



Source: GLA Economics Working Paper 52, Workforce Jobs series (ONS), GLA Economics calculations

[17] Indeed we have seen Ryanair's management become more positive about the UK in general and restoring/increasing its presence at Stansted and it has now reached "terms" with Stansted's new owners MAG.

Figure 3.10: Changes in occupation demand London 2001-2036



Source: ONS Annual Population Survey, ONS Labour Force Survey, ONS Workforce Jobs series and GLA Economics calculations

Slots as a Store of Value

3.40 London's position as Europe's leading city economy and the fact that this position is set to persist over the coming years, combined with the capacity issues within the airport system, creates an additional tie for airlines over and above that that might be implied by the macro features of London itself. From an airline perspective this might to varying degrees be described as a "fortress London" strategy where, against the background of capacity constraints and growing local demand, the financial performance of any route should improve[18]. In these circumstances slots held at the London airports begin to have a dual function.

[18] From a company perspective such a strategy is particularly attractive and should enable them to improve their financial performance.

3.41 A pair of take off and landing slots may either represent the source of a stream of profit and cash or a store of value where the value can be realised by changing the route that they are used for or by selling them to another airline. For instance, on a standalone basis, BA's short haul business overall is, at best (in a good year), marginally profitable (not least due to allocation of revenue), but from a network perspective short haul provides important network feed as well as the slots, over the longer term, providing an opportunity to operate more long haul services, which, almost by definition, have a far greater profit and cash potential. In a similar way, an analysis of the services offered by the LCCs shows that whilst the destinations served from a particular pair of slots might vary between the days of the week, the need is to ensure that the slots are retained under the "use it or lose it" rules. Furthermore, and particularly in the case of the LCCs, the need is to have sufficient early morning departure slots from an airport to ensure that the number of rotations in any day can be maximised. This is particularly the case where London is seen as a source of originating demand.

3.42 This dynamic is exacerbated by the current capacity position in London. 'Cashing in' slots and either exiting London or reducing presence can realise a significant one-off benefit for an airline but this has to be set against what it means in terms of access to London in the future. Slots represent a 'right of access' to in this case London and in particular to serve it through the current preferred[19] airport. London is unparalleled in its level of attractiveness in Europe and set to remain so or even stretch its lead, while at present there is very little prospect of being able to 'get back in' to London in the future without incurring significant costs to repurchase slots if it is possible at all. Hence, slots are a store of value for the future. Giving up those slots is therefore a major strategic decision about the future of the airline.

Potential Countervailing Impact of Slot Values

3.43 So far, we have considered the features of London that might position it as strategically important for airlines. Given our analysis it would seem reasonable to suggest that there are strong volume and value drivers that support this proposition. However, it is also important consider an issue that could counteract this position or at least provide potential compensation to airlines seeking to reduce their presence in London such that a loss of long run profitability resulting from the change might be significantly reduced. This is the potential value that could be realised from the sale of slots at Heathrow or Gatwick.

[19] At one extreme preferred may represent the best available which may be a residual.

3.44 There is an argument to suggest that slot values at constrained airports should represent the long term value that can be extracted from London from using those slots. Therefore, it might be suggested that the selling of slots should offset any future opportunity cost incurred by switching. However, in our view there are a number of problems with this position:

- ✈ it could be argued that if an airline is selling a slot this represents the outcome of a strategic decision where switching costs are not considered to be an issue or indeed the reason for giving up on London but may be an indirect outcome of other events, for instance real difficulty in the business and a shrink to survive strategy or potentially a need for cash to survive and disposing of the London slots is a way to raise cash. In other words, the value that is realised from the sale may relate not to the value associated with serving London over the long term but to what is required by the individual airline to survive or to meet its immediate short term needs;

- ✈ the question must also be asked as to whether slot prices are in fact an accurate reflection of costs and benefits derived from a competitive market. The market is highly illiquid, values are volatile, there are substantial potential distortions from grandfather rights and the issue that for many they were essentially free goods, and there is really very limited information on slot transactions. In these circumstances it would seem difficult to support an argument that the market is efficient and is pricing slots in the way described above;

- ✈ slots are ultimately not homogenous or of the same or even necessarily similar value to buyers and sellers. The timing of slots is fundamentally important to many airlines but their need for particular times is not necessarily the same. Hence, their value to the seller may not necessarily be aligned with its long term value to that airline but with the value to potential purchasers;

- ✈ an individual decision by an individual airline in relation to a single route is not necessarily reflective of the strength or the value of London as a whole. Access to London is in fact access to the right to serve one of many much smaller segments with very different characteristics.

3.45 In our view, the price of a pair of slots is the price to enter London or a switching benefit on leaving London and that the price for different buyers and sellers can be markedly different. The revenue gained from London is a separate stream of benefit once you have access to it. Hence, slot values do not necessarily counteract the strategic importance of London.

Conclusions

3.46 Our analysis of the core drivers of volume and value for air passenger demand suggest suggests that London is in a unique position in terms of its attractiveness to airlines. Fundamentally, it is:

- bigger and more diverse;
- more balanced in terms of inbound and outbound flows;
- has stronger drivers in terms of value through the size of the business and premium travel segments.

3.47 These features are reflected in the way that airlines choose to serve London. There is a much greater proportion and absolute volume of point to point type traffic in London compared to others and the pattern of development of the LCCs over time in particular points to London as the premier city in Europe.

3.48 Looking forward there seems little reason to expect the situation to change. London is expected to grow substantially in the coming years and, if anything, is likely to increase its advantage over other cities in Europe. It would seem reasonable, therefore, to suggest that its fundamental attractiveness will remain.

3.49 In the following section we consider the impact of these features on the way airline groups have chosen to serve London in more detail and consider what this says about London's fundamental attractiveness.

4 AIRLINE BEHAVIOURS AND REACTIONS

Introduction

4.1 In this Section, we consider the behaviour and reactions of the two main airline types in London and consider what this evidence suggests about the fundamental attractiveness of London and, therefore, potentially its strategic importance to individual airlines.

4.2 At the outset, it should be noted that we have built from a position, based on our analysis in Section 3, that London is a fundamentally attractive opportunity and that in all likelihood it is more attractive than any other city in Europe. We have also focussed our attention primarily on airlines that have a choice in terms whether or not to serve London. During the course of this research, we have come to a view that for full service airlines for which London is their 'home' base, in other words primarily British Airways or Virgin Atlantic, the strategic importance of London to them is almost self-evident. Their businesses are built around the fundamental features of London. There is simply no realistic prospect of them individually being able to shift substantial capacity, either aircraft or frequencies, away from London. London is not just strategically important but strategically fundamental.

Full Service Airlines

4.3 Full Service Airlines currently account for around 64% of seats offered in London spread across long haul, short haul and domestic segments. This includes a wide range of airlines serving London from around the world. **Table 4.1** shows the top 20 full service airlines by seats offered in Summer 2013 in London.

Table 4.1: Top 20 Full Service Airlines in London by Seat Capacity

Airline	Country	Seats	Airline	Country	Seats
British Airways	United Kingdom	15,813,418	Swiss/Crossair	Switzerland	539,612
Virgin Atlantic	United Kingdom	2,382,926	Flybe	United Kingdom	466,086
Lufthansa	Germany	1,139,712	Delta Air Lines	USA	453,064
Aer Lingus	Ireland	1,129,892	Singapore Airlines	Singapore	333,483
United Airlines	USA	815,568	Turkish Airlines	Turkey	321,990
American Airlines	USA	814,081	TAP Portugal	Portugal	293,057
Emirates	UAE	737,710	Cathay Pacific	Hong Kong	285,794
Air France	France	737,265	Qatar Airways	Qatar	277,771
Air Canada	Canada	581,326	KLM	Netherlands	261,384
SAS	Sweden	555,520	Alitalia	Italy	250,917

Source: OAG.

4.4 If, as described above, we focus on the airlines that have choice in relation to serving London, we can examine why London is such an attractive place.

4.5 For these airlines the key issue is whether London is seen as a source of originating demand or as a destination. It would appear both from our analysis and the interviews undertaken with airlines that London is seen as unique in terms of its strength as both a source of origin and destination demand[20]. Whilst the intuitive view might be that for an airline based and with a significant presence at a London airport, the city is a source of originating demand, this is clearly is a perspective that is too narrow. International demand aggregators see London as a source of local demand as well as a destination from the other side of their hubs.

4.6 **Table 4.2** shows the make-up of traffic for a number of key network airlines serving London.

Table 4.2: Make up London Traffic for Key Network Airlines

		Origin & Destination					Transfer Beyond Hub				
		UK		Foreign			UK		Foreign		
		Business	Leisure	Business	Leisure	Total	Business	Leisure	Business	Leisure	Total
Air France	CDG	5%	8%	14%	23%	51%	5%	24%	7%	13%	49%
Finnair	HEL	11%	13%	22%	31%	77%	4%	6%	5%	8%	23%
Cathay Pacific	HKG	5%	14%	4%	12%	35%	3%	31%	6%	25%	65%
Emirates	DXB	4%	12%	3%	8%	28%	5%	35%	8%	24%	72%
Etihad	AUH	4%	12%	2%	6%	24%	7%	40%	4%	25%	76%
KLM	AMS	13%	6%	18%	20%	57%	5%	15%	4%	18%	43%
Lufthansa	FRA	10%	9%	16%	25%	60%	4%	10%	6%	20%	40%
Malaysian Airlines	KUL	1%	20%	3%	11%	35%	1%	38%	3%	24%	65%
Qatar Airways	DOH	7%	5%	7%	6%	25%	3%	41%	6%	24%	75%
Singapore Airlines	SIN	3%	11%	4%	10%	28%	3%	41%	6%	22%	72%

Source: CAA Passenger Survey 2012.

4.7 This analysis demonstrates the diversity of the traffic to and from London for these airlines. Clearly, London is a source of originating demand, with significant numbers of UK travellers using these services to reach either the immediate destination or a destination beyond the airlines' hub. However, it is also very much a source of destination demand, with significant numbers of foreign travellers on the services coming from both ends of airlines' routes and points beyond the hubs.

[20] However the ability to benefit from these attributes depends upon the location and strategy of each airline.

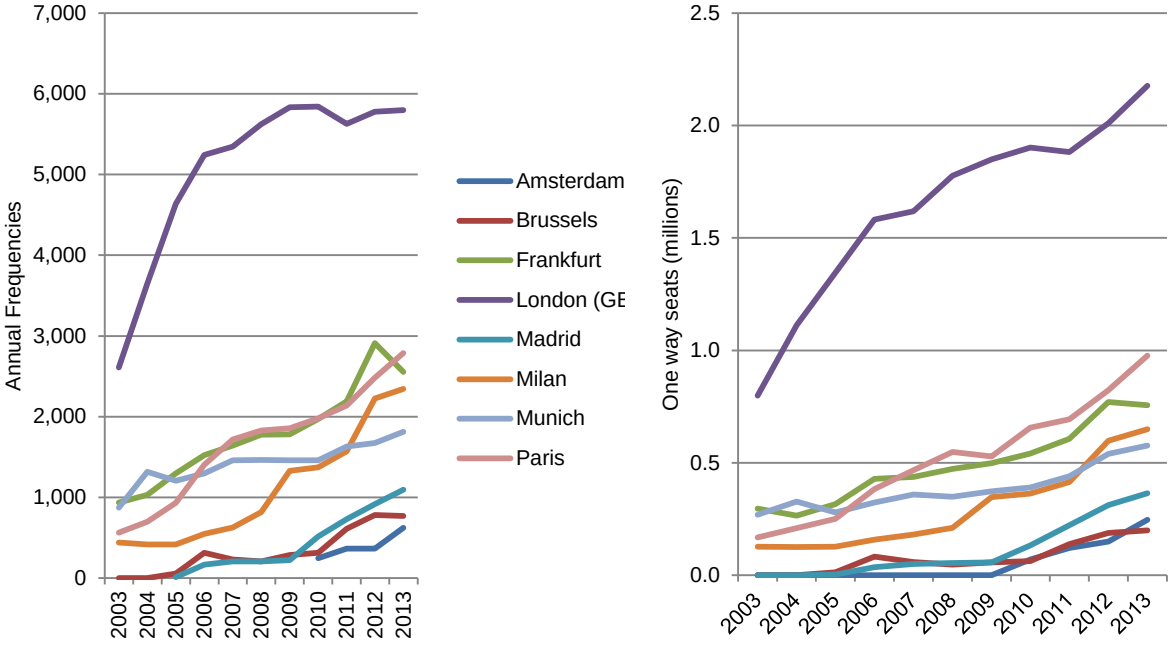
4.8 The pattern of business use on these routes is also worth noting. In pure terms business percentages can be high, reflecting the strength of the London business demand. For the European hubs shown, the average business component of traffic is around 38%. It is lower for the long haul hubs at around 17%, but this is still significant. What is also worth noting is the extent to which this business traffic is inbound to London. In every case except Abu Dhabi, the inbound business percentage is higher than the outbound. This suggests that London is a key destination point for these airlines in serving value traffic from their own local cities and from points behind their hubs.

4.9 Understanding how London compares to its comparators in relation to its attractiveness for full service airlines from this perspective is difficult. Ultimately, most major European cities are relatively mature demand bases and are served by the main network airlines and have been for some time. Patterns and trends within service levels are, therefore, difficult to identify. However, previous comments made to the CAA and to us during this research from major FSCs serving London have emphasised London's pre-eminence in terms of European destinations, particularly in terms of origin and destination demand segments. The one group where some conclusions might be drawn from analysis of recent traffic development patterns is with the Gulf based airlines.

4.10 The Gulf airlines, and Emirates in particular, have had a major impact on traffic flows to/from London to the Indian sub-continent as well as to South East Asia and particularly Australia. The ability to overfly Europe and connect traffic from the Indian Sub-continent and also some South East Asian destinations to North America has also had an impact on connecting traffic over Heathrow in particular. Emirates currently serves London eight times a day (5 x A380 to Heathrow and 3 x B 777-300 to Gatwick) which feed and de-feed Emirates' banks at Dubai. The nature of the bank structure at Dubai minimises the dwell time. Evolution of these airlines in Europe over time across our comparator cities gives a strong indication of how the hierarchy within Europe works for FSCs. The number of annual frequencies and seats offered by the three main Gulf airlines, Emirates, Etihad and Qatar, to / from each of our comparator cities is shown in **Figure 4.1**.

4.11 The pattern that emerges is stark. These airlines entered London much faster and with much greater capacity than at the other European cities. Between 2003 and 2005, when service to most of the comparators was growing gently, the number of frequencies to London more than doubled from a higher base. Currently, the number of frequencies and seats offered by the Gulf carriers in London is more than the combined figure for Paris and Frankfurt. This highlights not only the strength of London as a source of local and destination demand but also the hub and spoke structure of Air France and Lufthansa.

Figure 4.1: Development of 'Middle East' Airlines from Europe



Source: OAG.

4.12 Since 2008, there has been a levelling off in London in terms of frequency build (although seat capacity has increased with the introduction of more A380s) and frequencies to the other cities have continued to grow. In many ways this is similar to the pattern first highlighted in relation to LCCs in Section 3. The Gulf airlines expanded out the most profitable and attractive city first, London. It is only now as other cities have grown and matured that they offer a level of attractiveness sufficient that they are winning marginal decisions about capacity growth against London.

4.13 However, the attractiveness of London for overseas airlines does need to be set in the context of their wider activities. London is an important and potentially highly profitable opportunity but for such airlines it is a small part of their overall network. For example, for American Airlines flights to Heathrow are just about 10% of its international total (excluding intra N America), for JAL it is 213,000 seats a year out of 11.4m international seats and for ANA it is 188,000 out of 8 million. Hence, while London may be strategically important as it offers a potentially uniquely profitable opportunity, they will clearly not be tied to the same extent as UK based FSC. This does not mean, however, that issues around the irreversibility of any decision to exit or reduce presence in London due to capacity constraints will not be a consideration.

4.14 The nature of the hub and spoke network in London is also worth further mention to the extent that it is likely to have differential impacts on different groups of FSCs. This relates primarily to the shadow effects of alliances. The home alliance for London is oneWorld, built around the British Airways hub at Heathrow. As we have seen above, the other alliances, while they clearly have a presence at Heathrow, it is much smaller and not sufficient to develop a significant and real alternate 'hub'. While we noted in Section 2 that the existence of transfer traffic at Heathrow was not in and of itself an indicator of the strategic importance of London, we did note that the nature and size of the transfer traffic segment might be for some airlines. This group is essentially the oneWorld alliance.

4.15 OneWorld's presence at Heathrow is far larger than its presence at any other European airport. As such, London becomes the centre for feeder traffic for oneWorld airlines in Europe, which creates an additional attraction for London over and above the fundamentals of the local demand. This point has been emphasised by Cathay Pacific particularly in previous statements to the CAA. **Table 4.3** shows the top 10 airports in Europe by oneWorld airlines' departing seats. Heathrow is nearly twice the size of the nearest alternate oneWorld destination, Madrid.

Table 4.3: Top 10 OneWorld Airports in Europe	Seats (Summer 2013)
London Heathrow Apt	14,947,649
Madrid Barajas Apt	7,545,496
Berlin Tegel Apt	3,853,749
Helsinki-Vantaa	3,805,271
Moscow Domodedovo Apt	3,450,835
Duesseldorf International Airport	3,084,657
Palma de Mallorca	3,074,764
London Gatwick Apt	2,027,348
Munich International Airport	1,846,959
Barcelona Apt	1,398,786
Source: OAG.	

4.16 It should be noted that London's significance for oneWorld does not mean that it is unattractive of other alliances. As we have seen already, airlines such as Lufthansa, Air France and KLM maintain a significant presence in London because of its importance in providing source and destination traffic to the relevant Star Alliance and Skyteam hubs.

4.17 Moving forward it is important to consider whether the current position for FSCs is going to persist. As described in Section 3, in our view it is highly likely that London is going to remain pre-eminent in terms of its fundamental drivers of volume and, particularly importantly from an FSC perspective, value traffic. This would suggest that London is going to remain fundamentally attractive to FSCs. However, there are a number of issues that do perhaps merit further consideration from an FSC perspective:

- **Ability to Grow in London** – FSCs within London are heavily concentrated on Heathrow, which is, as is well documented, heavily capacity constrained. This means that acquiring slots at the 'preferred' airport for London is either extremely difficult and / or very costly. Hence, growth in destinations or the ability to grow frequency to existing destinations is limited. The question should perhaps be asked as to whether this is an issue that is likely to impact on London's fundamental attractiveness from the perspective of FSCs in the near future. In our view this is unlikely to be a significant issue in the short to medium term for existing airline customers. London's demand is relatively mature and the majority of destinations that warrant serving currently are likely to be already served. If this were not the case, then existing operators based in London would move capacity to serve them or new entrants would be prepared to acquire the necessary slots to serve them. Growth in passenger numbers will come primarily in the near term from additional frequencies and larger aircraft. This lack of room for growth is not likely to undermine fundamental attractiveness.

- **Impact of the Sale of BMI to British Airways** - the attraction and value in Lufthansa's sale of BMI to British Airways, in what was a significantly loss making business, was the Heathrow slot portfolio of 56 pairs of slots. Essentially, it was of a greater value to British Airways than to Lufthansa and more widely the Star Alliance as it became clear that, whilst the slot portfolio might have been a necessary condition for success in respect of establishing a meaningful presence in London and at Heathrow in particular, it wasn't a sufficient condition in ensuring either a competitive position vis a vis British Airways and OneWorld or one that would necessarily result in a profitable outcome. Furthermore, Lufthansa's network remains focused on its hubs of Frankfurt and Munich and, more widely as a group, Zurich and Vienna, and despite the significant London slot portfolio that the ownership of BMI brought, it was unlikely that Lufthansa would achieve the necessary level of corporate penetration given the presence of British Airways. For all companies (whether airlines or not) there is always the issue of whether greater value for its owners might be obtained through trading or the disposal of all or part of the business. The sale of BMI also clearly has had a secondary impact upon London and in particular Heathrow. Whilst it is still an important source of origin and destination demand for airlines in the STAR alliance (of which BMI was a member before its change in ownership), the loss of BMI's feed from the UK regions to/from the STAR airlines' services at Heathrow has had some impact upon the economics on some routes. Geographic flow should always be taken into consideration and in this respect traffic that could flow across Germany as an alternative to Heathrow is now fed from the UK regions, across Frankfurt and Munich, into the STAR airlines operating from there, with the consequence that the relative attractiveness of these German airports has increased as a result of network rather than local demand issues as the direct origin and destination segments around these cities remain much less attractive than London. Conversely although British Airways acquired a loss making business in BMI, the turnaround programme that it has implemented in removing duplicated costs means that it has a better chance of generating meaningful returns for the portfolio. In particular, it provides BA with an opportunity to grow at Heathrow without the need to further cannibalise its existing short haul network;

- **Delta's Acquisition of Virgin Atlantic Stake** – in December 2012 Delta announced that it was to acquire a 49% stake in Virgin Atlantic. This deal could potentially create some additional ties for the airline to London as key aims for the deal will be to feed traffic to / from Delta / Skyteam's US network on to Virgin Atlantic's network out of Heathrow and to provide Delta, in particular, with greater leverage in accessing the corporate business segments from London;

- **The Potential for a Second Alliance Hub in London** - whilst the focus of this review has been on the importance of London as an air transport centre, it is also important to recognise the role and impact that alliances have. The nature of the London's demand inevitably has an impact on the nature volume and more particularly the value of the traffic. Whilst a hub and spoke system aggregating demand over a particular airport may deliver traffic volume, almost by definition the passengers have a choice of options to fly between the original origin and ultimate destination and as a result this greater competition results in lower fares. Most European transfer traffic is focused on connecting short haul with long haul and long haul with long haul. Whilst all alliances are represented at all major airports in Europe, the reality is that the main focus of the alliance is where the principal European partner operates from. As a consequence, whilst there is a view that there is the potential for another alliance group to establish a position vis a vis British Airways and oneWorld in the London area this would appear unlikely for a number of reasons which include:

  - there is no domestic partner to provide regional feed;

  - both Skyteam and Star Alliance already feed and defeed their main European hubs from the UK regions;

  - the challenge of achieving sufficient penetration of the higher yield corporate travel segments in the face of incumbents is essentially too great.

4.18 Overall, FSCs value London for many of the reasons described in Section 3. For the 'home' FSCs, the relationship is fundamental. Their business models are based around the fundamentals of volume and value present in London. For 'non-home' airlines, the tie is strong. London represents a major source of origin and destination demand both for their own local segments and for points beyond their own hubs. It is for many an essential destination, particularly in serving inbound business demand. The oneWorld airlines have an additional tie, with London acting as by far the most significant potential source of network feed traffic in Europe.

4.19 Moving forward, it is difficult to see major changes occurring in the sector. The underlying fundamental drivers for FSCs are expected to remain strong and, if anything, the differential is likely to increase.

Low Cost Carriers

4.20 As we have seen, the growth of the LCCs has been one of the core features of London over the last 10 to 15 years and it is also one of the main indicators of the fundamental attractiveness of London compared to other European cities. The fact that what are at least theoretically 'footloose' airlines in a European context chose to centre their explosive growth in London is a telling statement about its fundamental strength.

4.21 In **Table 4.4** we have set out the largest LCCs operating in London in Summer 2013.

Table 4.4: Largest LCCs in London – Summer 2013

Airline	Country of Registration	One Way Seats
Easyjet	United Kingdom	8,097,558
Ryanair	Ireland Republic of	6,005,853
Wizz Air	Hungary	932,940
Norwegian Air Shuttle	Norway	838,007
germanwings	Germany	295,156
Vueling Airlines	Spain	218,778
Source: OAG.		

4.22 London is dominated by easyJet and Ryanair, which currently account for around 86% of LCC seats in London. This has been the pattern for most of recent history. The presence of Wizz and Norwegian has, however, been increasing and Norwegian has recently opened a base at Gatwick.

4.23 We have split our consideration of the potential strategic importance of London to LCCs and our consideration of the applicability of the factors described in Section 3 in to two, 'home' LCCs and 'non-home' LCCs. The former group is essentially easyJet and Ryanair[21]. As with our consideration of FSCs, we have sought to examine why and how LCCs serve London and to consider the extent that some of the key drivers of volume and value described in Section 3 are applicable to LCCs.

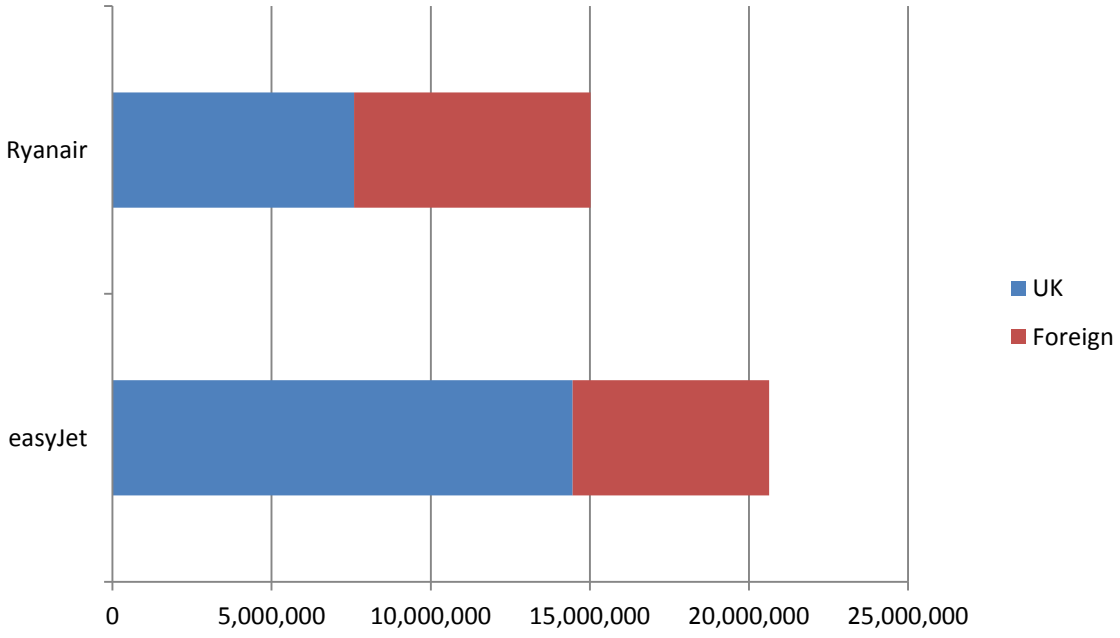
[21] Although Ryanair is an Irish airline, Stansted has been its largest operating base for a considerable time.

'Home' LCCs

4.24 The development of LCCs in London has been the result of a combination of the fundamental strength of London's demand combined with coincidence of opportunities at the right time.

4.25 Our discussions with the LCCs and our analysis have identified the size of London's demand base and balance between inbound and outbound traffic as the core drivers of attractiveness that make London unique. **Figure 4.2** shows the current balance between UK resident and foreign resident traffic to / from London for easyJet and Ryanair.

Figure 4.2: Directionality of 'Home' LCC Traffic



Source: CAA Passenger Survey.

4.26 This balance is more evident for Ryanair, perhaps unsurprisingly given greater focus on the development of overseas bases. Ryanair's traffic is London is split almost exactly 50/50. easyJet does have a stronger outbound flow, but its inbound flow is still around 30% of traffic. Across the two, traffic is around 60% outbound, 40% inbound.

4.27 The balanced nature of demand means that the economics of any route become easier as there are two traffic flows to rely upon, thereby significantly increasing the potential level of demand and also potentially decreasing risk for the airline by giving the opportunity to sell tickets at both ends of the route and providing some protection against changing economic circumstance at one end or the other. It has also been helpful in enabling these LCCs, particularly Ryanair, in developing their multibase strategy. London is able to play a core role as an anchor to the whole network and a solid 'banker' route from which to build a base. This central role in its network is something that been emphasised by Ryanair in public statements.

4.28 This is evident in the behaviour of both airlines. **Tables 4.5** and **4.6** show how Ryanair interacts with London and how this has developed over time. Table 4.5 shows the number of Ryanair airports with a connection to London and the level frequency at which London is served. While the proportion of destinations with a connection to London has been dropping as Ryanair's network overseas has expanded and, it is fair to say, its focus on London has dwindled, it still remains at close to 70%. Similarly, while the level of frequency has been dropping as the network has expanded out to cover thinner route opportunities, the average frequency remains around daily.

Table 4.5: Connections to London in the Ryanair Network

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Airports	84	93	106	124	138	148	150	158	161	168	180
With Connection to London	69	78	88	98	106	117	117	117	121	122	123
to STN	69	78	88	92	101	112	111	112	116	118	120
to LTN	2	3	14	15	14	20	24	20	20	21	21
to LGW	1	1	4	4	3	3	9	14	15	9	5
% with connection to London	82%	84%	83%	79%	77%	79%	78%	74%	75%	73%	68%
Average Weekly Frequency to London	13	12	10	10	10	9	7	7	6	6	7
to STN	13	12	10	11	10	9	8	7	6	7	7
to LTN	23	16	8	7	7	5	4	4	4	4	4
to LGW	30	40	12	15	18	21	9	6	7	7	10

Source: OAG.

4.29 Table 4.6 shows how London has been served by the Ryanair bases opened since 2008. 55% already had a connection to London at the point they became a base, a further 14% had a London service from opening and further 10% within 12 months of opening. Of the 17% (five bases) which did not have a London connection within 2 years, all but one were UK domestic destinations where issues around APD have led Ryanair to essentially withdraw from domestic routes.

Table 4.6: Ryanair New Base Connections to London since 2008							
Base	Date	Base Aircraft	Already Service	New Service at Opening	New Service within 12 Months	New Service within 24 months	No Service
Bournemouth	Jan 2008	1					✓
Birmingham	Jan 2008	2 rising to 10					✓
Edinburgh	Feb 2008	2					✓
Trapani	Oct 2008	2		✓			
Alghero	Mar 2009	2	✓				
Bologna	Mar 2009	2	✓				
Cagliari	Mar 2009	2					✓
Porto	Jul 2009	2	✓				
Leeds Bradford	Aug 2009	2					
Brindisi	Sep 2009	1	✓				
Bari	Sep 2009	2	✓				
Rygge	Nov 2009	3		✓			
Malaga	Dec 2009	4		✓			
Faro	Dec 2009	6			✓		
Kaunas	Feb 2010	2	✓				
Malta	Mar 2010	1	✓				
Barcelona	May 2010	5				✓	
Valencia	Jun 2010	2	✓				
Seville	Jul 2010	2	✓				
Gran Canaria	Dec 2010	2	✓				
Lanzarote	Dec 2010	2	✓				
Tenerife	Dec 2010	2	✓				
Manchester	Jul 2011	2 in 2011 up to 4 in 2012					✓
Wroclaw	Oct 2011	1	✓				
Baden Baden	Nov 2011	2	✓				
Billund	Dec 2011	2	✓				
Palma	Dec 2011	4	✓				
Paphos	Jan 2012	2			✓		
Budapest	Feb 2012	4		✓			
Maastricht	Jul 2012	1			✓		
Category Totals			16	4	3	1	5
Category Percentage			55%	14%	10%	3%	17%
Source: Ryanair website and OAG.							

4.30 **Table 4.7** presents a similar analysis for easyJet based around its entry in to key countries since 2003. The Table shows the total number of easyJet departures from each airport. Green shading means that the only city destination served is London. Purple shading means that London is amongst the destinations served. Again, there are very few airports where London is not an immediate part of the network served upon easyJet's entry and in many cases London is clearly used as a testing ground for the destination before the range of destinations is widened out.

Table 4.7: easyJet Network Build up and London Connections – Departures by Airport (00s)												
Country	**Destination**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
France	Ajaccio						1	3	5	4	5	6
	Brest								1	6	6	2
	Bastia						0	6	6	5	5	5
	Biarritz						8	7	7	7	7	7
	Bordeaux				2	7	14	15	22	26	30	34
	Paris CDG	43	45	39	52	60	95	118	139	151	154	148
	Lyon Grenoble			4	3	3	4	3	3	4	3	3
	Lille										4	10
	La Rochelle				1	2	1	1	1	1	1	1
	Lyon St-Exupery	2	6	6	5	13	37	45	54	64	65	68
	Montpellier						2	3	4	5	5	5
	Marseille	5	15	6	5	5	4	4	4	4	5	5
	Nice	68	84	82	82	88	89	85	77	83	98	106
	Nantes Atlantique						4	3	8	12	15	18
	Paris Orly	33	66	72	72	78	80	83	89	94	97	98
	Toulouse	7	21	21	22	26	31	36	45	51	64	66
Greece	Athens	11	13	11	15	20	23	23	23	22	21	17
	Kerkyra						2	4	5	5	6	7
	Chania								1	1	1	1
	Kefallinia										1	1
	Irakleion						3	4	5	6	9	8
	Mykonos						1	2	3	3	4	5
	Thira							1	1	1	2	3
	Kos								1	1	1	1
	Kalamata											0
	Rhodes						1	1	2	2	3	3
	Thessaloniki					1	5	6	9	11	9	7
	Zakinthos Island								1	1	1	1
Italy	Alghero										1	2
	Brindisi						1	4	4	5	5	6
	Bologna	3	3	3						3	7	7
	Bari					1	8	16	8	6	7	9
	Cagliari			2	3	3	6	8	8	8	9	9
	Rome Ciampino	6	13	34	44	50	40	33	25	13		
	Catania					3	9	10	11	13	15	19
	Rome Fiumicino						4	47	81	97	107	112
	Milan Linate	7	10	8	7	7	7	7	7	9	10	19
	Milan Malpensa			2	42	88	136	185	207	210	220	223
	Naples	5	12	14	20	23	28	38	44	47	54	55
	Olbia			4	6	7	11	12	11	12	14	15
	Palermo				4	8	11	20	21	22	22	23
	Pisa			8	10	12	17	16	14	14	16	16
	Rimini		1		1	1						
	Lamezia Terme						1	5	11	8	7	8
	Turin Caselle		1	6	4	3	1	1	1		0	0
	Verona Brescia							0	0	0		
	Venice Marco Polo	11	15	14	14	17	25	33	37	41	53	55
	Verona Villafranca									2	5	5
Spain	Lanzarote					1	5	6	7	5	4	4
	Malaga	43	54	57	71	75	82	73	68	65	62	61
	Alicante	32	47	56	57	61	65	59	54	50	50	48
	Barcelona	59	64	64	68	74	83	84	93	107	113	103
	Bilbao	6	13	7	6	6	5	5	6	8	18	9
	Fuerteventura					0	2	3	5	4	4	4
	Ibiza	3	5	5	7	11	15	16	19	19	18	15
	A Coruna					6	1				3	
	Almeria		1	6	7	7	5	3	3	3	3	3
	Las Palmas					0	3	3	3	3	3	3

Table 4.7: easyJet Network Build up and London Connections – Departures by Airport (00s)

Country	Destination	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
	Madrid Barajas	15	18	34	43	90	107	104	122	126	118	72
	Menorca			0	1	1	3	3	5	5	5	5
	Murcia			3	7	7	8	8	7	6	6	6
	Asturias			3	3	9	11	4	4	4	5	4
	Palma de Mallorca	24	32	36	38	45	49	47	47	47	50	50
	Santiago de Comp									1	2	4
	Sevilla									1	2	4
	Tenerife						6	9	10	10	13	13
	Valencia		1	12	12	10	9	6	5	6	6	7

	Only connected to London
	London connection within network

Source: York Aviation analysis of OAG.

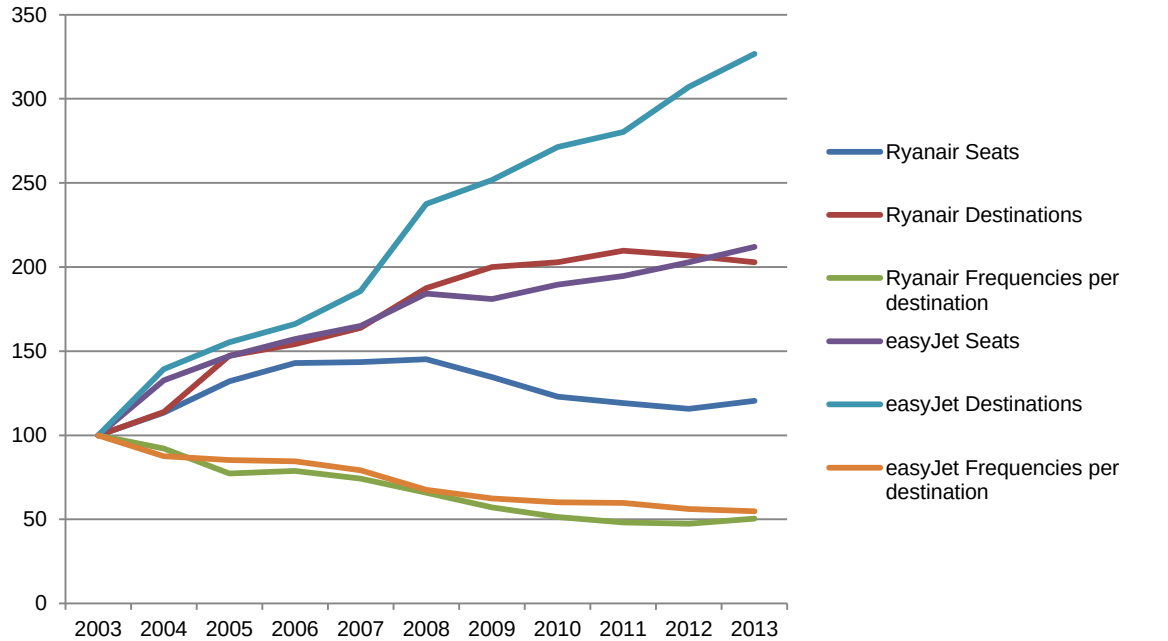
4.31 The sheer size of London has been important from two perspectives particularly:

- aircraft utilisation – the breadth and diversity of traffic, particularly in terms of generated demand[22], has enabled both airlines to maximise aircraft utilisation by mixing timings and sector lengths to reach an optimal allocation of capacity. This would clearly be a much harder to achieve in a smaller base of demand where such diversity does not exist and where, consequently, base sizes are smaller. It should, however, be noted that this does not imply that smaller bases cannot be profitable. Ryanair, the most prolific base opener, frequently opens bases with only one or two aircraft. This suggests that event at the level there must be economies of scale that make a base worthwhile. What is unusual about London is its size and the extent to which economies of scale can be realised;

[22] Demand that has been stimulated to travel by the offering of low fares and that is relatively indifferent to the actual destination within a type.

- route 'churn' – both easyJet and Ryanair have played a significant role in driving the number of destinations served from London. However, certainly in the early stages of their development, they were very much focussed on price sensitive traffic with their growth coming from a mixture of taking passengers from established leisure / charter airlines and by growing demand. However, many of these destinations have, over time, matured and, in order to maintain growth, or in Ryanair's case maintain its position, both airlines have had to continually seek out new destinations. In the case of easyJet in particular, this has also moved it towards a greater focus on business segments and the needs of the business traveller. Again, the size and diversity of London, particularly in terms of the portion of demand that is largely indifferent to its end destination, has been key to this ability. This is demonstrated in **Figure 4.3**, which shows the indexed seats, destinations served and frequencies per destination for easyJet and Ryanair from London since 2003. The number of destinations outstrips growth in seats and the number of frequencies per destination declines steadily as the airlines withdraw capacity on maturing destinations and shift to the next opportunity.

Figure 4.3: easyJet and Ryanair Seat, Destinations and Frequency per Destination (Index: 2003 = 100)



Source: OAG

4.32 However, it should be recognised that the growth of LCCs in London has not just been about the strength of London. As alluded to above, there was also a coincidence of circumstances that meant that the conditions were right for growth in London as opposed to elsewhere, most obviously there was available capacity at Gatwick and particularly Stansted, priced competitively, that enabled the LCC business model to operate effectively, but also a regulatory environment that was suitable. At the time, these conditions were not in place elsewhere, particularly in Paris, the next nearest opportunity in terms of the fundamental drivers of traffic. As we have described above, it is only latterly that, as the London opportunities have matured, that these key home airlines have sought to expand in some of the other major European cities in the same way.

4.33 This pattern of development does pose the question as to whether history has therefore made London strategically important to these 'home' LCCs such that they are not able to replicate the same conditions elsewhere. In relation to this question Ryanair's recent behaviour is revealing. Despite very publicly shifting its focus away from London to opportunities in Southern Europe, particularly on the back of the removal discounts at Stansted, the weak UK economy and rising APD, its presence in London remains very strong. Stansted is still its largest base and it is once again growing there this year. Furthermore, it has now reached agreement with MAG to return significant growth to the airport[23]. At the same time smaller bases with less significance to its network and operations have been closed in similar circumstances. This suggests again that there is something fundamentally different about London in terms of its attractiveness.

4.34 Further evidence of the importance of London can be seen in the way these airlines ground aircraft in the winter season. A common factor of all so-called LCCs is to order a large number of aircraft at a very early stage in their development to secure the best price and then look to place the aircraft in what appear to be the best areas and on the best routes at the time of delivery. This is something, that almost by definition, is easier to accomplish in the early phases of the company's development. Unsurprisingly not all LCCs achieve the same terms in respect of pricing or financing and as a result there is a wide variation in their cost of capacity which has a bearing on a number of deployment decisions.

[23] easyJet has also reached a deal with Stansted and will be adding capacity.

4.35 Aircraft represent discrete increments of capacity with an associated ownership cost and the greater the usage the lower the cost of ownership per flight hour or seat kilometre. However, ownership costs only represent some 10-12% of an airline's costs. For an airline with a particularly attractive cost of ownership (i.e. low) effectively grounding capacity[24] may represent the least worst option, if indeed not the best option, where flying a service would result in more being lost through an inability to cover variable costs. There is a need to take a combined summer and winter season view and on a meaningful proportion of routes June-September are the key months for LCCs. For them, the opportunity that London presents is to increase the number of year round services.

4.36 Whilst the London based LCCs have a core of year round routes some 22% of Ryanair's routes and some 31% of easyJet's routes might best be described as "seasonal" (see **Table 4.8**).

Table 4.8: easyJet and Ryanair Route Seasonality in London

	Routes			Seats		
	Year Round	Seasonal	% Year Round	Year Round	Seasonal	% Year Round
Ryanair						
STN	102	22	82%	7,474,761	418,068	95%
LGW	3	2	60%	433,566	45,360	91%
LTN	12	9	57%	637,308	209,223	75%
Total	**117**	**33**	**78%**	**8,545,635**	**672,651**	**93%**
easyJet						
STN	17	11	61%	1,561,368	188,808	89%
LGW	70	32	69%	7,291,890	859,824	89%
LTN	29	9	76%	2,415,612	189,288	93%
SEN	11	4	73%	495,612	66,768	88%
Total	**127**	**56**	**69%**	**11,764,482**	**1,304,688**	**90%**

Source: OAG.

4.37 The reality is that on a significant number of seasonal routes, the variation not only in demand but also achievable fares between the summer and winter means that where the resulting revenues are insufficient to cover the variable costs, the better outcome is not to fly the service or route. Indeed a failure to cover the variable costs means that the airline will lose more money by flying than by not flying where the only costs incurred are those which are fixed or unavoidable.

[24] While grounding may mean physically grounding some aircraft, it might also mean reducing utilisation such that there is an effective reduction in capacity.

4.38 This level of grounding suggests two things. That locating this capacity in London even for a part of the year represents the most profitable use of the airline's capacity, which reflects on the overall strength of London for the airline. It also suggests that having capacity available in London to maintain the slot portfolio at the London airports is of significant importance.

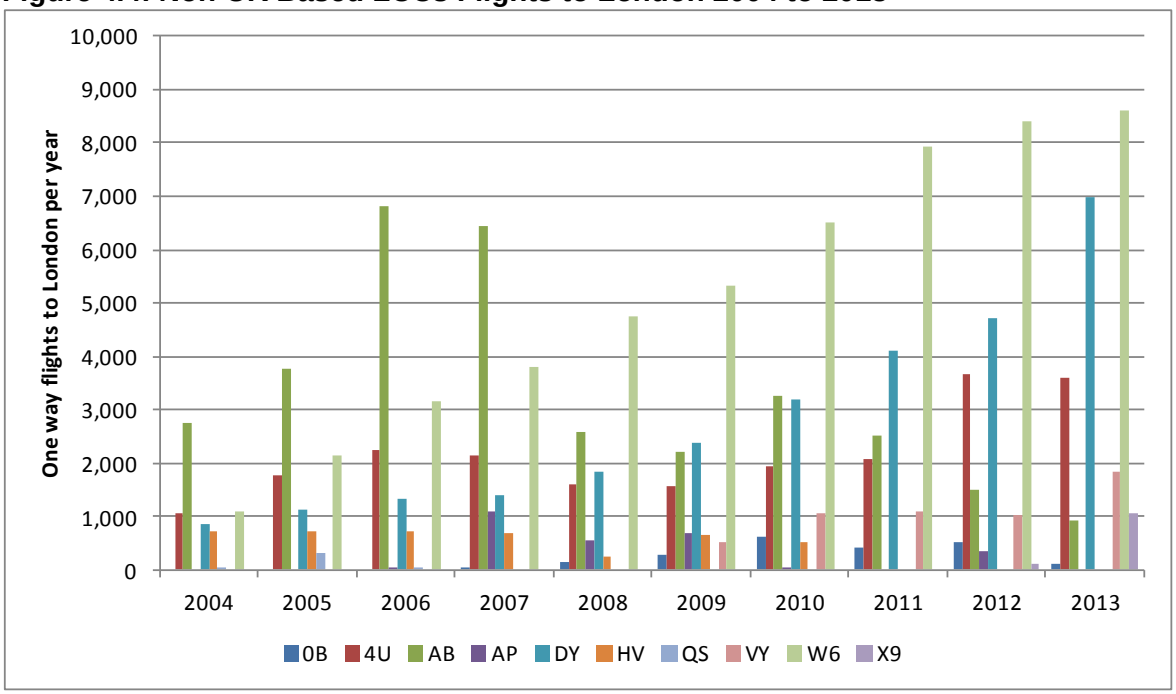
4.39 Again, it is important to consider whether the features of London that make it attractive to 'home' LCCs are going to continue in to the future. As with FSCs, to the extent that the fundamental volume and value drivers in London are going to remain strong and possibly improve compared to comparator cities, then clearly its attractiveness will remain strong as a source of profit for the 'home' LCCs. It is also clear that both easyJet and Ryanair are heavily embedded in London and that a strong presence is an essential part of their wider growth strategy, providing as it does an anchor on which to base further expansion elsewhere. It is also unlikely that either airline could replicate the conditions in London either in terms of the level of demand or the size of base. It would seem reasonable therefore to suggest that for the foreseeable future the 'home' LCCs position in relation to London is likely to remain the same.

4.40 One further area to consider in terms of the future development of the home LCCs is how they will continue to evolve and how this might affect their relationship with London. As we have discussed above, these original core routes in to which they entered are maturing and this has pushed them towards new destinations, but also in the case easyJet particularly, towards a greater focus on the needs of business travellers as a source of value growth. Ultimately, this is likely to increase the airline's reliance on London. As described in Section 3, London is by some margin the largest identifiable base of business demand amongst our comparator city group. It would, therefore, seem logical to suggest that London will become more important to it as a source of value even if not volume.

'Non-Home' LCCs

4.41 LCCs based away from London represent a much smaller proportion of traffic and it is perhaps reasonable to say that they have proved a much more volatile segment. A number have sought to develop significant operations in London but failed, while others have been content to either slowly build a presence or come and go on a relatively ad-hoc basis. **Figure 4.4** shows the number of one way flights to London by other LCCs since 2004.

Figure 4.4: Non-UK Based LCCs Flights to London 2004 to 2013



Source: DIIO.

4.42 The decision by Lufthansa Group management to use Germanwings (4U) to operate its non Frankfurt and Munich services in part explains the increase between 2011 and 2012 and 2013. Conversely, the wider difficulties at Air Berlin (AB) have resulted in a route rationalisation and London has not been immune from this. The significant growth in the number of services operated by Wizz over the period is a reflection of its base opening in Europe and serving London from each of these, which has been driven by business and tourism traffic, but also meaningful ethnic flows.

4.43 In broad terms these airlines can be classified in to three behaviour groups. We have also commented on the reasons for the trends at each airline:

- **Growth**: Wizz (supply led), Norwegian (supply led), WOW (new airline), Germanwings (now Lufthansa's chosen means to address all German cities except Frankfurt and Munich), Vueling (sees London as a market of opportunity. It is also serving Spanish routes not served by its former majority shareholder, Iberia, now owned by IAG).

- **Decline**: Air Berlin (wider problems necessitating route exits), Transavia (change in strategic focus);

- **Transient**: Air One, Smart Wings.

4.44 Given this development pattern it seems reasonable to suggest that 'Non-Home' LCCs do consider London to be an attractive opportunity and this has been emphasised to us by a number of airlines consulted as part of this work. This is particularly evident from the way that Wizz has connected to London as it has opened new bases in Central and Eastern Europe and how Norwegian has built up its links over time, culminating ultimately in opening its Gatwick base and switching to the 'Home' LCC category. It is also interesting to note recent comments from Norwegian around the potential value for them in deploying their 787 fleet to access Asian destinations from London.

4.45 However, for this group, the strategic importance of London may be relatively limited.

Conclusions

4.46 In our view, the extent to which London is strategically important to different airline groups varies widely. The exposure of different groups to some of London's features varies or the importance within individual airline business models varies.

4.47 FSCs value London for many of the reasons described in Section 3. For the 'home' FSCs, the relationship is fundamental. Their business models are based around the fundamentals of volume and value present in London. For 'non-home' airlines, the tie is strong. London represents a major source of originating and destination demand both for their own local passenger demand and for points beyond their own hubs. It is for many an essential destination, particularly in serving inbound business demand. The oneWorld airlines have an additional tie, with London acting as by far the most significant potential source of network feed traffic in Europe.

4.48 For 'Home' LCCs, particularly easyJet and Ryanair, the way their presence has developed in London, which was built around the fundamental strength of London, means that disentangling their relationship with London would be extremely difficult and it is highly unlikely that they could replicate the conditions found in London elsewhere and thereby operate as profitably.

4.49 The position for 'Non Home' LCCs is slightly different. While some clearly have strong ties to London, notably Wizz and, until it opened a base at Gatwick and became a 'Home' LCC, Norwegian. Others, however, are less tied. Clearly London is an attractive opportunity but it does not perhaps have the same hold as it does over many other airlines.

5 VARIANCE ACROSS THE LONDON SYSTEM

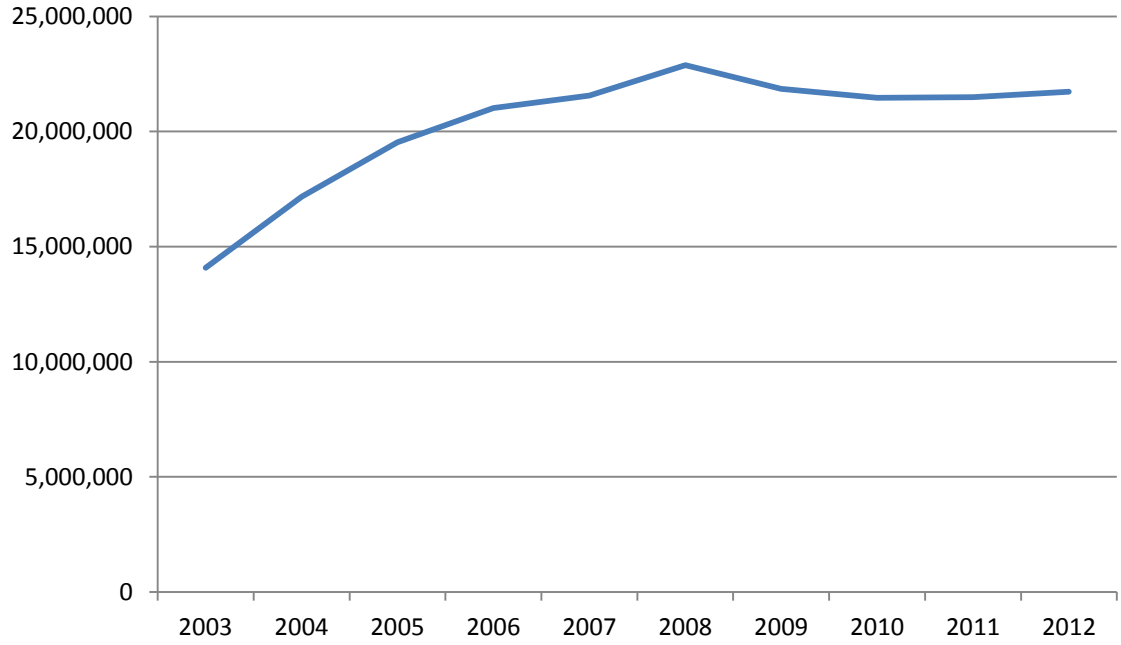
Introduction

5.1 There is a marked difference in traffic and airline structure across the London airport system. This in large part is a reflection of airline history, previous rules determining the distribution of traffic and the timing of the development of Stansted and the need to fill the capacity.

5.2 Heathrow remains the airport of choice for FSCs, and the migration of the US airlines to Heathrow from Gatwick when the regulations changed underlines this view most clearly. Although, equally, Emirates sees that, despite the overlaps, Heathrow and Gatwick serve different catchments. British Airways as a result mainly of acquisition also retains an operation at Gatwick.

5.3 The growth of the LCCs over the last decade has been well documented; London was seen as a particularly attractive opportunity in terms of the traffic opportunity as well as having capacity at both Stansted and Gatwick to accommodate what were then the new entrants and their rapid growth from the early part of the last decade (see **Figure 5.1**).

Figure 5.1: One-way Seats Offered from London by easyJet and Ryanair



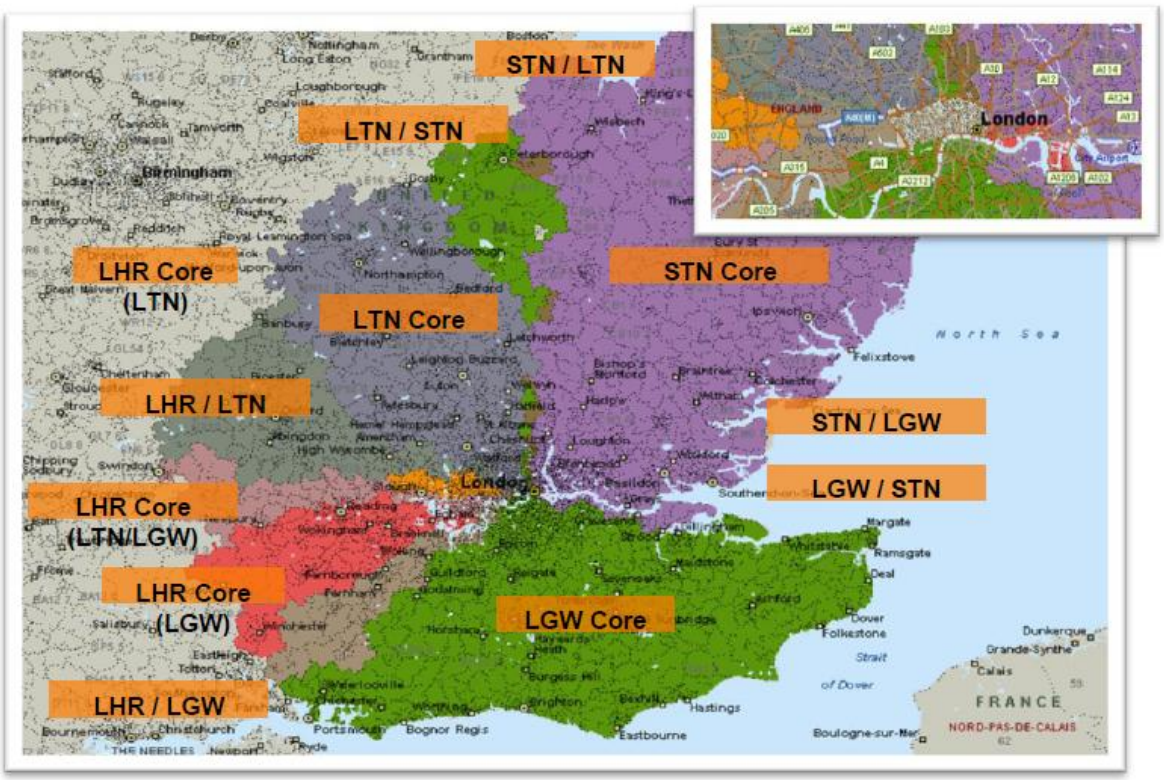
Source: OAG.

5.4 Whilst it may be reasonable to conclude that if an airline could focus all of its activity on a single airport within a region it would, there are a number of reasons why this is not the case:

- ✈ capacity constraints at the "home base", or main airport served in the region. It should be recognised, however, that there is a time of day dimension related to capacity availability rather than the airport just having slots available. They have to be at an "appropriate" time;

- ✈ local demand differences between airports - whilst each London airport has at least part of its catchment areas that might be described as unique, the proximity of other airports in the region means that the degree of overlap (at least geographically) is considerable. However, there is a marked difference between the structure of supply at each of the airports. **Figure 5.2** shows easyJet's view of how London is geographically divided between the various airports and also where each airport's unique or core catchment area is and where the overlaps are.

Figure 5.2: easyJet's View of the London Opportunity



Source: easyJet.

5.5 Based on this graphic, it would seem that easyJet views London in a relatively disaggregated way. This is reinforced if we examine the easyJet route network from London. It serves 113 destinations in total across all the London airports, of which 102 are served from its largest base at Gatwick. 23 destinations are common to Gatwick and Stansted and 12 destinations are common to Gatwick, Stansted and Luton. A further eight are shared across Gatwick, Stansted, Luton and Southend (see **Table 5.1** below and **Table A2** in the additional data appendix). This suggests that within the London area each airport is a differentiated proposition to airlines as they serve different (though overlapping) catchments. Ryanair's pattern of service on routes such as Dublin would also suggest a similar view.

Table 5.1: easyJet Destination Pattern at the London Airports	
Total Destinations	113
Served from Gatwick	102
Shared with STN	23
Shared with STN, LTN	12
Shared with STN, LTN, SEN	8
Source: OAG.	

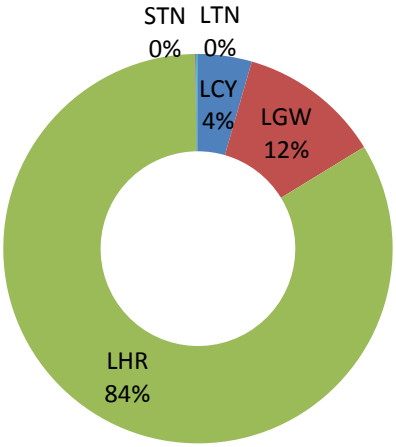
5.6 Although the focus of this paper is on the strategic importance of London as a whole, given this potential for disaggregation within London, we have also considered how the perceived drivers of strategic importance relate to different airline types at different airports across London:

- for FSCs, the variance in the influence of key strategic drivers at Heathrow and Gatwick;
- for LCCs, the variance in the influence of key strategic drivers at Gatwick and Stansted;
- to a lesser extent, we have also considered the differences between Gatwick and Stansted for charter airlines.

Varying Influence of Strategic Drivers for FSCs at Heathrow and Gatwick

5.7 Within London, FSCs have predominantly focussed their activities on either Heathrow or Gatwick airports, with, as described above, a general preference being shown towards Heathrow.

Figure 6.2: Full Service Airline Seat Capacity by London Airport in 2012



Source: OAG.

5.8 Below, we have sought to consider whether the influence of the strategic drivers that we have been identified earlier in this report are different at Heathrow and Gatwick in relation to FSCs and, ultimately, whether they have either led to the pattern of distribution currently observed or whether they are likely to continue to reinforce this pattern over time.

5.9 In terms of demand drivers, this is primarily an issue of geography. Does either airports geographic positioning mean that this is 'more exposed' to the factors that in combination make London such an attractive opportunity for FSCs? We have considered this issue initially by examining the areas from each airport draws traffic in London and the Greater South East.

5.10 Using CAA Passenger Survey data for 2012, we have identified at borough / district level for each airport the largest contributors in terms of FSC passenger numbers up to 80% of each airport's total traffic of this type. This is intended to identify the 'core catchment' from which Heathrow and Gatwick draw passengers. We have then considered the extent of overlap between these two areas and each airports catchment area that might be considered to be 'unique'. The districts classified under each category can be found in **Table A3** in the Appendix.

5.11 The analysis identifies that there is a very high degree of overlap in terms the airports' catchment areas for full service passengers. This process identified 79 districts from which the two airports draw the core of their traffic. 40 of these are classified as shared, 13 unique to Heathrow and 26 unique to Gatwick. This suggests that there are likely to be limited differences in terms of the demand side strategic influencers relating to London as a whole that we have identified. There are, however, clearly differences in the volume and types of passenger drawn from this catchment area by the two airports. This is not inconsistent with our initial statement. It is simply that the observed differences between the airports are not the result of different degrees of exposure to the strategic drivers associated with London.

5.12 In **Table 5.1** we have used data from the CAA Passenger Survey to examine differences in a number of the key demand variables previously identified.

Table 5.1: Differences in Demand Drivers in FSC Catchment Areas

	Shared Districts	LGW Unique Districts	LHR Unique Districts	Total
Passengers by Purpose of Travel				
Business	11,081,184	1,026,892	1,262,251	13,370,327
Leisure	21,598,125	3,005,943	2,147,307	26,751,376
Passengers by Directionality				
Inbound	18,318,716	1,220,269	1,456,521	20,995,506
Outbound	14,360,593	2,812,567	1,953,037	19,126,196
Premium Passengers	2,651,800	285,042	261,402	3,198,244
Traffic Structure				
Domestic	2,499,961	370,254	328,135	3,198,350
Long Haul	13,729,346	2,017,245	1,560,303	17,306,894
Short Haul	16,449,453	1,645,337	1,521,119	19,615,910

Source: CAA Passenger Survey 2012.

5.13 As expected given the degree of overlap, there is little difference in the characteristics of demand in the areas from which the two airports draw their full service traffic. Across all the indicators, the shared districts dominate the totals (although clearly considerably more of this demand is actually served from Heathrow). In terms of the demand in the unique areas, there are no significant mismatches between the two airports, such that they would suggest a significant influence towards one airport or the other.

5.14 We have also sought to examine potential geographic differences between Heathrow and Gatwick using location quotients (LQs). This analysis seeks to identify the relative strength of the individual airports in each district compared to London as a whole[25]. Using this analysis, we have for each airport identified districts where they have both:

- an LQ greater than 1 – the airport is over represented compared to London as a whole;
- the LQ of the target airport minus the LQ of the other airport is greater than 0 – the target airport is stronger in that district than the other airport.

5.15 The districts / boroughs allocated to each airport in this process are listed in **Table A4** in the Appendix. This analysis creates a much greater distinction between the two airports in terms of the areas they serve. There is no room for 'shared' districts. As such, it needs to be viewed with some care as it is clearly a simplification of reality. However, it begins to identify some differences between the two airports that are potentially illuminating (see **Table 5.2**).

5.16 The districts in which Heathrow dominates tend to be stronger in terms of the core drivers of demand we have identified. For instance, there are both more business passengers and a better balance between business and leisure traffic. There is also a better balance between inbound and outbound demand and more premium class passengers. There is also simply more demand coming from these districts.

5.17 The results from this analysis are more consistent with the structure of supply observed at Heathrow and Gatwick and also with comments from airlines regarding the relative strengths of the two airports' catchment areas. For FSC's, Heathrow is felt to be the preferred choice for business travellers and also the preferred inbound gateway. It is also felt to offer substantially better yields, reflecting the preferences of business passengers and also its effectiveness in accessing wealthier parts of the catchment area.

[25] An airports location quotient for any given district is equal to the % of the airport's traffic drawn from that district divided by the % of traffic from all the main London airports drawn from that district. An LQ of 1 indicates that the airports representation within that district is in line with London as a whole. An LQ of greater than 1 suggests that the airport is relatively strong in that district, while and LQ of less than 1 suggests relatively weak representation.

Table 5.2: Differences in Demand Drivers using Location Quotient Analysis	LHR Districts	LGW Districts
Passengers by Purpose of Travel		
Business	9,345,105	3,677,529
Leisure	18,072,743	10,166,702
Passengers by Directionality		
Inbound	15,159,161	4,642,112
Outbound	12,258,687	9,202,119
Premium Passengers	2,385,844	1,058,313
Traffic Structure		
Domestic	1,930,241	1,164,361
Long Haul	11,910,375	5,709,257
Short Haul	13,576,683	6,970,612
Source: CAA Passenger Survey 2012.		

5.18 Overall, this suggests that Heathrow may offer better access to some of the demand features that make London special. This may provide some clue as to the pattern of development in the FSC airline segment in London. However, at the same time, this position needs to be viewed with caution as ultimately it is difficult to argue that the catchment areas are not substantially shared.

5.19 Perhaps the other issue that merits particular mention here is the issue of network feed traffic for oneWorld airlines. In Section 4 we noted that the structure of the oneWorld alliance in Europe is such that London is by far the most important European destination for affiliated airlines. This creates an additional attraction factor for London for this group. Ultimately, this position is driven by Heathrow. Gatwick ultimately does not operate as a hub and there simply isn't the presence of other oneWorld members at the airport to drive an additional level of attraction.

Varying Influence of Strategic Drivers for LCCs at Gatwick and Stansted

5.20 In considering the extent to which the strategic influence of London on airline behaviour may vary between Gatwick and Stansted for LCCs, we have followed a broadly similar approach, considering initially the areas from which LCC traffic is drawn by both airports and examining the differences in these areas in relation to core demand drivers.

5.21 We have, again, identified the districts / boroughs which are the largest sources of LCC demand for each airport and that make up 80% of LCC traffic. These are categorised as either shared, unique to Gatwick or unique to Stansted. The districts in each category are set out in **Table A5** in the Appendix.

5.22 The degree of overlap between the two airports is substantially less than for FSCs, reflecting the greater geographic dispersion. Of the 80 districts included in the analysis, 23 were shared, 31 were unique to Gatwick and 26 were unique to Stansted. This suggests that there is perhaps the potential for greater differences between the demand drivers within the catchment areas. However, it should be noted that many of the key central London boroughs that provide significant demand to both airports are shared. **Table 5.2** sets out some key information on LCC demand from the different areas.

Table 6.3: Differences in Demand Drivers in LCC Catchment Areas

	Shared Districts	Gatwick Unique Districts	Stansted Unique Districts	Grand Total
Passengers by Purpose of Travel				
Business	2,867,851	1,123,381	1,159,288	5,150,520
Leisure	14,657,837	5,824,695	6,059,461	26,541,992
Passengers by Directionality				
Inbound	9,962,009	2,291,652	2,608,536	14,862,198
Outbound	7,563,678	4,656,424	4,610,213	16,830,315
Source: CAA Passenger Survey 2012.				

5.23 The shared districts again dominate demand in both airports' catchment areas, particularly in terms of demonstrating the key feature of London's demand that is felt to drive its strategic importance to LCCs, the balance between inbound and outbound demand. Away from these shared districts there is very little difference in terms of the demand structure across the two airports, which again suggests that there is likely to be limited differences in the extent to which the key strategic drivers for London act across the two airports.

5.24 In terms of our Location Quotient analysis, the impact is not as dramatic as for FSCs (see **Table 5.4**). The structure of traffic is very similar across the two airports, with similar proportions of business travellers and a similar balance between inbound and outbound passengers. Gatwick has a slightly more balanced mix of inbound and outbound passengers within its catchment (46%/54% to 43%/57%), while Stansted has a slightly higher proportion of business travellers (17% versus 16%). The only real difference appears to be that Gatwick may be more accessible to more passengers than Stansted. This may make it more attractive in terms of operational considerations for the airlines, such as the ability optimise aircraft utilisation and to churn routes. However, both airports are drawing from a very large base of demand and in our view the difference in influence is likely to be limited.

Table 5.4: Differences in Demand Drivers using Location Quotient Analysis

	LGW Districts	STN Districts
Passengers by Purpose of Travel		
Business	3,042,950	2,647,419
Leisure	16,481,921	12,555,735
Passengers by Directionality		
Inbound	9,005,642	6,548,433
Outbound	10,519,229	8,654,721
Source: CAA Passenger Survey 2012.		

5.25 Both analyses identify limited differences in structure between the catchment areas for LCC passengers at Gatwick and Stansted. This is slightly surprising given the comments of airlines both publicly and as part of this research, that they consider the Gatwick catchment to be generally stronger. To some extent this may be reflected in the greater volumes identified through the Location Quotient analysis but there have also been comments regarding the wealth in the individual catchment areas. We have, therefore, also examined the average incomes of residents of the two airports' cathment areas (using both definitions) based on data accessed through NOMIS. The results of this analysis are set out in **Table 5.5**.

Table 5.5: Average Incomes of Gatwick and Stansted LCC Catchment Areas

	80% of Traffic Definition	LQ Definition
Shared Districts	£33,351	n/a
Gatwick Unique	£30,854	£31,405
Stansted Unique	£29,030	£28,824
Source: CAA Passenger Survey 2012 and NOMIS.		

5.26 This pattern is helpful in explaining airlines' views in relation to the differential between Gatwick and Stansted. On both definitions of the catchment area, the Gatwick Unique districts have higher average incomes. Therefore, to the extent that the wealth of London is a driver of strategic importance, this would suggest that Gatwick is able to offer greater access to this strategic influencer.

Variable Influence of Strategic Drivers at Gatwick and Stansted for Charter Airlines

5.27 Our analysis in this report has not considered the case of charter airlines specifically. In our view it would seem reasonable to suggest that, in the main, the key features of London that make it unique compared to its rivals are around the bi-directionality of traffic and the value enshrined in the strength of the business segment and the demand for premium class seats. These are not particularly an influence in relation to charter airline decision making as, certainly in relation to London, this is primarily an outbound leisure opportunity. We have, however, identified that sheer scale of demand may be an important factor for some 'home' airlines, enabling them to operate more efficiently and to counteract the influence of demand maturity on growth. This is potentially true for charter airlines as well, particularly as their business model continues to evolve.

5.28 With this in mind, we have compared the size of the catchment areas of the two airports for UK outbound leisure traffic[26] in the same way as we have for FSCs and LCCs. This information is set out in **Table 5.5**. The districts included in the different categories are set out in **Table A6** in the additional data appendix.

Table 5.5: Distribution of UK Outbound Leisure Passengers in Gatwick and Stansted's Charter Catchment Areas

Shared Districts	Gatwick Unique Districts	Stansted Unique Districts
5,309,476	22,074,965	4,021,199
Source: CAA Passenger Survey 2012.		

5.29 This suggests that Gatwick is able to access a substantially larger proportion of London's UK outbound leisure demand through its charter catchment area. However, we do not believe, overall, that the features of London that are the primary drivers of its potential strategic importance apply particularly strongly to charter airlines.

[26] Catchment areas for charter traffic are, however, based on capture of charter traffic only.

6 CONCLUSIONS

6.1 On a wide range of economic and related measures London represents the strongest origin and destination demand source in Europe. It is, therefore, for airlines a fundamentally attractive opportunity with potential to deliver high levels of profitability. Consequently, it is unlikely that the combination of volume and value that defines London can be replicated elsewhere and that therefore airlines are likely to face reduced long term profitability if they are forced to switch marginal capacity, either routes, frequencies or aircraft, away from London. However, the extent to which this will influence decision making will vary with individual airlines.

6.2 Our analysis has identified a range of factors that together or in discrete combinations drive London's attractiveness. Fundamentally, London is:

- bigger and more diverse;
- more balanced in terms of inbound and outbound flows;
- has stronger drivers in terms of value through the size of the business and premium travel demand segments

6.3 However, whilst there are these common reasons for serving London, the importance of London to any particular airline depends upon a range of factors. As a result the strategic importance of London is airline specific, not just in terms of airline type but also the domicile of the airline.

6.4 For UK airlines that are based in the London area the position is clear cut. It is highly unlikely that, whatever their operating model, they will be able to replicate the volume and value characteristics of London elsewhere. London is ultimately therefore of fundamental strategic importance to them.

6.5 For non-UK airlines, whilst London might be an important and indeed a profitable destination, it is likely to only represent a relatively small part of their business and by definition might not be material in terms of their overall business. Therefore, while London may be strategically important in the terms that we have defined, in that they may be less profitable in the long run if they do not serve London, this needs to be viewed in the context of London's overall contribution to their profitability. In other words, the strength of the strategic tie may be relatively weak in individual circumstances. Again, this position holds across the two main operating models examined in this research.

6.6 From an alliance perspective the key alliance grouping at Heathrow is oneWorld. This creates an additional strategic tie to London for these airlines, as it is the most important source of potential network feed in Europe. Although for Skyteam and Star airlines London represents an important source of origin and destination demand and there is an element of transfer traffic, the key transfer airports in Europe for these alliances are Amsterdam and Paris CDG for the Skyteam airlines and Frankfurt, Munich and Zurich for the Star airlines. Furthermore changes in alliance membership (for example the acquisition of BMI by British Airways) may result in a relative change in the importance of London for an individual airline given the absence of feed across Heathrow and a dependence upon only local traffic although this again is airline and route specific.

6.7 In relation to FSCs, the strength of London is reflected in the focus on London as a source of origin and destination demand by airlines that have a demand aggregation model (whether based in Europe, The Gulf, or South East Asia) and in particular in the case of the Gulf and SE Asian airlines. These airlines have a significantly greater level of presence in London than elsewhere in Europe. They have developed out their presence in London earlier and much faster than elsewhere. While a baseline presence and some growth was apparent in other cities in Europe, it is only really now that these airlines are moving in to the other major European cities. This helps to articulate the hierarchy of importance within Europe.

6.8 The growth of the two 'home' LCCs has been one of the defining features of London's traffic in the last 15 years. A combination of favourable circumstances in respect of market access and airport capacity and pricing (at Stansted in particular) over the last two decades, combined with the underlying strength of demand, enabled easyJet and Ryanair to establish major presences in the London region and through the timing and number of slots have also developed positions that some might consider that are best described as "Fortress Gatwick" and "Fortress Stansted". Again, it is only now, that there are signs that these airlines are seeking to develop out their presence in other European cities in the same way.

6.9 The fundamental strengths of London not only aided the development of these two airlines but have also embedded the city within their networks to such an extent that disentangling and moving from London would be hugely difficult:

- London acts as an anchor to the network, offering a 'safe' route with strong two way flows for new bases and new destinations;

- the size of London's demand base has enabled the airlines to develop major bases that enable optimal aircraft utilisation, mixing and matching routes and timings to reach a profitable solution;
- it has and potentially will enable these airlines to deal with the ongoing issue of demand maturity, with the size, bi-directionality and diversity of demand enabling them to 'churn' routes and adjust frequency and capacity on routes through different parts of the life cycle;
- crucially, this has also enabled the airlines to maintain their slot portfolio against the background of the "use it or lose it rules";
- the strength of the business demand segment will also provide opportunities for easyJet in particular as it seeks to move more heavily in to business segments.

6.10 One of the key drivers of LCC growth in London has been the availability of appropriately priced capacity in London, primarily at Stansted. The removal of discounts on airport charges by Stansted in 2008 has had a marked impact on growth at the airport, primarily through its impact on Ryanair, albeit it is difficult to disentangle the precise effect from the wider impact of the recession. However, Ryanair's reaction has been interesting from the perspective of a demonstration of the importance of London to the airline. The attractiveness of a particular route can change for a number of different reasons and in the UK context for LCCs changes in support provided by airports as well as changes in the level of APD (which is only likely to increase in the near term) have an impact on the performance of a route. Furthermore, at the margin a rise in APD, airport charges and the removal or provision of an incentive by an airport has the potential to change the economics of the route. Against a background where, almost by definition these are more and less profitable routes within an airline's portfolio at the London airports, the offer of incentives from another airport will increase the relative attractiveness of routes from that airport and may lead to redeployment of capacity away from the London airport to serve these opportunities if they are now more attractive than some of the less profitable routes in London. However, in respect of aircraft that are based at a London airport, the balance of attractiveness must reverse on a sufficient number of routes that the overall profitability of the re-deployed aircraft is better. This will also be influenced by wider considerations around the advantages of operating large aircraft bases, such as the ability to optimise aircraft utilisation at larger bases serving larger demand bases. Overcoming these conditions away from London is difficult. This helps to explain why Stansted has remained so important to Ryanair. It has been able to profitably redeploy some capacity but, ultimately, the attractiveness of London is too great to realise more dramatic changes.

6.11 We have also considered briefly the extent to which the fundamental attractiveness of London and its potential strategic importance may vary across the London airports for different airline types.

6.12 Overall, for FSCs, we concluded that Heathrow may offer better access to some of the demand features of London that make it special. This may provide some clue as to the pattern of development in the FSC segment in London. However, at the same time, this position needs to be viewed with caution as ultimately it is very difficult to argue that the catchment areas are not substantially shared. The more pertinent feature is the role that Heathrow plays in Europe as the primary oneWorld hub. This creates an additional attraction factor for London for this group. Ultimately, this position is driven by Heathrow. Gatwick ultimately does not operate as a hub and there simply isn't the presence of other oneWorld members at the airport to drive an additional level of attraction.

6.13 For LCCs, while there appears to be little variance between Gatwick and Stansted in terms of the level of business traffic or the proportion of inbound travellers, there is some evidence to suggest that average incomes are higher in Gatwick's catchment area. Hence, to the extent that London's wealth is a factor in its potential strategic influence, Gatwick may offer better access to this characteristic.

7 APPENDIX: ADDITIONAL DATA TABLES

Table A1: Passenger Demand by Airport and City (millions)

City	Airport	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	% Change
London	Gatwick	30	32	33	34	35	34	32	31	34	34	14%
	Heathrow	64	68	68	68	68	67	66	66	69	70	10%
	Luton	7	8	9	9	10	10	9	9	10	10	41%
	Stansted	19	21	22	24	24	22	20	19	18	17	-7%
	London/City	1	2	2	2	3	3	3	3	3	3	105%
	Total	121	129	134	137	140	137	130	128	134	134	11%
Paris	Paris-CDG	48	51	53	56	60	60	58	59	61	62	28%
	Paris-Orly	22	24	25	26	26	26	25	26	27	27	21%
	Beauvais-Tille	1	1	2	2	2	2	3	3	4	4	299%
	Total	71	76	80	84	88	89	85	88	92	93	30%
Milan	Linate	9	9	9	10	10	9	8	8	9	0	4%
	Malpensa	18	19	20	22	24	19	18	19	19	0	10%
	Bergamo	3	3	4	5	6	6	7	8	8	0	197%
	Total	29	31	33	37	40	35	33	35	37	0	26%
Brussels	Brussels-National	15	16	16	17	18	19	17	17	19	19	25%
	Charleroi	0	2	2	2	2	3	4	5	6	7	222%
	Total	15	18	18	19	20	22	21	23	25	26	68%
Amsterdam	Amsterdam	40	43	44	46	48	47	44	45	50	51	28%
Frankfurt	Frankfurt	49	51	53	53	54	54	51	53	57	58	19%
	Frankfurt	2	3	3	4	4	4	4	3	3	3	25%
	Total	51	54	56	57	58	58	55	57	60	61	19%
Munich	Munich	24	27	29	31	34	35	33	35	38	38	58%
Madrid	Madrid	36	39	42	45	51	51	48	50	50	45	27%

Source: Eurostat.

Table A2: easyJet Network Frequencies from London – Summer 2013				
Arrival Airport	**LGW**	**LTN**	**STN**	**SEN**
Aberdeen (GB)	376	210		
Agadir	66			
Ajaccio	24			
Alicante	816	339	136	256
Almeria	209			
Amman Queen Alia International Apt	90			
Amsterdam	1,072	770	600	359
Antalya	156			
Asturias			214	
Athens (GR)	210			
Barcelona Apt	1,260	420		255
Bari	111			
Basel	502			
Bastia	33			
Belfast International Apt	930	600	635	251
Bergen	160			
Berlin Schoenefeld Apt	757	390		113
Biarritz	60			
Bilbao			362	
Bodrum Milas Airport	139		84	
Bologna	210			
Bordeaux Merignac Apt	247	186		
Bucharest Henri Coanda Apt	6			
Budapest	202	142		
Cagliari			202	
Catania	160			
Chania	113			
Cologne/Bonn Apt	390			
Copenhagen Kastrup Apt	733		390	
Dalaman	153		116	
Dortmund		380		
Dubrovnik	190		74	
Duesseldorf International Airport	361			
Edinburgh	845	648	704	152
Faro	900	333		235
Fuerteventura	62			
Funchal	161			
Geneva	1,121	447	29	7
Gibraltar	284			
Glasgow International Airport	695	648	730	
Gran Canaria	109			
Hamburg Airport	346	180		
Hurghada	68			
Ibiza	306	118	263	70
Innsbruck	96			
Inverness	284	210		
Irakleion	353	60		
Isle of Man	210			
Istanbul Sabiha Gokcen Apt		114		
Izmir Adnan Menderes Apt	100			
Jersey				153
Kalamata	33			
Kefallinia	108			
Kerkyra	321	110		
Kos	112			
Krakow	210			75
La Rochelle	38			
Lanzarote	124			
Larnaca	183			

Table A2: easyJet Network Frequencies from London – Summer 2013				
Arrival Airport	**LGW**	**LTN**	**STN**	**SEN**
Lisbon	210	364		
Ljubljana			210	
Luxembourg	180			
Luxor	20			
Lyon Grenoble-St Geoirs Apt	17	5	4	
Lyon St-exupery Apt	390		207	
Madrid Barajas Apt	908	275		
Malaga	1,095	431	294	187
Malta	300			
Marrakech	271		90	
Marseille Provence Apt	351			
Menorca	224	49		
Milan Linate Apt	217			
Milan Malpensa Apt	1,027	309		
Montpellier Mediterranee Apt	275	60		
Moscow Domodedovo Apt	405			
Munich International Airport	526		277	
Murcia	284			
Mykonos	135	46		
Nantes Atlantique Airport	80			
Naples Capodichino Apt	218		431	
Newquay				39
Nice	963	415	204	
Olbia	190	45		
Palermo	154			
Palma de Mallorca	881	448	315	137
Paphos	420	90		
Paris Charles de Gaulle Apt		542		
Pisa	338	195		
Porto	210			
Prague Ruzyne	346		200	
Reykjavik Keflavik International Apt		120		
Rhodes	136			
Rome Fiumicino Apt	740			
Salzburg	9	5		
Santiago de Compostela	57			
Sevilla	123			
Sharm El-Sheikh	107	150	60	
Sofia	210		60	
Split	263		60	
Tallinn	120			
Tel Aviv-yafo Ben Gurion International		268		
Tenerife Sur Apt	277			
Thessaloniki	160			
Thira	125			
Toulouse	627			
Turin Caselle Airport	7			
Valencia (ES)	420			
Venice Marco Polo Apt	608			120
Verona Villafranca Airport	218			
Vienna	330			
Zagreb	158			
Zakinthos Island	111			
Zurich Airport	390	210		
Source: OAG.				

Table A3: Full Service Carriers Classification of Catchment Districts		
Shared Districts	**LHR Unique**	**LGW Unique**
Barnet London Borough	Gatwick Airport	Basildon District
Basingstoke and Deane District	Greater London Unspecified	Bexley London Borough
Brent London Borough	Harrow London Borough	Bracknell Forest
Bromley London Borough	Milton Keynes	Canterbury District
Cambridge District	Runnymede District	Chelmsford District
Camden London Borough	Slough	Crawley District
City and County of the City of London	South Oxfordshire District	East Hertfordshire District
City of Portsmouth	Spelthorne District	Eastbourne District
City of Southampton	St. Albans District	Epsom and Ewell District
City of Westminster London Borough	Surrey Heath District	Havering London Borough
Croydon London Borough	Watford District	Horsham District
Ealing London Borough	West Berkshire	Maidstone District
Elmbridge District	Wokingham	Medway
Enfield London Borough		Mid Sussex District
Greenwich London Borough		Mole Valley District
Guildford District		Norwich District
Hackney London Borough		Reigate and Banstead District
Hammersmith and Fulham London Borough		Sevenoaks District
Haringey London Borough		Sutton London Borough
Heathrow Airport		Tandridge District
Hillingdon London Borough		Thanet District
Hounslow London Borough		Tonbridge and Malling District
Islington London Borough		Tunbridge Wells District
Kensington and Chelsea London Borough		Waverley District
Kingston upon Thames London Borough		Wealden District
Lambeth London Borough		Worthing District
Lewisham London Borough		
Merton London Borough		
Newham London Borough		
Oxford District		
Reading		
Redbridge London Borough		
Richmond upon Thames London Borough		
Southwark London Borough		
The City of Brighton and Hove		
Tower Hamlets London Borough		
Waltham Forest London Borough		
Wandsworth London Borough		
Windsor and Maidenhead		
Woking District		
Source: CAA Passenger Survey 2012.		

Table A4: Districts Identified by Location Quotient Analysis					
Heathrow			Gatwick		
District	Relative LQ	LQ	District	Relative LQ	LQ
Surrey County Unspecified	1.1	1.2	Wealden District	3.6	4.0
Hertfordshire County Unspecified	1.1	1.2	Adur District	3.4	3.9
Slough	1.0	1.2	Mid Sussex District	3.1	3.6
Reading	0.9	1.2	Heathrow Airport	2.9	3.4
Runnymede District	0.8	1.2	Tunbridge Wells District	2.9	3.5
Gatwick Airport	0.9	1.2	Crawley District	2.8	3.4
Hounslow London Borough	0.9	1.2	Eastleigh District	2.8	3.4
Windsor and Maidenhead	0.8	1.2	Horsham District	2.6	3.2
South Bedfordshire District	0.8	1.2	Worthing District	2.6	3.2
South Bucks District	0.8	1.2	Tonbridge and Malling District	2.6	3.2
Watford District	0.9	1.2	Hastings District	2.4	3.0
Ealing London Borough	0.7	1.2	Babergh District	2.4	3.0
Chiltern District	0.7	1.2	Reigate and Banstead District	2.3	3.0
Oxford District	0.8	1.2	Tandridge District	2.3	3.0
Wokingham	0.6	1.2	Thanet District	2.3	2.9
Luton	0.7	1.2	Lewes District	2.1	2.8
Harrow London Borough	0.7	1.2	Maidstone District	2.1	2.7
Cambridgeshire County Unspecified	1.2	1.2	Basildon District	2.0	2.6
Surrey Heath District	0.5	1.2	Castle Point District	1.9	2.6
Richmond upon Thames London Borough	0.6	1.2	Sutton London Borough	1.9	2.6
West Berkshire	0.5	1.2	Croydon London Borough	1.9	2.6
East Sussex County Unspecified	0.4	1.1	Epsom and Ewell District	1.8	2.6
St. Albans District	0.6	1.1	The City of Brighton and Hove	1.8	2.5
Isle of Wight	0.4	1.1	Rother District	1.8	2.5
City of Southampton	0.5	1.1	North Norfolk District	1.5	2.2
Hillingdon London Borough	0.4	1.1	Bromley London Borough	1.5	2.2
Rushmoor District	0.4	1.1	Mid Suffolk District	1.5	2.2
Spelthorne District	0.5	1.1	Fareham District	1.4	2.3
West Sussex County Unspecified	0.4	1.1	Medway	1.4	2.2
Kensington and Chelsea London Borough	0.6	1.1	Havering London Borough	1.4	2.1
Brent London Borough	0.6	1.1	Shepway District	1.3	2.2
Three Rivers District	0.3	1.1	Bexley London Borough	1.3	2.0
Hampshire County Unspecified	0.3	1.1	Breckland District	1.3	2.0
Hertsmere District	0.5	1.1	South Norfolk District	1.2	2.0
Hammersmith and Fulham London Borough	0.4	1.1	Sevenoaks District	1.2	2.0
Dacorum District	0.3	1.1	Arun District	1.2	2.1
Elmbridge District	0.3	1.1	Eastbourne District	1.1	2.0
London City Airport	0.4	1.1	Ashford District	1.1	1.9
Greater London Unspecified	0.4	1.1	Uttlesford District	1.1	1.8
Wycombe District	0.2	1.1	King's Lynn and West Norfolk District	1.1	1.9
Suffolk County Unspecified	1.1	1.1	Harlow District	1.0	1.8
South Oxfordshire District	0.3	1.1	Chelmsford District	0.9	1.7
Broxbourne District	0.6	1.1	Broadland District	0.9	1.8
City of Westminster London Borough	0.5	1.1	Canterbury District	0.9	1.8
Stevenage District	0.3	1.1	South Cambridgeshire District	0.9	1.7
Aylesbury Vale District	0.3	1.1	Mole Valley District	0.9	1.8
Bedfordshire County Unspecified	0.6	1.1	Chichester District	0.9	1.8
West Oxfordshire District	0.2	1.1	Maldon District	0.8	1.7
Cambridge District	0.5	1.1	East Hertfordshire District	0.8	1.6
Test Valley District	0.2	1.1	Thurrock	0.8	1.5
East Hampshire District	0.0	1.1	Rochford District	0.7	1.5
Barnet London Borough	0.5	1.1	Dover District	0.7	1.7
City of Peterborough	0.3	1.1	Ipswich District	0.7	1.6
Vale of White Horse District	0.1	1.1	Gravesham District	0.7	1.6

Table A4: Districts Identified by Location Quotient Analysis					
Heathrow			Gatwick		
District	Relative LQ	LQ	District	Relative LQ	LQ
Camden London Borough	0.3	1.1	East Cambridgeshire District	0.6	1.5
Milton Keynes	0.5	1.1	Waverley District	0.6	1.6
North Hertfordshire District	0.2	1.1	Havant District	0.6	1.5
Buckinghamshire County Unspecified	1.0	1.0	Suffolk Coastal District	0.6	1.5
Luton Airport	0.3	1.0	Tendring District	0.6	1.5
Bedford District	0.0	1.0	City of Portsmouth	0.5	1.5
Enfield London Borough	0.3	1.0	Merton London Borough	0.5	1.5
Huntingdonshire District	0.2	1.0	Greenwich London Borough	0.5	1.3
Wandsworth London Borough	0.0	1.0	Norwich District	0.5	1.4
Fenland District	0.6	1.0	Norfolk County Unspecified	0.5	1.3
			Lewisham London Borough	0.5	1.3
			Swale District	0.4	1.3
			Mid Bedfordshire District	0.4	1.4
			Gosport District	0.4	1.4
			Lambeth London Borough	0.4	1.3
			Epping Forest District	0.4	1.2
			Basingstoke and Deane District	0.4	1.4
			Braintree District	0.4	1.3
			Waveney District	0.4	1.3
			Great Yarmouth District	0.3	1.3
			Stansted Airport	0.3	1.3
			Colchester District	0.3	1.2
			Southend-on-Sea	0.3	1.1
			Brentwood District	0.3	1.2
			Southwark London Borough	0.3	1.1
			New Forest District	0.3	1.3
			Dartford District	0.2	1.1
			Guildford District	0.2	1.2
			Woking District	0.2	1.2
			Winchester District	0.1	1.2
			St. Edmundsbury District	0.1	1.0
			Kingston upon Thames London Borough	0.1	1.2
			Welwyn Hatfield District	0.1	1.1
			Hart District	0.1	1.1
			Bracknell Forest	0.0	1.1
			Forest Heath District	0.0	1.1
Source: CAA Passenger Survey 2012.					

Table A5: Low Cost Carrier Classification of Catchment Districts		
Shared Districts	**LGW Unique**	**STN Unique**
Brent London Borough	Arun District	Barking and Dagenham London Borough
Bromley London Borough	Bexley London Borough	Barnet London Borough
Camden London Borough	Canterbury District	Basildon District
City and County of the City of London	Chichester District	Braintree District
City of Westminster London Borough	City of Portsmouth	Brentwood District
Ealing London Borough	City of Southampton	Broxbourne District
Greenwich London Borough	Crawley District	Cambridge District
Hackney London Borough	Croydon London Borough	Chelmsford District
Hammersmith and Fulham London Borough	Dartford District	City of Peterborough
Haringey London Borough	Eastbourne District	Colchester District
Havering London Borough	Elmbridge District	East Hertfordshire District
Hillingdon London Borough	Epsom and Ewell District	Enfield London Borough
Hounslow London Borough	Guildford District	Epping Forest District
Islington London Borough	Heathrow Airport	Greater London Unspecified
Kensington and Chelsea London Borough	Horsham District	Harlow District
Lambeth London Borough	Kingston upon Thames London Borough	Huntingdonshire District
Lewisham London Borough	Maidstone District	Ipswich District
Merton London Borough	Medway	Newham London Borough
Oxford District	Mid Sussex District	Norwich District
Richmond upon Thames London Borough	Mole Valley District	Redbridge London Borough
Southwark London Borough	Reading	South Cambridgeshire District
Tower Hamlets London Borough	Reigate and Banstead District	Southend-on-Sea
Wandsworth London Borough	Sevenoaks District	St. Edmundsbury District
	Sutton London Borough	Uttlesford District
	Tandridge District	Waltham Forest London Borough
	The City of Brighton and Hove	Welwyn Hatfield District
	Tonbridge and Malling District	
	Tunbridge Wells District	
	Waverley District	
	Wealden District	
	Windsor and Maidenhead	
Source: CAA Passenger Survey 2012.		

Table A6: Charter Airlines Classification of Catchment Districts		
Shared Districts	**Gatwick Unique Districts**	**Stansted Unique Districts**
Barnet London Borough	Arun District	Babergh District
Basildon District	Ashford District	Breckland District
Braintree District	Barking and Dagenham London Borough	Broadland District
Cambridge District	Basingstoke and Deane District	Broxbourne District
Chelmsford District	Bexley London Borough	East Cambridgeshire District
City of Peterborough	Bracknell Forest	East Hertfordshire District
Colchester District	Bromley London Borough	Fenland District
Enfield London Borough	Camden London Borough	Forest Heath District
Epping Forest District	Canterbury District	Great Yarmouth District
Havering London Borough	Castle Point District	Haringey London Borough
Huntingdonshire District	Chichester District	Harlow District
Ipswich District	City of Portsmouth	King's Lynn and West Norfolk District
Norwich District	City of Southampton	Maldon District
Redbridge London Borough	City of Westminster London Borough	Mid Suffolk District
Rochford District	Crawley District	Newham London Borough
St. Edmundsbury District	Croydon London Borough	North Hertfordshire District
Thurrock	Dartford District	North Norfolk District
	Dover District	South Cambridgeshire District
	Ealing London Borough	South Norfolk District
	East Hampshire District	Suffolk Coastal District
	Eastbourne District	Tendring District
	Elmbridge District	Uttlesford District
	Epsom and Ewell District	Waltham Forest London Borough
	Fareham District	Waveney District
	Gosport District	
	Greenwich London Borough	
	Guildford District	
	Harrow London Borough	
	Hart District	
	Heathrow Airport	
	Hillingdon London Borough	
	Horsham District	
	Isle of Wight	
	Islington London Borough	
	Kingston upon Thames London Borough	
	Lambeth London Borough	
	Lewes District	
	Maidstone District	
	Medway	
	Merton London Borough	
	Mid Sussex District	
	Mole Valley District	
	New Forest District	
	Oxford District	
	Reading	
	Reigate and Banstead District	
	Rushmoor District	
	Sevenoaks District	
	Shepway District	

Table A6: Charter Airlines Classification of Catchment Districts		
Shared Districts	**Gatwick Unique Districts**	**Stansted Unique Districts**
	South Oxfordshire District	
	Southend-on-Sea	
	Southwark London Borough	
	Spelthorne District	
	Sutton London Borough	
	Swale District	
	Tandridge District	
	Thanet District	
	The City of Brighton and Hove	
	Tonbridge and Malling District	
	Tunbridge Wells District	
	Wandsworth London Borough	
	Watford District	
	Waverley District	
	Wealden District	
	West Berkshire	
	West Oxfordshire District	
	Windsor and Maidenhead	
	Woking District	
	Wokingham	
	Worthing District	
	Wycombe District	
Source: CAA Passenger Survey 2012.		