Leveraging the runway capacity shortage in South East England

Delivering airline passenger growth at Bournemouth Airport

An independant report

January 2019

Foreword

In December 2017 Regional and City Airports (RCA) announced their purchase of Bournemouth Airport, which has been operating continuously since its construction as an RAF station almost 80 years ago. The airport's civilian use began in late 1945, before either Heathrow or Gatwick Airports were available, with the launch of airline services to the Unites States, Africa, South America and the Far East. These flights were operated from Bournemouth by the major airlines of the day and in many cases, were the first international airline links to the UK, using London Hurn Airport (as it was then known), until suitable international airport capacity was available closer to London. Bournemouth Airport has operated at Hurn since and until the present day as a relatively modest regional passenger airport with a diverse range of aviation activities. Yet while the larger London airports now handle near 170 million passengers each year, the passenger throughput at Bournemouth has remained low, at generally less than 1 million each year. Compared with other UK airports, it could be said that Bournemouth Airport has underperformed its potential as a passenger hub. Yet the airport, because of its location, runway and associated facilities, is now one of the very few in southern England capable of supporting expanded airline operations.

The Government rightly regards UK Airports as strategic national economic assets, yet most airports serving the Southeast of England have reached their runway, aircraft parking and airspace capacity limits. There remains a low prospect of any new build runway, or airspace capacity change within the coming decade at London's main airports, one reason why Government policy is to make best use of existing airport capacity. Therefore, the strategic importance of existing airports already equipped with the necessary capabilities and capacity, that are close enough to London to serve part of the Southeast catchment, is clear. For Bournemouth Airport, located within the area of the UK with the most constrained capacity, and equipped with a suitable runway, aircraft parking and passenger terminal infrastructure, its strategic economic importance has probably never been greater.

Foreword

Following the acquisition of Bournemouth Airport by RCA, the company has invited proposals suggesting routes from Bournemouth that could be considered. This independent report is intended to address that question through professional analyses, which also explores the likely direction of airline services in southern England, and the possible expanded roles for Bournemouth. A number of conclusions are developed and several recommendations are accordingly made. Having conducted this study, I am confident that good potential for new passenger services from Bournemouth can be proven and that airlines will be able to profitably leverage the facilities available to the benefit of businesses, employment, residents, the airport owners and the UK economy. It is likely that further work will be necessary to complement the analyses made by the airport in the past, and no doubt now underway at RCA, I sincerely hope that this independent report is able to contribute usefully to that effort.

Graham Lake, May 2018

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January 2019

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The recent acquisition of Bournemouth Airport (BOH) by Regional and City Airports Limited (RCA) marks a milestone in the history and development of the Airport, which already has an established and diverse base of aircraft operations and related businesses. Yet because of its existing infrastructure and proximity to London, the airport still has proportionately more scope for further growth than many other airports in England. Commenting publicly on the acquisition of BOH, the CEO of RCA has invited suggestions for the further development of passenger services from Bournemouth. This paper is provided in response to that request and is intended to contribute to informing the strategy and planning for delivery of improved air transport connectivity.

The Centre for Cities[1] measure for UK cities and Primary Urban Areas (PUA), is the first port of call for UK and international decision makers seeking to understand and improve UK cities' economic performance. The data shows that the PUA centred on Bournemouth is consistently in the upper quartile for business and economic activity of all cities in the UK. Bournemouth Airport serves locally a wealthy catchment with high levels of business activity and employment.

The Dorset Local Enterprise Partnership (LEP) has identified BOH as a key strategic and economic asset driving growth in the central south coastal region, placing the airport at the core of its Bournemouth International Growth Programme.

According to the Department for Transport (DfT) forecasts, travel demand will continue to grow in England, with expected capacity demand exceeding supply, particularly to the south and east of the line between east Dorset and the Wash in East Anglia. This is the area of England where airport capacity limits are already being reached and where increased air travel constraints to growth are forecast. This capacity challenge provides an opportunity to Bournemouth, it suggests that consideration of market potential for the airport beyond the usual local catchment considerations is justified. Figure 5 provides a DfT based indication of the extent of demand generated for Heathrow, Gatwick and Southampton, all within the Heathrow and Gatwick catchment and a part of which is a reasonable distance from Bournemouth Airport (60 minutes' drive).

The UK is the world's third largest market for Air Transport after the USA and China

Airlines strive to gain access to the largest and most lucrative markets capable of generating consistent year-round demand and profitable use for the aircraft…. In England, that means London

[1] http://www.centreforcities.org/

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Bournemouth Airport is equipped with a runway capable of supporting long haul operations, sophisticated landing aids that enable safe operation in low visibility and a recently completed modern passenger terminal complex. A wide range of aircraft support and maintenance organisations are also available. Passenger throughput peaked at 1.1m in 2007, before the global financial crisis, and has not recovered since, despite growth elsewhere in UK. The context within which Bournemouth Airport operates as a part of the UK air transport infrastructure is considered. The airport capacity constraints that now exist in Southeast England are discussed, together with the reasons why aircraft operators may now be obliged to consider serving Bournemouth, when they may not have done in the past. Some routes that could prove financially viable for airlines are also identified with associated rationale.

While passengers certainly want local access, airlines on the other hand want to serve the largest and most lucrative markets that generate consistent year-round demand and profitable use for the aircraft asset. In England, that means London, but as is discussed in the report, the London airports are generally not available to airlines for the launch new routes because of shortage of runway, gate or suitable terminal capacity. The possibility for airlines to acquire slots, to park aircraft overnight and to obtain the peak hour runway usage needed for the minimum two rotations/day (required by LCC and Tour Operators) does not exist at any of the four largest London Airports; LHR, LGW, STN or LTN) with a runway long enough to be capable of supporting near/medium haul routes in the summer season.

Airlines normally address this airport capacity shortfall in one of four ways:

- Up-gauging aircraft size - to serve more passengers with each flight
- Serving UK markets with aircraft based overseas – to eliminate the need for overnight parking and for (some) peak hour slots at UK airports
- Purchase of runway slots from other airlines
- Identify additional airports that can be profitably added to their route network (the proposed role for Bournemouth)

Because of a lack of runway capacity in south east England… the strategic economic importance of Bournemouth airport has probably never been greater

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Airports normally address this airport capacity shortfall using several mechanisms:

- Encouraging lower yield traffic to use other airports (Charter, Freight, Corporate, Military, Maintenance, Storage[2], Training)
- Increasing runway capacity through use of improved taxiway layouts, automation and systemisation
- Favouring long haul routes with year-round demand, and using larger long-haul aircraft which are unlikely to need overnight parking. – A strategy currently being pursued by Gatwick where summer capacity limits are now reached or exceeded for the entire 7-month summer season
- Investing in more aircraft parking and docking stands

Identifying an airport's catchment area is notoriously difficult, it will vary by destination. However, it has been reported that more than 2m people live within one hour's drive of BOH. Extrapolating that figure as a proportion of UK population and the current total of air passengers in UK, suggests that those 2 million people will indicatively generate about 9 million air journeys each year[3]. These same residents will use different airports depending on the destination, purpose and duration of their trip. It is reasonable to expect that the Bournemouth resident for instance, making a day trip to Edinburgh is currently likely to choose Southampton Airport, but for a two-week vacation in Mexico it is more likely to involve Gatwick, while the three-day business trip to Oslo, will probably involve Heathrow and so on. Today, the 7-day holiday in Spain, is the most likely to feature Bournemouth. In total, ten airports, including Birmingham, Bournemouth, Bristol, Exeter, Gatwick, Heathrow, London City, Luton, Southampton, and Stansted[4] will all feature in the travel plans of those 2 million residents at some point. Correspondingly, some passengers now using these ten airports are a potential market opportunity for BOH.

Bournemouth Airport which is located in the area of the UK identified by the DfT as being the most constrained by airport capacity limits, has the runway, aircraft parking, airspace capacity and passenger terminal needed to effectively serve part of the London and the UK Southeast catchment area

[2] British Airways now fly aircraft requiring parking for several days to their maintenance base at Cardiff to release parking space at LHR. Emirates use a similar policy at Dubai, sending aircraft needing short term storage to the neighbouring DWC airport

[3] Annex 1 Table 1

[4] Annex 1 Table 2, 3

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As we have seen, it is highly likely that the 9 million or so air journeys made by each of these 2 million residents will use one of the ten airports identified in Annex 1 Tables 3, including Southampton and Bournemouth. This table identifies the busiest destinations served from each of these ten airports. Many of these busiest routes are thus potentially capable of generating sufficient volumes be able to support viable scheduled service operation from Bournemouth. It is interesting to note that all the top ten destinations at Heathrow are routes to other long-haul hubs, suggesting that significant demand for access to a long-haul hub exists within the potential Bournemouth catchment.

Southampton Airport which is often seen locally as a competitor to Bournemouth, does not have available; the runway dimensions, all weather operation capability, or aircraft parking stands suitable for most of the aircraft fleets used by airlines today. While Southampton serves the domestic travel needs of the population within the Bournemouth catchment well, the airport is nevertheless unable to sustain viable competition against alternatives from Heathrow, Gatwick or Bournemouth on most international routes of beyond an hour flying time. Operations at Southampton are and, will continue to be restricted to smaller aircraft and to shorter flights. This trend will become even more restricting as the size of aircraft in airline fleets continues to grow. The average number of passengers per flight at Southampton is consistently less than 30% of that seen at nearby airports (LHR/LGW/BOH[5]).

London is the busiest catchment for air transport in the world, supporting more passenger traffic than any other city

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The report concludes that because of the scarcity of runway and passenger aircraft parking facilities constraining growth in southern England, as well as local airspace capacity limits that, if and until new runway capacity is available in Southeast England, Bournemouth is likely to become increasingly attractive to airlines and their passengers:

- London is the busiest catchment for air transport in the world, supporting more passenger traffic than any other city
- Airports serving Southeast England are operating at maximum capacity and correspondingly reduced resilience for much of the year
- Bournemouth Airport which is located in the area identified by DfT as being the most capacity constrained in UK, has the runway, aircraft parking, airspace capacity and passenger terminal needed to effectively serve part of the London and the UK Southeast catchment area
- The busiest routes from other airports in Southeast England point to the potential destinations with the most demand from Bournemouth
- Links from Bournemouth to a long-haul hub are essential, Amsterdam and Dublin appear to be the near-term priorities
- Package Holidays from UK are now seeing a resurgence from the initial negative effect of LCC entry into their market and the global financial crisis, Jet2 holidays is expected to be the best prospect for growth of this activity from Bournemouth
- An ancillary effect of the lack of capacity in the Southeast will see increasing volumes of lower priority traffic (Charters, Corporate, Training etc.) migrating to Bournemouth

Airports serving Southeast England are operating at maximum capacity and a correspondingly reduced resilience for much of the year

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As a result of these conclusions, a number of recommendations have been made, including:

- Redefining Bournemouth Airport's catchment area to reflect its location within the capacity constrained high demand area of Southeast England to assist airlines in their assessment of market potential. Current Government reviews may assist with this objective
    - Passengers are interested in service from a local airport, but airlines are attracted by the opportunities of big markets. Bournemouth is more likely to achieve growth if airlines can be convinced that the airport offers access to part of the lucrative market that is within a London catchment
- Frequent services to a major airline hub are vital
    - A robust case should be proposed to KLM to provide links to their global hub at Amsterdam, from Bournemouth. This should seek a minimum of ten flights per week to ensure viable connectivity every day. This is in line with KLM's own strategy of serving airports not served by legacy and Gulf hub competition, to feed global services operated by KLM from Schiphol
    - Links to Dublin and the Aer Lingus north American hub are also desirable. Aer Lingus, or Ryanair are candidate airlines, it is expected that Ryanair will soon launch interline services with Aer Lingus at Dublin
- Increase the selection of package holidays available from Bournemouth
    - Jet2 holidays are continuing to expand and are believed to offer the best prospect to Bournemouth for the growth of services sought by residents and the airport. The company's historical links with Bournemouth (Channel Express) should be helpful and the company is more expansionist than other operators in the UK market

The busiest routes from other airports in southern England will generate significant demand from Bournemouth too, detailed route by route analysis is necessary

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- Better public transport links to London from Bournemouth Airport are desirable
    - Public transport links to London are important, while airport bus links to local railway stations are better than nothing, an express bus link to London is desirable, is there scope to route some of the existing hourly national express service from Bournemouth to London Victoria, via Bournemouth Airport? This, or something similar should be considered
- More analysis is needed to validate identity of priority destinations
    - It is reasonable to expect that the busiest routes from other airports in southern England will generate significant demand from Bournemouth too, detailed route by route analysis is necessary
- The long-range capabilities of the Boeing 737-Max and Airbus A321LR are game changers, a Gulf Hub link should be a long- term objective

Redefining Bournemouth Airport's catchment area to reflect its location within the capacity constrained high demand area of Southeast England will assist airlines in their assessment of market potential

Introduction, Purpose and Scope

The recent acquisition of Bournemouth Airport (BOH) by Regional and City Airports Limited (RCA) marks a milestone in the history and development of the Airport, which already has an established and diverse base of aircraft operations and related businesses, yet because of its existing infrastructure and proximity to London, the airport still has proportionately more scope for further growth than most other airports in England. This report is intended to address how that latent potential can be exploited, considering the reasons why airlines may be able to profitably leverage the facilities available at Bournemouth to the benefit of businesses, employment, residents, the airport owner, the UK economy and the airlines involved.

Commenting publicly on the acquisition of BOH, the CEO of RCA has invited suggestions for the further profitable development of passenger services from Bournemouth. This paper is provided in response to that request and is intended to help inform the strategy and planning for delivery of improved air transport connectivity for the airport.

The analysis has been prepared by an experienced independent senior civil aviation adviser who has supported the work of the Airports Commission, and has broad knowledge of air transport planning and strategies, and the technical constraints limiting airport capacity in the UK and overseas. The report discusses the scope and anticipated potential for growth of passenger services at BOH, considering the airport capacity and infrastructure available in southern England, especially runway slots and aircraft parking and docking facilities. This encompasses the area of England extending to Birmingham in the north, Exeter in the west and Gatwick to the east. The report also considers how airlines have reacted by using the mechanisms at their disposal to mitigate the airport capacity constraints and, how traffic has been and is likely to be redistributed as a result. The contexts of the Government's Revised Airports National Policy Statement (ANPS) due for finalisation and publication towards the end of 2018, and the new aviation strategy expected in early 2019 are taken into account. The ANPS will call for airports and airlines to make best use of the airport capacity currently available, recognising that any new build runway in southern England is at least a decade away.

The report also offers preliminary views, based on established precedents, indicating how air traffic in southern England is likely to continue to evolve - passenger and freight services, corporate, Government and military, training and maintenance and, the expected consequences for BOH.

This report is intended to help inform the development of strategy and planning of improved air transport connectivity for central southern England, taking advantage of the excellent runway, airspace and aircraft parking infrastructure available at Bournemouth airport

Air Transport in Southern England

The UK is the world's third largest market for Air Transport after the USA and China. London and it's six airports process more passenger traffic each year (~170m) than any other city in the world. According to latest forecasts by both Airbus and Boeing, passenger growth in Europe will continue at about 3.4% every year to 2036, with demand for flights to Asia showing the largest increase. This suggests that by 2028, up to 60 million (m) additional passengers will need to be handled each year by London's airports, although a (2017) DfT forecast predicts at the median level, a lower growth in a similar period of about 40m[6] which is still the equivalent of adding the combined throughput of Stansted, Luton and London City Airport in 2016. Any impact of the changes associated with Brexit are not yet quantified. London's airports are nevertheless severely constrained by their limited runway, aircraft parking and, airspace capacity. The very high level of scheduled runway utilisation now necessary at Heathrow and Gatwick for instance, already means that their operating resilience is poor[7] and compares badly with almost every other major airport in Europe[8]. This leads to quite regular flight cancellation and diversion, especially in low visibility conditions, high wind, and freezing weather. Or whenever the runway is temporarily blocked by a disabled aircraft or closed for unplanned maintenance. Bournemouth Airport routinely handles ad-hoc traffic diverted as a consequence. Luton, Stansted and London City airports also see utilisation reaching physical limits in peak season and at peak hours, with corresponding resilience shortcomings. Even Bristol Airport has recently applied for and been granted level 3 slot regulation status because of over-night parking capacity constraints. This form of slot management applies where demand for airport infrastructure significantly exceeds the airport's capacity during the relevant period, or where Governments have imposed conditions that make it impossible to meet demand.

Whichever of the ten airports in the study area is considered, demand is not distributed evenly throughout the day, with particularly the low-cost airline operating models resulting in an oversubscribed departure schedule during the early morning and correspondingly oversubscribed arrivals demand in the late evening periods, when short/medium haul aircraft return to base to park for the night. As a result, overnight aircraft parking and peak hour runway slots are in very limited supply, being broadly unavailable in southern England[9].

This report is intended to help inform the development of strategy and planning of improved air transport By 2028, up to 60 million additional passengers will need to be handled each year by London's airports

[6] https://www.gov.uk/Government/uploads/system/uploads/attachment_data/file/674749/uk-aviation-forecasts-2017.pdf

[7] http://nats.aero/blog/2013/08/airport-capacity-more-than-just-tarmac-and-terminals/

[8] Eurocontrol ATM Performance Report

[9] Airport Coordination Limited

Air Transport in Southern England

It is not just the physical infrastructure that constrains capacity, the airspace system, the so-called invisible infrastructure, has also reached its design limits in southern England[10], especially at Heathrow and Gatwick. Major airspace redesign, introducing satellite-based navigation technology, is being planned by NATS for London. For a variety of reasons, not least the extended airspace change process now required by both DfT and CAA, these airspace changes are still at least seven years away, quite probably longer.

The Airports Commission studied the issues of airport capacity in Southeast England in detail and made a recommendation for a new runway (R3) at Heathrow. Even if this recommendation is delivered, which history suggests is unlikely, new build runway capacity is at least fifteen years distant. This means growth in London will continue to be constrained, with other airports in UK and overseas benefiting as a result.

Figure 1 | Runway Capacity in Southern England is in very short supply, Bournemouth's runway illustrated

The airspace system, the so-called invisible infrastructure, has also reached its design limits in southeast England

[10] http://www.breakingtravelnews.com/news/article/nats-warns-uk-airspace-becoming-dangerously-crowded-as-summer-exodus-begins/

Air Transport in Southern England

Heathrow, Europe's busiest airport by passenger throughput, is constrained by the lack of availability of runway slots year-round, these slots are highly valued and traded by airlines. One slot pair recently changed hands (to Oman Air) for a reported[11] US$75m. Reflecting this high value, runway slots are no longer available at Heathrow or Gatwick to most Corporate, Government and main deck cargo flights, which have largely migrated to Luton, Farnborough, Northolt, Stansted and East Midlands. Growth at Heathrow is hence delivered largely through up-gauging - use by airlines of larger aircraft types and, for BA, through increased density of seating.

The Government's decision to progress a Runway 3 option at Heathrow has set public expectations that new capacity will be delivered by 2032, but successive UK Governments have been unable to achieve the political momentum needed to deliver any new runway capacity anywhere in southern England since the 1960's other than at the short runway at LCY in 1987. For a number of political and financial reasons, the probability of a new runway actually being built at LHR remains very low.

In the meantime, Heathrow's passenger throughput will continue to grow, largely because of the up-gauge by airlines to larger aircraft and the trend for each flight to carry more passengers[12]. Sophisticated new technology will also be used to improve runway operating resilience, by mitigating the effects of weather and ATC congestion[13].

Gatwick, has achieved very high levels of passenger growth since its acquisition by GIP nearly ten years ago, with passenger traffic already exceeding the 2013 DfT forecast for Gatwick in 2050. The airport's single runway is the busiest in the world, with a globally unparalleled declared capacity of 55 ATM per hour. Runway slots are also traded here for large sums of money. The airport has planned a second runway and has reported that it remains ready to proceed if the Government gives the green light.

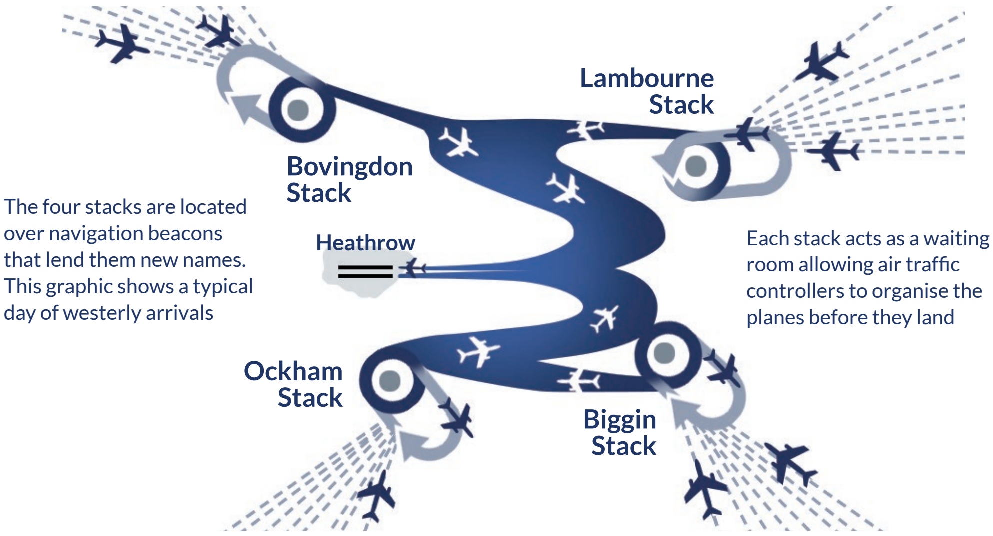


Figure 2 | Heathrow, an example of current aircraft approach delay management necessary because of the shortage of runway capacity (Heathrow Airport Limited)

[11] https://centreforaviation.com/insights/analysis/gulf-airlines-in-london-heathrow-slot-purchases-expand-capacity-further-improving-connectivity-267222

[12] Annex Table 5

[13] For instance; Time based separation and Extended Arrivals Manager (NATS)

Air Transport in Southern England

Gatwick's growth in the past decade has been largely delivered by easyJet, British Airways and Norwegian, historically serving mainly short-medium haul destinations, with a number of operators including British Airways, Virgin, Norwegian, West-Jet, Emirates and now Cathay Pacific offering long haul services. The growth at Gatwick has led to the airport reaching its runway capacity limits throughout the day each summer, while in the winter season, demand has typically been about 25% lower than summer peak. Gatwick has adopted a similar strategy to LHR, reserving runway slots for regular passenger flights. More recently Gatwick has successfully pursued additional long-haul routes with a consistent year-round demand. The airport is now the fifth largest long-haul hub in Europe[14], with more long-haul routes than any of the Scandinavian Hubs, Munich, Madrid or Zurich. The recent demise of Monarch and sale of Gatwick Slots to IAG, and Norwegian's acquisition of slots previously owned by Small Planet Airlines, are both expected to result in their use for year-round long-haul growth. This will correspondingly reduce runway capacity previously offered at Gatwick for flights to the more seasonal 'bucket and spade' destinations.

It is likely based on the airport's announcements, that Gatwick will continue to seek Government support for a second runway, the more probable scenario reported currently, are the plans to make regular use of Gatwick's existing 'standby' northern runway, currently only used when the main runway is not available. This could uplift the peak runway capacity available at Gatwick by about 20 percent. The local planning restriction limiting Gatwick to one runway, expires in 2019. The Government's new aviation strategy calls for best use of current infrastructure. Given the time scales associated with any new runway at Heathrow, further runway infrastructure optimisation, including at Gatwick and elsewhere, will become necessary and is expected to be consistent with Government policy. If the northern (standby) runway plan is adopted and approved for Gatwick, the related airspace and other infrastructure necessary will nevertheless absorb 5-7 years of planning time, suggesting a 2025-2030 time frame.

Luton Airport is severely constrained by its current runway and taxiway infrastructure - the runway is shorter than at Bournemouth and requires aircraft to backtrack before take-off and after landing, increasing aircraft runway occupancy time and reducing runway capacity. Even so, Luton is still London's busiest corporate jet airport. The high levels of scheduled passenger growth, largely driven by Wizz Air will increasingly push corporate flights now using Luton, to Cranfield, Biggin Hill, Oxford, Cambridge, Farnborough, Southampton and Bournemouth, several of these airports are not suited to some of the larger corporate aircraft types using Luton.

Overnight aircraft parking and peak hour runway slots are in very limited supply, being broadly unavailable in southeast England

[14] GAL report to GATCOM

Air Transport in Southern England

High demand for slots exists at many airports, mainly in the summer period, with much more spare capacity normally available in winter. Heathrow, for which demand exceeds the available supply year-round, beingthe exception.

Airlines normally address this airport capacity shortfall in one of four ways:

- Up-gauging aircraft size - to serve more passengers with each flight
- Serving UK markets with aircraft based overseas – to eliminate the need for overnight parking and(some) peak hour slots at UK airports
- Purchase of slots from other airlines
- Identify additional airports that can be profitably added to their route network (the proposed role for Bournemouth)

Airports normally address this airport capacity shortfall using several mechanisms:

- Encouraging lower yield traffic to use other airports (Charter, Freight, Corporate, Military, Maintenance, Storage[15], Training)
- Increasing runway capacity through use of improved taxiway layouts, automation and systemisation
- Favouring long haul routes with year-round demand, and using larger long-haul aircraft which are unlikely to need overnight parking. A strategy currently being pursued by Gatwick where summer capacity limits are now reached or exceeded for the entire 6-month summer season.
- Investing in more aircraft parking and docking stands

[15] British Airways now fly aircraft requiring parking for several days to their maintenance base at Cardiff to release parking space at LHR. Emirates use a similar policy at Dubai, sending aircraft needing short term storage to the neighbouring DWC airport

Air Transport in Southern England

According to the DfT unconstrained travel demand will continue to grow in England to the south and east of the line between east Dorset and the Wash in East Anglia, the very area where airport capacity limits are already being reached. This provides an opportunity to Bournemouth, where because of its location relative to the growth area identified by DfT, it makes sense to consider the airport's potential beyond the usual local catchment limits. **Figure 5** provides a DfT based indication of the extent of demand expected for Heathrow, Gatwick and Southampton, a part of which is within a reasonable distance of Bournemouth (60 minutes' drive). This is discussed further in the next section.

Growth forecasts by region. The highest growth (90%) is projected for the eastern region, but this generates only 3% of UK passengers. London, with 30% of mainland UK ground origins, has the second highest growth (88%). London's dominance reflects its higher than national average growth since the department last produced forecasts, and the increased attractiveness of the capital to overseas visitors.

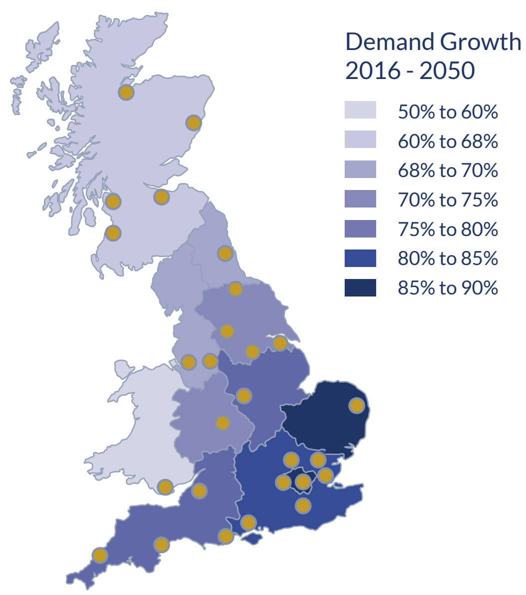


Figure 3 | Unconstrained demand forecast by region to 2050 (DfT 2017)

Bournemouth Airport Catchment/Potential Market

The Centre for Cities[16] measure for UK cities and Primary Urban Areas (PUA), is the first port of call for UK and international decision makers seeking to understand and improve UK cities' economic performance. The data shows that the PUA centred on Bournemouth is consistently in the upper quartile for business and economic activity of all cities in the UK. Bournemouth Airport serves locally a wealthy catchment with high levels of business activity and employment. The Dorset LEP has identified BOH as a key strategic and economic asset driving growth in the central south coastal region, placing the airport at the core of its Bournemouth International Growth Programme.

Identifying an airport's catchment area is notoriously difficult, it will vary by purpose of trip and destination[17]. However, the Flybe CEO reported in 2015 that more than 2m people lived within one hour's drive of BOH[18]. Extrapolating that figure as a proportion of UK population and the current total of air passengers in UK suggests that those 2 million people will indicatively generate up to 9m air journeys each year. It is likely that each of these journeys is made using one of the ten airports identified in **Table 2 (Annex1)**.

These same residents will use different airports depending on the destination, purpose and duration of their trip. It is reasonable to expect for instance that the Bournemouth resident making a day trip to Edinburgh will currently choose Southampton Airport, but for a two-week vacation in Mexico it is more likely to be Gatwick, while the three-day business trip to Oslo will likely be Heathrow, and so on. Today the 7-day holiday in Spain or Portugal, will probably feature Bournemouth. Other airports, including Birmingham, Bristol, Exeter, Gatwick, Heathrow, London City, Luton, Southampton, and Stansted will all feature in the travel plans of those 2 million residents at some point. Correspondingly, some passengers from further afield using these other airports are a potential market opportunity for BOH.

More than 2m people live within one hour's drive of Bournemouth airport generating up to 9m air journeys each year

Other airports, including Birmingham, Bristol, Exeter, Gatwick, Heathrow, London City, Luton, Southampton, and Stansted will all feature in the travel plans of those 2 million residents. Correspondingly, some passengers from further afield using these other airports are a potential market opportunity for Bournemouth

[16] http://www.centreforcities.org/

[17] https://www.sciencedirect.com/science/article/pii/S0966692312001706

[18] Also indicated on the Bournemouth Airport page of The Route shop

Bournemouth Airport Catchment/Potential Market

Southampton Airport which is often seen locally as a competitor to Bournemouth, does not possess the runway dimensions, all weather operation capability, or aircraft parking stands suitable for most of the aircraft fleets and operating philosophies used by airlines today. While Southampton serves the domestic travel needs of the population within the Bournemouth catchment well, the airport is apparently unable to sustain viable competition against alternatives from Heathrow, Gatwick, or Bournemouth on most international routes of beyond an hour flying time. Operations at Southampton are and will continue to be restricted to smaller aircraft because of the physical characteristics of the airport. Underlining this point, the average number of passengers per flight at Southampton is less than 30% of that seen at nearby airports[19] (LHR/LGW/BOH). The position for Southampton will progressively worsen as average airliner sizes continue to increase.

The Government (DfT) considers that Bournemouth is in Southwest England, while Government considers that Southampton is located in the Southeast. Yet the surface journey times to and from Bournemouth Airport to London and the Southeast are generally equivalent or faster than those to the Southwest region[20]. This is one reason why the passengers originating in the Bournemouth catchment predominantly use London airports, rather than airports serving the southwest region. The DfT aviation forecast indicates[21] that BOH is located within the very area of south east England that has the least runway and airport capacity available, and that will see the most resulting constraints to passenger demand. The preparation by Government of a Draft Airports National Policy Statement and an updated National Aviation Strategy may provide an opportunity to address this topic.

Local and regional airports are always popular with passengers, because of generally faster processing from kerb to gate and vice versa, there are generally lower chances of flight delay or cancellation and the shorter journeys help to reduce the risk extended/unpredictable surface travel. The trade-off is that air fares are usually higher and the choice of destinations served and frequency of flights is usually much lower from regional airports.

The increasing prevalence of Comparison Apps exemplified by Sky Scanner© can provide passengers with an easy contrast of routes, fares and schedules available from airports, using precise location information derived from their phone, tablet or PC. This increasingly means that a passenger living for instance in Newbury, is just as likely to be offered Bournemouth as an option, as any other airport, if the price and schedule is suitable.

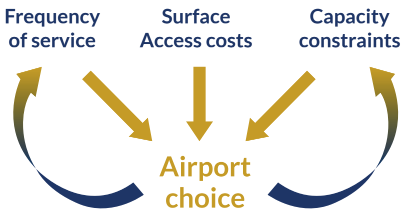


Figure 4 | Factors affecting passenger selection of airports (DfT)

Bournemouth Airport is located within the very area of south east England that has the least runway and airport capacity available, and that according to DfT will see the most related constraints to passenger demand

[19] Annex 1 Table 5

[20] Table 2

[21] Figures 3, 5 & 8

Bournemouth Airport Catchment/Potential Market

It is likely too that the selection made by the passenger will be influenced in part by the journey time from their home in UK to the airport check-in[22]. This is where regional airports normally score highly compared with London hubs.

Table 3 shows the ten busiest routes from UK airports serving southern England. This suggests that Amsterdam, Dublin and Edinburgh are likely to be the routes with most demand from BOH, with Amsterdam and Dublin also offering important hub access to other routes. These 3 cities are each popular business and city break destinations.

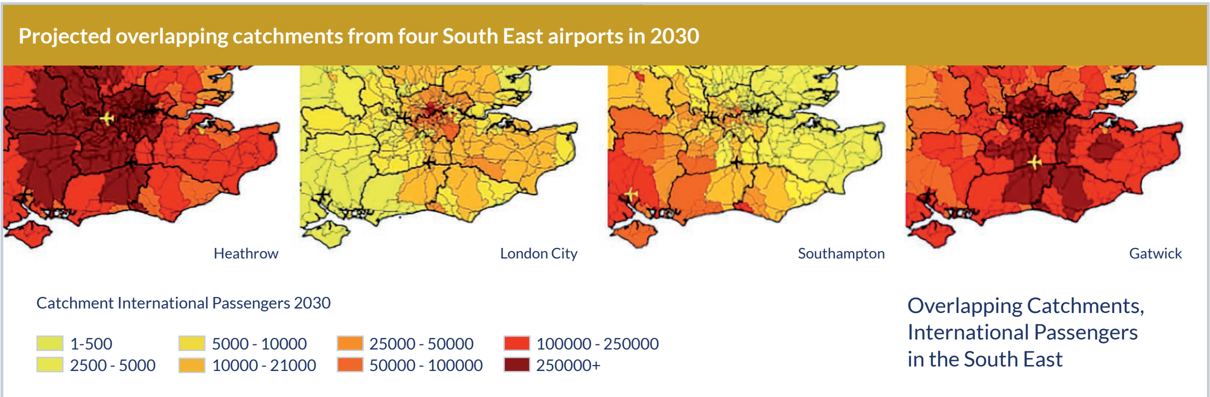


Figure 5 | An indication of overlapping catchment areas illustrating the reach of Heathrow and Gatwick on the south coast (DfT)

UK airports have provided access to long-haul and some short/medium haul destinations using service via major hubs. These have historically been dominated by either access to LHR in the UK, or to the major European hubs; AMS, CDG, FRA, CPH and MUC. Over the past decade, super hubs have emerged in the Gulf; DXB, DOH and AUH, followed by IST which although in Turkey is also successfully leveraging its location between Europe and Asia. All are syphoning traffic from the traditional European legacy hubs. Emirates has reached into UK regions to increase market share, serving 7 UK airports with up to 20 flights/day to Dubai. But it is KLM that stands out, serving its Amsterdam hub from 16 UK airports with its own aircraft, and several more with code share links. In some respects, KLM operates in the UK (population of 65m) as its domestic market, by serving more UK airports from its main hub than does British Airways. KLM is based in the Netherlands which has a population of just a quarter of the UK at 16m, whereas other European legacy carriers with major hubs, particularly Air France and Lufthansa, have much larger home markets and less need to reach into UK regions for passengers. KLM serves UK airports that are located near to others that it also serves, for instance: NCL/DTV, LBA/HUJ/MAN, CWL/BRS. Several of these airports also have established LCC serving AMS.

It is also significant that at Southampton before 2016, AMS was served by FlyBe using a KLM codeshare. Despite this Flybe code share, in 2016 KLM has added a twice daily service from Southampton using their own aircraft, and have doubled passenger throughput to Amsterdam from Southampton as a result. KLM strategy includes offering access to regional airports, to mitigate competition and business lost by Amsterdam to the Gulf Hubs, and lost to Gulf carriers at larger UK airports including particularly; Heathrow, Manchester, Birmingham and Glasgow.

[22] Annex 1 Table 2

Bournemouth Airport Catchment/Potential Market

The Southampton service of KLM is unusual in that unlike most other UK airports served, it does not involve night stopping the aircraft in UK. This may be by arrangement with Flybe, or due to lack of arrival slots in Amsterdam, or to lack of overnight parking at Southampton. Certainly, the current timing of the first flights of the day from Southampton to Amsterdam are less than ideal for either business or connection. This is an opportunity that Bournemouth could potentially exploit.

For scheduled services, BOH has never had a consistent reliable service operated by a legacy carrier to any major airline hub served with sufficient frequency to give either arriving or departing passengers using Bournemouth Airport the global access via a major hub that passengers seek. The international reach of the Bournemouth diaspora, together with the economic activity of the region, whether finance, education or other industries, suggests when considered with the passenger leakage to other airports, that reliable global access is a top objective. As capacity limits at London airports take further effect, this global access will undoubtedly become increasingly important.

Regional airports are popular origin points for package holidays. The large tour operators were slow to respond to the emergence and advance of Low Cost Carriers (LCC) in the UK, first ignoring them, then competing head to head. Eventually, following the global financial crisis of 2008 and the losses incurred as a result of the Icelandic Volcano airspace closures in 2010, the main tour operators increasingly retrenched the bulk of their operations to larger airports in UK and increased their focus on long haul. It is likely that this strategy will continue. Meanwhile, neither easyJet, nor Ryanair have adequately filled the gaps left in many regional airports with their associated package holiday offerings, although this is slowly changing. This market dynamic has opened an opportunity for Jet2 Holidays to step in, becoming one of the top three tour operators in the UK, achieved over a remarkable 5 years or so. Jet2 had originally set out to become another LCC, focussing in the north of England, then Scotland. The company has since morphed into a major tour operator and is increasingly expanding southwards. Launching Birmingham and Stansted departures in 2017. Jet2 has openly indicated a desire to move further into the Southeast, but has been unable to obtain any slots at either, Gatwick or Luton. According to the Jet2 Annual Report[23], the company will continue to focus on and expand this business, the destinations served are detailed on pages 5 & 6 of the annual report, highlights for the 2018 season are also shown in the Jet2 infographic at **figure 6**.

Southampton Airport which is often seen locally as a competitor to Bournemouth, does not possess the runway dimensions, all weather operation capability, or aircraft parking stands suitable for most of the aircraft fleets and operating philosophies used by airlines today

[23] https://www.dartgroup.co.uk/uploadedFiles/Dart_Group_Plc/Shared_Resources_(Images,_docs_etc)/Documents/Report_And_Accounts/Report-and-Accounts-2017.pdf

Bournemouth Airport Catchment/Potential Market

Jet2 is clearly a prime candidate to serve Bournemouth (and Bristol/Cardiff/Exeter) the company is looking to access markets south and west of London, offering the primary holiday hotspots, and winter break destinations from New York to Cyprus.

What are passengers located in the BOH catchment likely to want?

- Access to Long haul destinations through a reliable major hub, AMS, DUB, CDG, IST, DXB, DOH, AUH
- Access to top ten city break destinations, DUB, EDI, ROM, KRK, AMS, PAR, BCN, MXP, GVA, NCE
- Access to top ten sun destinations
- Access to cruise hubs
- Upscale options

Figure 6 | Jet2 Infographic 2018 (Jet2)

Airlines

While passengers certainly want local access, airlines on the other hand want to serve the largest and most lucrative markets that generate consistent year- round demand and profitable use for the aircraft asset. In England, that means London[24]. But as has been discussed, the London airports are often not available to airlines to launch new routes because of shortage of runway, gate or suitable terminal capacity. The possibility to park aircraft overnight and to obtain the peak hour slots needed for the minimum two rotations/day (needed by LCC and Tour Operators) does not exist at any of the four largest London Airports (LHR, LGW, STN, LTN) with a runway capable of supporting near/medium haul routes in the summer season[25].

This is why there is a high value market for slot trading at London airports. And partly why airlines are up-gauging to larger aircraft. For instance, the easyJet fleet of Airbus 319 aircraft are fitted with 156 seats, these aircraft are progressively being replaced at easyJet by Airbus A320 aircraft with 186 seats, and from mid-2018, with Airbus A321 neo with 235 seats, a full 50% larger than the Airbus 319.

Figure 7 | Low Cost Carriers are increasing market share

There is no doubt that the leading Low-Cost Carriers (LCC) will continue to dominate the short and medium haul air travel landscape in the coming decade, with both easyJet and Ryanair continuing to grow in size and market share. Both airlines have expressed interest in increasing their share of business related travel and introducing connecting service at main airports. Both airlines are progressively introducing larger aircraft to reduce costs per seat, their fleets will comprise almost entirely of aircraft with 186-235 seats within 5 years. Given that Bournemouth airport has established relationships with both carriers, the context of their operation at Bournemouth is not discussed in detail, although clearly there is potential for development. The lack of runway capacity at London airports will mean that both carriers can be expected to expand elsewhere in southern England. Both Bristol and Southend have seen related LCC growth in recent years despite the major expansions seen at the same time at Gatwick, Luton and Stansted.

The lack of runway capacity at London airports has shown that Low Cost Carriers choose to expand elsewhere in central and southern England. Both Bristol and Southend have seen related LCC growth in recent years despite the major expansions seen at the same time at Gatwick, Luton and Stansted

[24] https://www.caa.co.uk/WorkArea/DownloadAsset.aspx?id=4294972598 · PDF file

[25] Jet2 2017

Airlines

To some extent the lack of London slots is also why airlines in general have developed their activity at Birmingham, Southend and Bristol Airports, each of which have grown significantly in the past ten years. Both Bristol and Birmingham airports are reasonably accessible to a large population that would otherwise use Heathrow. In contrast Southampton which is about the same journey time as Birmingham by train from central London, does not have either the runway length or aircraft parking capacity to support sustained operations by the Boeing 737 Max or Airbus A321neo and other larger aircraft that are now the focus of airline fleets. Airlines using Southampton are obliged to use smaller aircraft that can operate unrestricted by the shorter runway. Growth at Southampton has consequently been and will continue to be much more constrained. The average number of passengers per flight at Southampton is much lower than elsewhere, making the airport less efficient for airlines and from an airspace and a noise perspective.

The lack of runway slots in London has also been very well exploited by KLM who have chosen to feed their Amsterdam hub, using their own aircraft, or with code share, from every airport in England serving more than 500k passenger/year. The notable exception south of Manchester is Bournemouth.

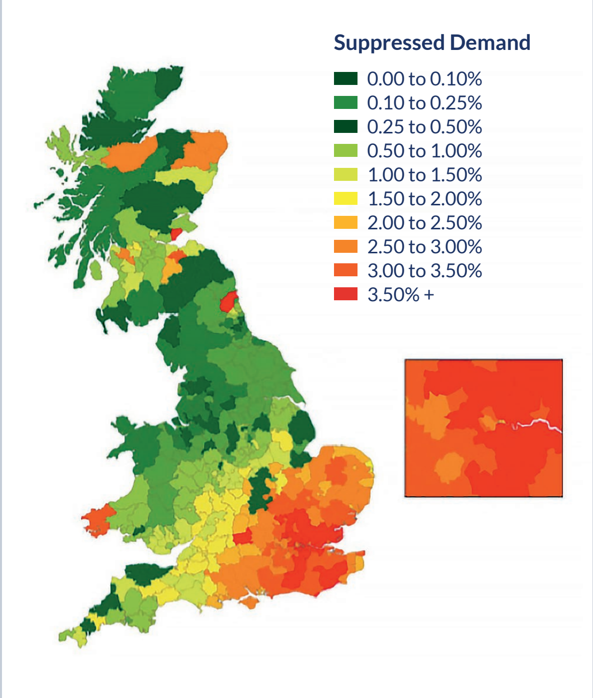
The newly announced Qatar Airways daily service from Cardiff to Doha and the Emirates addition of Stansted to its UK portfolio is a sign of Gulf carriers responding to competition from their fellow Gulf neighbours, from legacy hubs, and from Low Cost Long Haul, which is now emerging in London (Norwegian) and elsewhere in Europe. To some extent the Gulf carriers (who also have small domestic markets) have adopted a similar strategy to KLM, reaching for passengers into secondary and tertiary airports overseas, these airports are often not served well by the legacy carriers. This trend can be expected to continue, especially as smaller aircraft <240 seats, with better economics are now becoming available. The long-range capabilities of the Boeing 737-Max and Airbus A321LR are a game changer for secondary airports. For instance, the introduction of the Boeing 737-Max 8 in 2018 by FlyDubai (now partnered with Emirates) to link secondary cities to their Dubai hub is a significant development for smaller airports seeking growth.

It is also reasonable to expect that airlines will seek opportunities to serve the constrained travel demand forecast by DfT in **figure 8**. It can be seen that this will be concentrated in the area to the east of a line from Dorset to the Wash, within which BOH is located.

The lack of available runway slots at London airports has been exploited by KLM and Amsterdam Schiphol

Airlines

Proportions of air passengers suppressed from travel by district, 2040 (central demand)



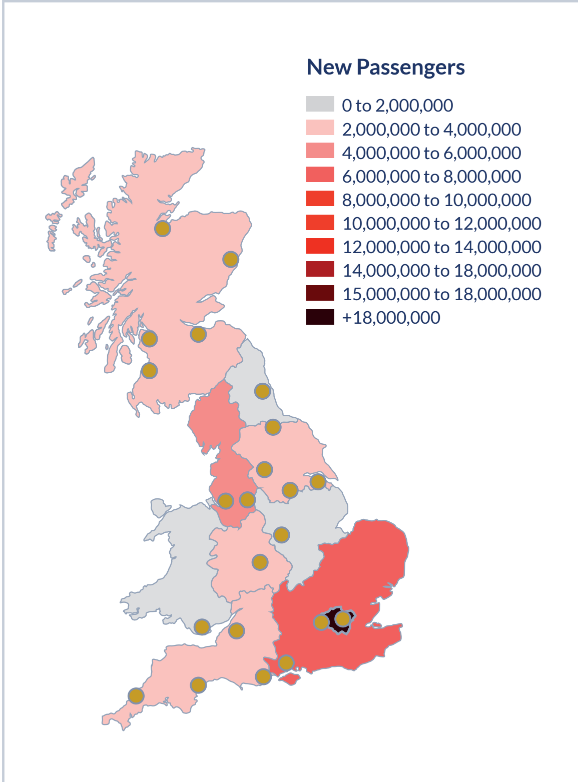


Figure 8 | Area of Demand constrained by capacity limits (DfT)

Source DfT demand Matrices 2011 & 2016 (from CAA surveys)

Conclusions

1. **London is the busiest catchment for air transport in the world, supporting more passenger traffic than any other city.**
    a. For airlines, London is the most important part of the UK market, and according to a CAA study London is one of the most strategically important airline markets globally. Nevertheless, the runway, aircraft parking and airspace capacity has already reached saturation.
    b. Government policy is to make best use of existing airport capacity, from a passenger throughput perspective, and given its infrastructure available, Bournemouth Airport does not yet achieve that objective.
2. **Airports serving Southeast England are operating at maximum capacity and reduced resilience for much of the year.**
    a. The probability of additional capacity being available from any London airport in the near/medium term, <10 years is still very low. It is likely that London will face an increasingly constrained growth scenario.
    b. By 2028, the airports serving London are forecast to need to accommodate 40m - 60m more passengers each year. This will inevitably drive growth at airports serving the London periphery; Bristol, Birmingham, Southend and Bournemouth.
    c. Airlines are looking for more capacity in Southeast England and using all resources at their disposal in that quest.

Conclusions

3. Bournemouth Airport which is located in the area defined by DfT as being the most capacity constrained in UK, has the runway, aircraft parking and airspace capacity needed to effectively serve part of the London and the UK Southeast catchment area

   a. Bournemouth, with runway, parking and airspace capacity has the interesting and unique potential for airlines, to be able to provide peak hour access to the most popular destinations from the market in central Southeast England, that currently mostly relies on service from Heathrow and Gatwick airports.

   b. In effect, Bournemouth offers airlines a runway located in an area that serves part of the catchment of London airports, that is suitable for virtually unrestricted operation by the most popular airliners in service today.

   c. The scope for growth at Southampton is conversely severely constrained by the runway length and other physical characteristics of the airport.

4. The busiest routes from other airports in Southeast England point to the potential destinations with the most demand from Bournemouth

   a. Passenger demand for particular routes can be simply demonstrated by analysis of the top ten busiest routes already served by airports in southern England[26] which are not already served from BOH.

   b. These destinations potentially offer the greatest scope for airlines to profitably add capacity from central southern England to these destinations. Some existing routes to Spain and Geneva should be able to support increased frequency.

5. Links from Bournemouth to a legacy hub are essential, Amsterdam and Dublin appear to be the near-term priorities.

   a. Regular access to a Gulf hub for easy access to the high growth markets of China and India and beyond is desirable in the long term.

6. Package Holidays from UK are now seeing a resurgence from the initial negative effect of LCC entry into their market and the global financial crisis.

   a. Jet2 holidays is undoubtedly the best candidate for growth of this activity from Bournemouth.

[26] Table 3

Recommendations

1. Redefining Bournemouth Airport's catchment area to reflect its location within the capacity constrained high demand region of south east England, to assist airlines in their assessment of the airport's market potential. Current Government reviews may assist with this objective.

a. Passengers are interested in service from a local airport, but airlines are attracted by the opportunities of big markets. Bournemouth is more likely to achieve growth if airlines can be shown that the airport offers access to part of the lucrative market that is London.

b. Bournemouth targeted growth could usefully be linked with the total London passenger throughput, for instance with an objective of achieving 1% of London's throughput within 3-5 years (1.7m) and 2% within 10 years (3.4m).

2. Frequent services to a major airline hub are vital

a. A robust case should be proposed to KLM to provide links to their global hub at Amsterdam, from Bournemouth. This should seek a minimum of ten flights per week to ensure viable connectivity every day. This is in line with KLM's own strategy of serving airports away from legacy and Gulf hub competition, to feed global services operated by KLM from Schiphol.

b. Links to Dublin and the Aer Lingus north American hub are also desirable. Aer Lingus, or Ryanair are candidate airlines, it is expected that Ryanair will soon launch interline services with Aer Lingus at Dublin.

3. Increase the selection of Package Holidays available from Bournemouth

a. Jet2 holidays are continuing to expand and are believed to offer the best chance to Bournemouth for the growth of services sought by residents and the airport. The company's historical links with Bournemouth (Channel Express) should be helpful and the company is more expansionist than other operators in the UK market.

January 2019

Recommendations

4. Better public transport links to London are desirable

a. Public transport links to London are important, while airport bus links to local railway stations are better than nothing, an express bus link to London is desirable, is there scope to route some of the existing hourly national express service from Bournemouth to London Victoria, via Bournemouth Airport? This, or something similar should be considered.

5. More analysis is needed to validate identity of Priority destinations

a. It is reasonable to expect that the busiest routes from other airports in southern England will generate significant demand from Bournemouth too, detailed route by route analysis is necessary.

6. The long-range capabilities of the Boeing 737-Max and Airbus A321LR are a game changer – a Gulf Hub link should be a long- term objective

a. The Global hubs in the Gulf are likely to continue to be strategically important, while the Middle East Big 3 (Emirates, Etihad and Qatar Airways) together with Turkish will grow using larger aircraft to congested airports. There is also evidence of their expansion using smaller aircraft to smaller cities (The soon to commence Qatar service to Cardiff).

b. The introduction of the Boeing 737-Max 8 in 2018 by Norwegian and by FlyDubai (now partnered with Emirates) linking secondary cities, is significant, and the use of single aisle aircraft by Qatar Airways (constrained from Middle East growth for political restrictions) and by Turkish Airlines, serving more cities than any other carrier provides opportunity.

c. Now is the time for airports to begin a campaign to attract services from these influential carriers. It is less fanciful than it might appear, the prospect for airports able to provide access to London, even from a distance, will be increasingly attractive to airlines over the coming decade.

About the Author

Graham Lake FRAeS has spent more than fifteen years in international aviation policy advocacy based in London and Geneva, as well as a period as Director General of CANSO, the Trade Association for Air Traffic Management providers based in Amsterdam. He also spent ten years leading the aviation services division of ARINC a Washington DC based corporation serving airlines, airports and Governments worldwide, with passenger and baggage management, aircraft and airport telecommunications services. At the beginning of his career he spent more than ten years as an air traffic control officer, including five years at Bournemouth Airport and three at Jersey. Today he is an independent civil aviation adviser and visiting lecturer in air transport at the University of Westminster, London. He has comprehensive knowledge of the history, evolution and developments at Bournemouth Airport. He was born in Bournemouth and now lives in Mudeford.

He has recently co-authored independent reviews of the management of aircraft noise at London Gatwick (2016) and at Toronto Pearson Airport (2017).

Arrivals Review London Gatwick

Independent Review of Arrivals Toronto Pearson

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Annex 1 Data Assumptions and Back Up

Table 1 Estimated Catchment and Leakage indicator

Metric	Data	Indicator
Total UK Population	65m	
Total UK Airport Pax	270m[27]	
Total Sample Airport Pax	170m[28]	
Population with 60 minutes of BOH[29]		2m residents
UK passengers per capita	270m/65m	4.15 flights per UK capita
Passengers generated by 2m residents	2m x 4.15	8.3m passengers/annum
BOH Airport passengers 2016	0.7m	8% market share. Leakage 92%

Table 2 Comparison of estimated average Journey times (minutes) from BH1 postcode to airport check-in

Airport	Private Car[30]	Taxi	Train[31]	Bus
Bournemouth	30	20	n/a	40
Birmingham	200	180	200	n/a
Bristol	150	140	n/a	n/a
Exeter	150	140	n/a	n/a
Gatwick	180	150	200	180
Heathrow T2/T3	160	120	200	150
London City	200	180	180	n/a
Luton	180	160	220	n/a
Southampton	60	45	55	n/a
Stansted	200	170	220	n/a

[27] CAA data

[28] BOH, SOU, EXT, LHR, BRS, LGW, STN, LCY, BHX

[29] Flybe PR, the Route Shop

[30] Assumes parking at Long Term and travel to check-in

[31] Gatwick Not suitable for many passengers with hold luggage - Involves use of steps at Clapham Junction or Southampton when changing platforms, for LCY involves use of underground and DLR, for LHR requires use of the hourly Railair bus link from Woking. Stansted normally requires use of two trains and/or underground and, for Luton in addition, an airport bus

Annex 1 Data Assumptions and Back Up

Table 3 Top 10 busiest routes

Busiest Routes Ranking for UK airports	2016 pax (m)	1	2	3	4	5	6	7	8	9	10
BHX	11.65	DUB	DXB	AMS	PAR	TFS	AGP	ALC	PMI	FRA	BCN
BOH	0.67	PMI	AGP	ALC	FAO	TFS	GRO	MJV	LPA	GVA	MLA
BRS	7.61	AMS	DUB	EDI	PMI	ALC	GLA	FAO	BFS	GVA	TFS
EXT	0.85	MAN	PMI	JEY	AMS	CDG	NCL	LCY	TFS	DUB	BHD
LCY	4.54	EDI	AMS	DUB	ZRH	FRA	GLA	RTM	GVA	LUX	LIN
LGW	43.12	BCN	DUB	AGP	AMS	MAD	DXB	TFS	BFS	GVA	ALC
LHR	75.71	JFK	DXB	AMS	HKG	LAX	FRA	MAD	DXB	DOH	SIN
LTN	14.65	CPH	AMS	BUD	OTP	WAW	TLV	BCN	DUB	KTW	BFS
SOU	1.95	EDI	MAN	AMS	GLA	JEY	GCI	DUB	NCL	BFS	PAR
STN	24.32	DUB	EDI	GLA	ROM	BCN	MAD	DXB	TXF	CGN	WMI

Routes served from BOH

Table 4 Legacy Hub Links from UK Airports

Hub Link	ABZ	BHD	BHX	BOH	BRS	CWL	DTV	EDI	EXT	GLA	HUJ	LBA	LGW	LCY	LHR	LPL	MAN	NCL	NWI	SOU	STN
Qatar																					
KLM																					
Aer Lingus																					
Emirates																					
Lufthansa																					
Turkish																					
Iberia																					
Air France																					

Qatar KLM Aer Lingus Emirates Lufthansa Turkish Iberia Air France

Annex 1 Data Assumptions and Back Up

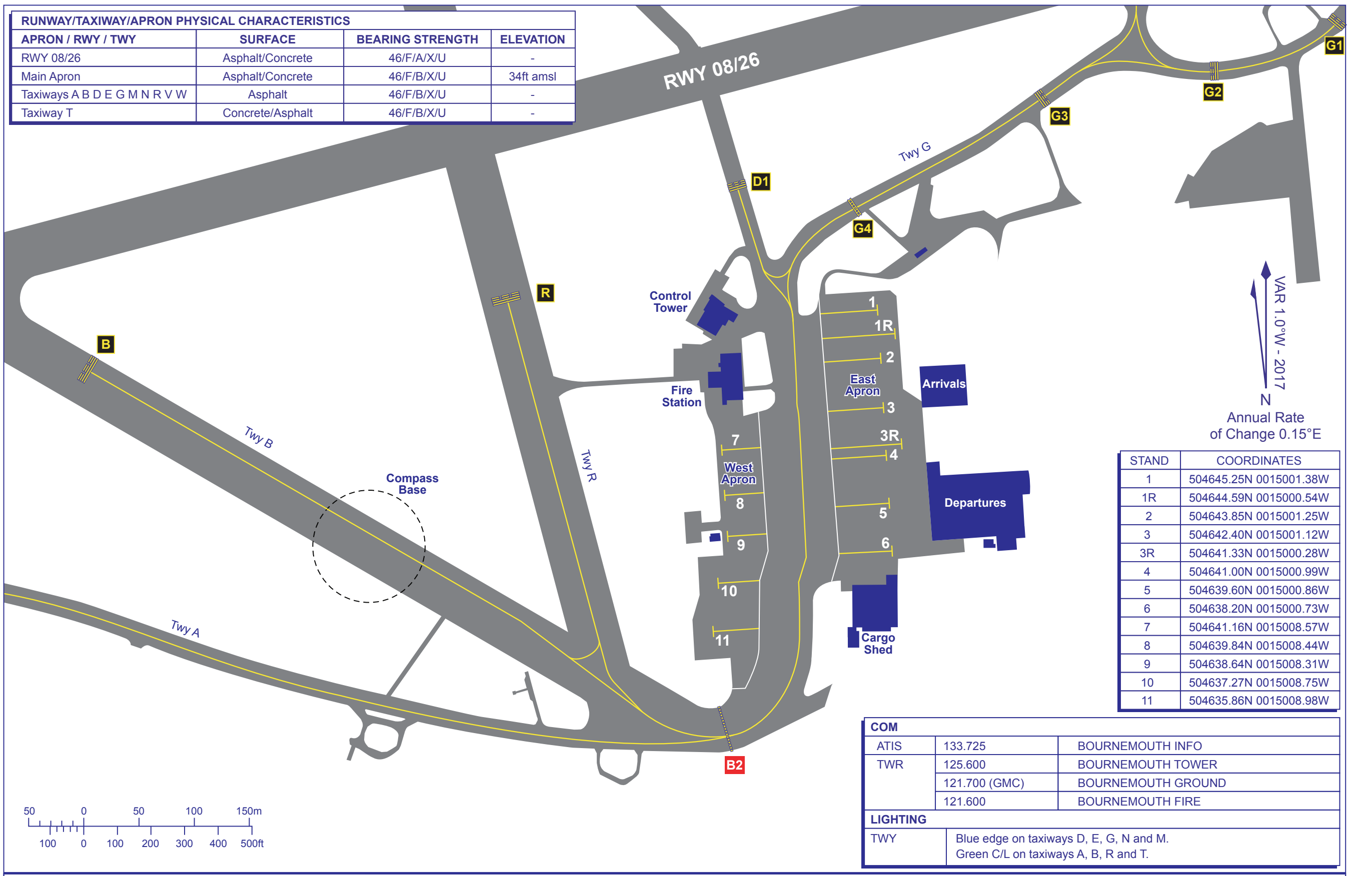
Table 5 Growth trend in number of passengers per flight (CAA)

Airport	Passengers	Air Transport Movements (ATM)	Number of passengers per ATM
Heathrow (LHR)			
2001	60454000	457639	132
2006	67339000	470891	143
2011	69433230	476295	146
2016	75711130	473199	159
2017	77815163	474049	164
Gatwick (LGW)			
2001	31097000	243981	127
2006	34080000	254414	134
2011	33776108	244571	138
2017	45425000	275000	165
Bournemouth (BOH)			
2001	265000	5163	64
2006	961000	11889	81
2011	613755	6255	98
2016	667981	4302	155
2017	694177	4256	163
Southampton (SOU)			
2001	857000	28140	30
2006	1913000	46314	41
2011	1762076	40894	43
2016	1947052	37461	52
2017	2066339	39485	52

Annex 2 Aircraft Parking and Docking Chart ICAO

AIRCRAFT PARKING/DOCKING CHART - ICAO | **ARP 504648N 0015033W** | **AD ELEV 38FT** | **BOURNEMOUTH EGHH**

AERO INFO DATE 13 FEB 17



RUNWAY/TAXIWAY/APRON PHYSICAL CHARACTERISTICS

APRON / RWY / TWY	SURFACE	BEARING STRENGTH	ELEVATION
RWY 08/26	Asphalt/Concrete	46/F/A/X/U	-
Main Apron	Asphalt/Concrete	46/F/B/X/U	34ft amsl
Taxiways A B D E G M N R V W	Asphalt	46/F/B/X/U	-
Taxiway T	Concrete/Asphalt	46/F/B/X/U	-

STAND	COORDINATES
1	504645.25N 0015001.38W
1R	504644.59N 0015000.54W
2	504643.85N 0015001.25W
3	504642.40N 0015001.12W
3R	504641.33N 0015000.28W
4	504641.00N 0015000.99W
5	504639.60N 0015000.86W
6	504638.20N 0015000.73W
7	504641.16N 0015008.57W
8	504639.84N 0015008.44W
9	504638.64N 0015008.31W
10	504637.27N 0015008.75W
11	504635.86N 0015008.98W

COM		
ATIS	133.725	BOURNEMOUTH INFO
TWR	125.600	BOURNEMOUTH TOWER
	121.700 (GMC)	BOURNEMOUTH GROUND
	121.600	BOURNEMOUTH FIRE

LIGHTING	
TWY	Blue edge on taxiways D, E, G, N and M. Green C/L on taxiways A, B, R and T.

CHANGE (5/17): MAG VAR. BUILDINGS AMENDED.

Annex 3 Aerodrome Chart ICAO

AERODROME CHART - ICAO | **ARP 504648N 0015033W** | **AD ELEV 38FT** | **BOURNEMOUTH EGHH**

AERO INFO DATE 20 APR 17

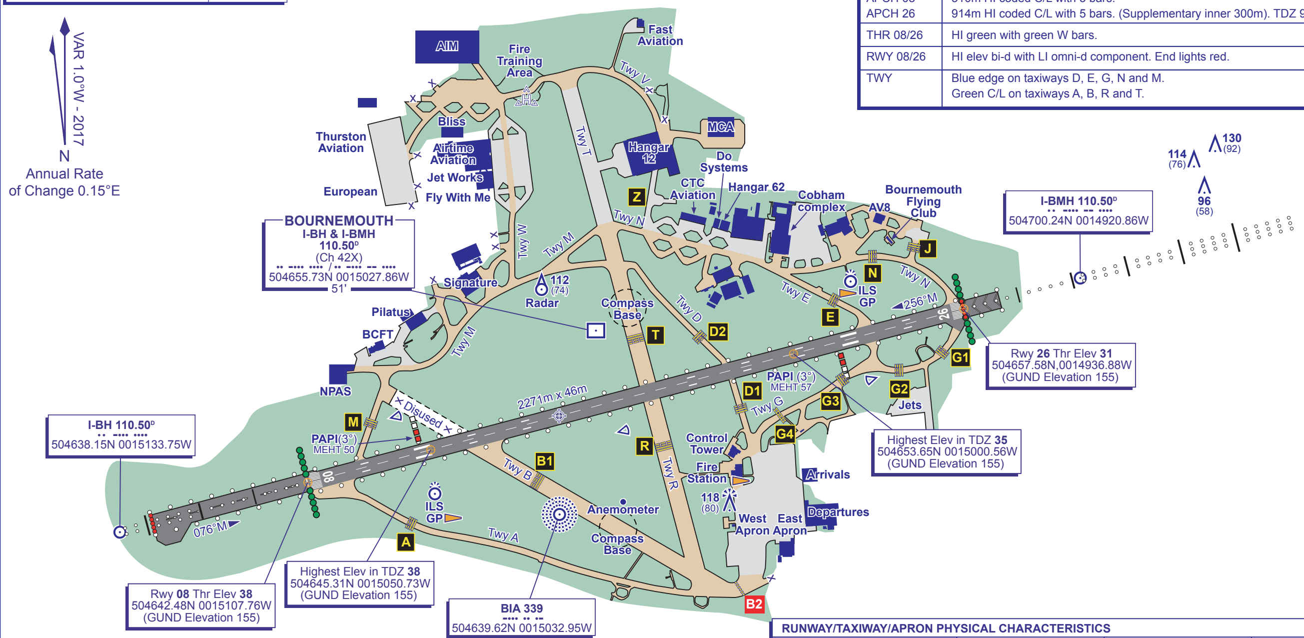
GUND (Geoid Undulation) = The height of the Geoid (MSL) above the Reference Elipsoid (WGS 84) at the stated position.

BEARINGS ARE MAGNETIC
ELEVATIONS AND HEIGHTS ARE IN FEET

ELEVATIONS IN FEET AMSL	**118**
HEIGHTS IN FEET ABOVE AD	(80)

COM		
ATIS	133.725	BOURNEMOUTH INFO
TWR	125.600	BOURNEMOUTH TOWER
	121.700 (GMC)	BOURNEMOUTH GROUND
	121.600	BOURNEMOUTH FIRE

LIGHTING	
APCH 08	510m HI coded C/L with 3 bars.
APCH 26	914m HI coded C/L with 5 bars. (Supplementary inner 300m). TDZ 900m.
THR 08/26	HI green with green W bars.
RWY 08/26	HI elev bi-d with LI omni-d component. End lights red.
TWY	Blue edge on taxiways D, E, G, N and M. Green C/L on taxiways A, B, R and T.



RUNWAY/TAXIWAY/APRON PHYSICAL CHARACTERISTICS

APRON / RWY / TWY	SURFACE	BEARING STRENGTH	ELEVATION
RWY 08/26	Asphalt/Concrete	46/F/A/X/U	-
Main Apron	Asphalt/Concrete	46/F/B/X/U	34ft amsl
Taxiways A/B/D/E/G/M/N/R/V/W	Asphalt	46/F/B/X/U	-
Taxiway T	Concrete/Asphalt	46/F/B/X/U	-

CHANGE (8/17): OBSTACLES.

Annex 4

Capacity in London

Runways Matter but the Market Adapts

Briefing to Department for Transport

Graham Lake
University of Westminster
Graham@pegasusaa.com

Data sources: ACL-UK, DfT, CAA,NATS, CAPA, ANNA

January 2019

Annex 4 DfT Presentation - Capacity in London, Runways Matter but the Market Adapts

New Runways for London

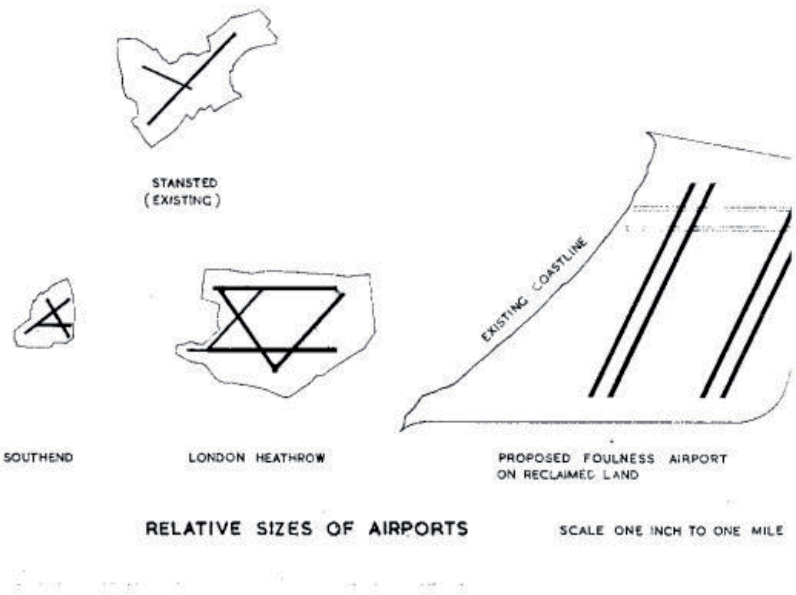
This is a long story!

THE AEROPLANE

Incorporating Aeronautical Engineering

WANTED—A LONDON AIRPORT POLICY

1945



1967

January 2019

Annex 4 DfT Presentation - Capacity in London, Runways Matter but the Market Adapts

Air Transport in Southern England

The basics

- The UK is the world's 3rd largest market for Air Transport after the US and China
- London's six airports annually process more passengers than any city, anywhere (~172m)
- Latest forecasts by Airbus and Boeing predict that traffic growth in Europe will continue at 3.4% to 2036
- DfT forecast growth by 2028 the equivalent of adding (to London) the combined traffic of Stansted and Luton Airports in 2017
- London's airports are severely constrained by their limited runway, aircraft parking and, airspace capacity, and yet;
- While airport and airspace capacity constraints are real, the aviation industry has a track record of consistently identifying and delivering mechanisms to deliver profitable growth

London is unique, it benefits from vigorous competition between airports and between airlines… but there are negative consequences

Annex 4 Df T Presentation - Capacity in London, Runways Matter but the Market Adapts

Trends at London Airports

Incremental growth achieved

Increased use of larger capacity aircraft

- EZY up from 150 seats to 235
- RYR up from 130 seats to 197
- Wizz up from 180 seats to 235
- MEB3 + TK
- More passengers per ATM = more efficient for airspace capacity and for noise mitigation

Disposal of high value slots by non-based legacy carriers

- Often the users of smaller aircraft or airlines in financial stress;
- AF, KL, SK, AZ, KQ, BE, CY, OM

Increased use of Runway Capacity enhancement tools

- Time based Separation, Cross Border Arrivals Management, improved Vortex Wake techniques

Spill-over of traffic to other UK airports

- BHX, BRS, EMA + +
- Corporate aircraft & Main Deck Freight traffic squeezed out; for instance to EMA, FBO, BOH

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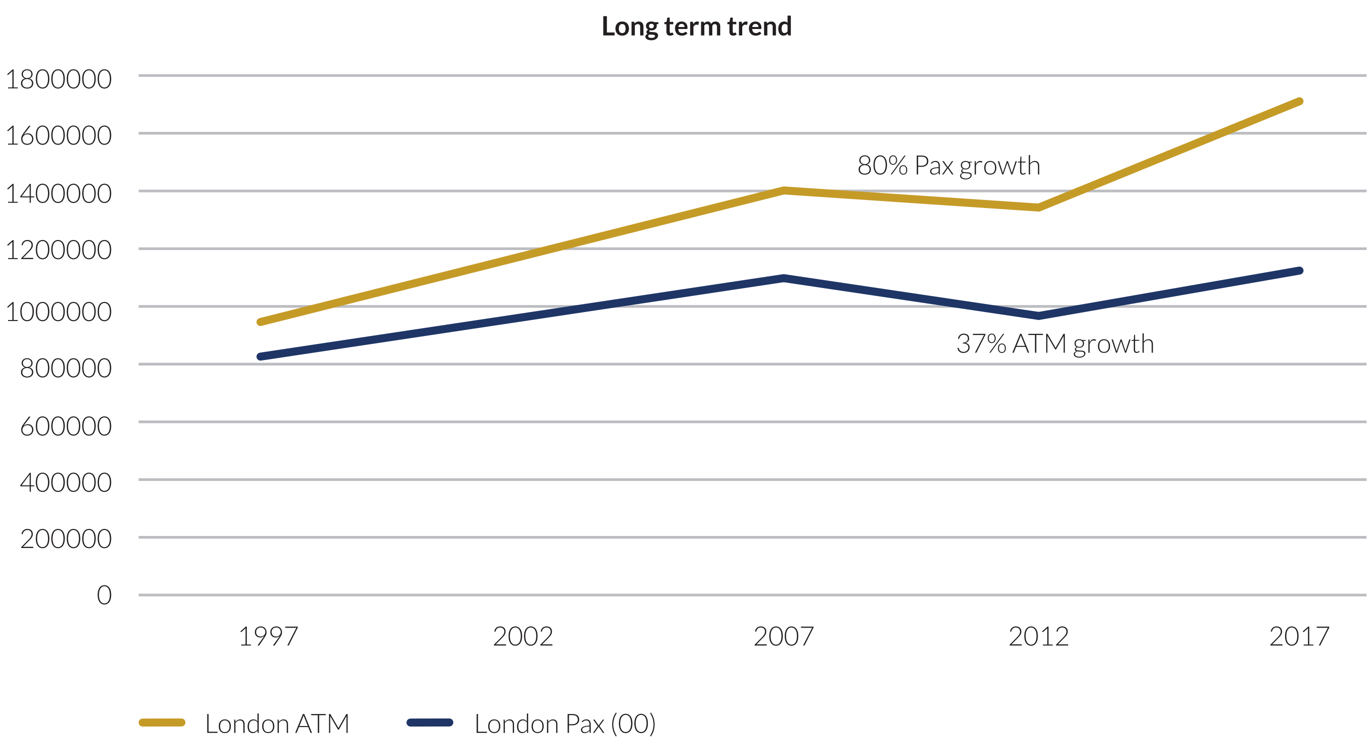
More Passengers per flight



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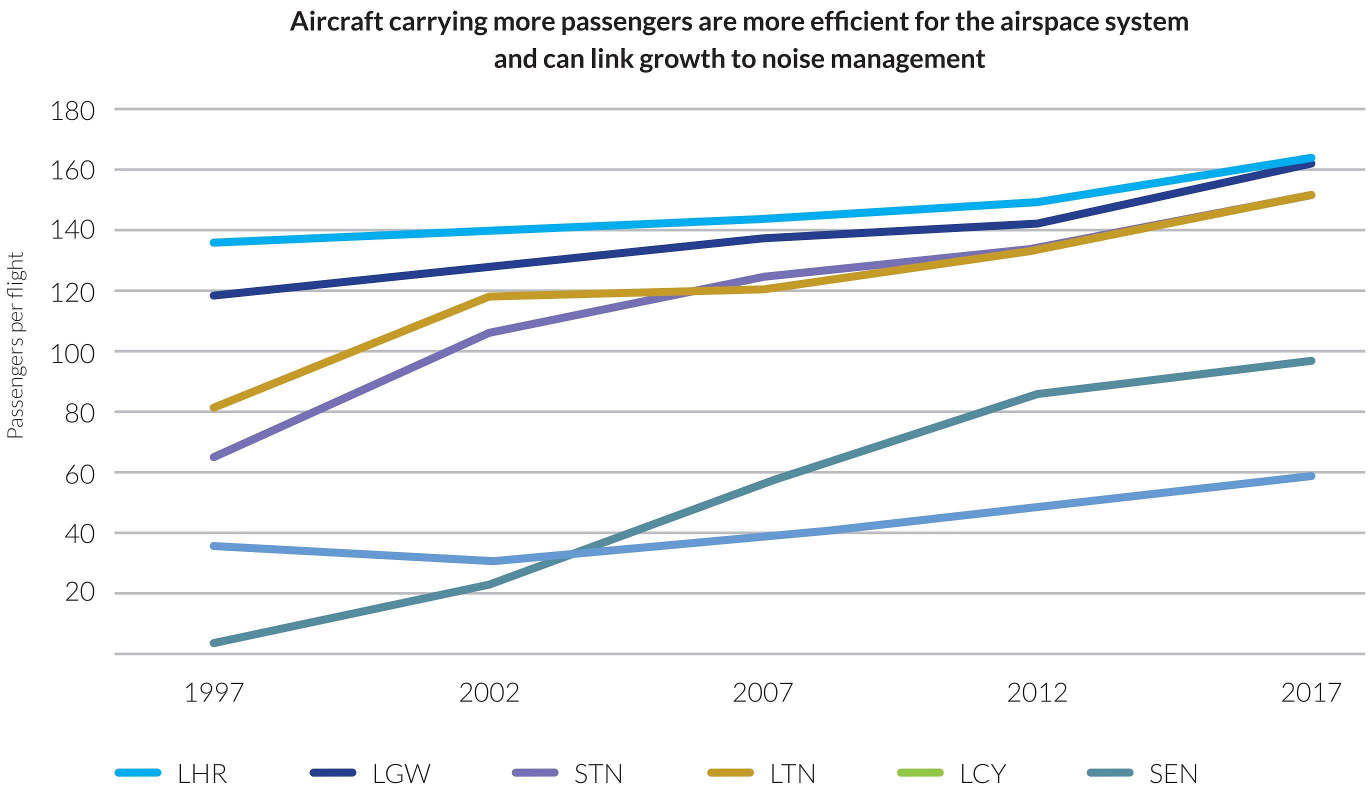
Passengers per ATM

Sustained long term upward trend



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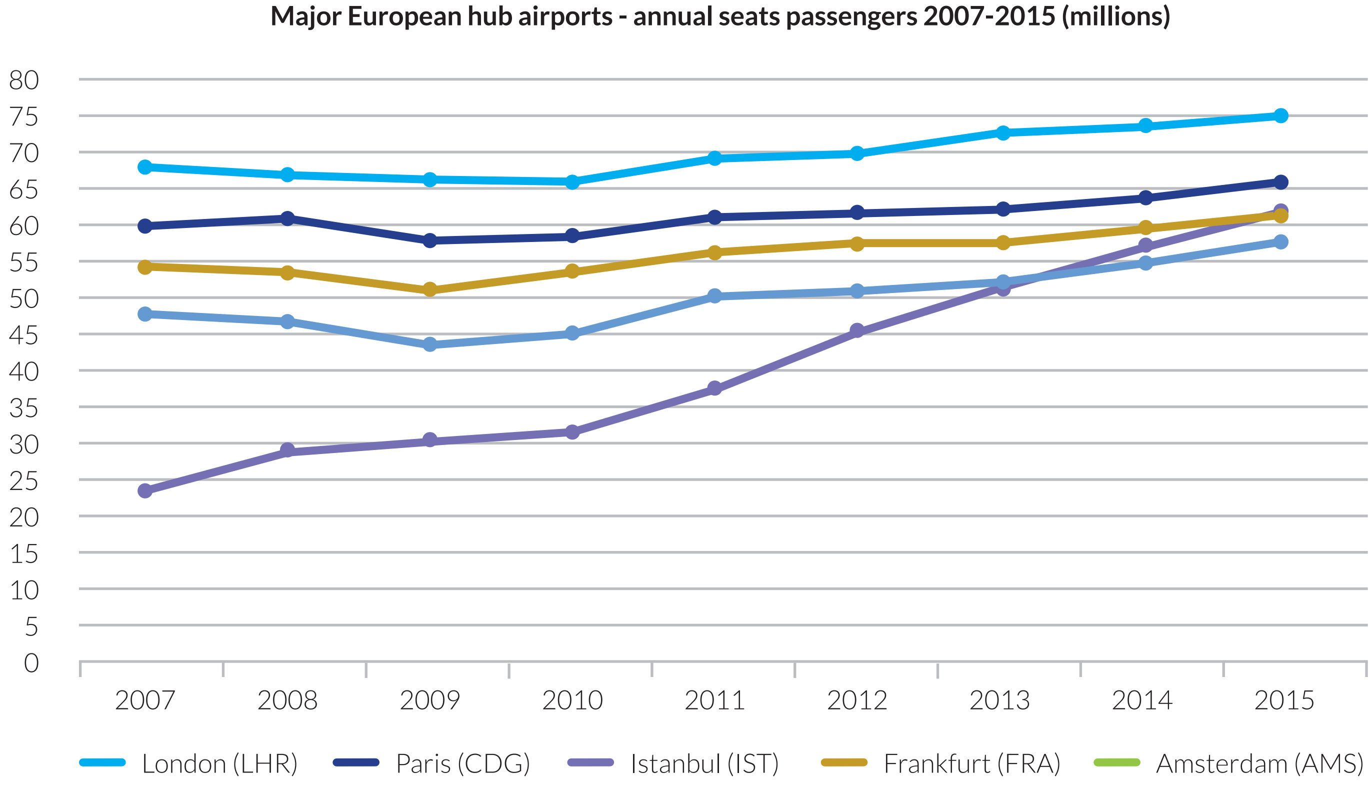
European Hubs

London is keeping pace



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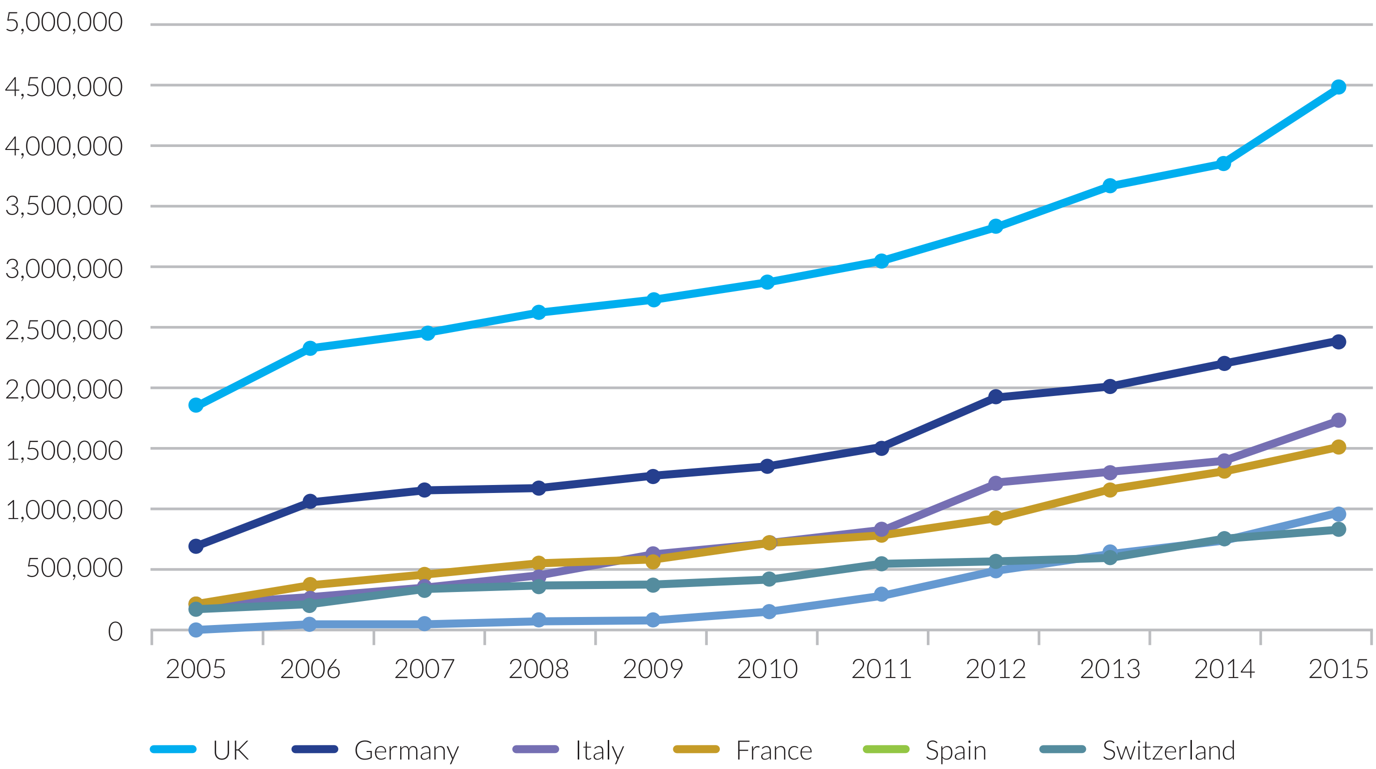
Gulf Hubs & Emerging Atlantic Gateways

Reaching into UK Regions as a viable alternative to London

MEB3 carriers top 6 European markets - annual seats (one-way) on routes to Europe 2005-2015



Dublin

Reykjavik

Istanbul

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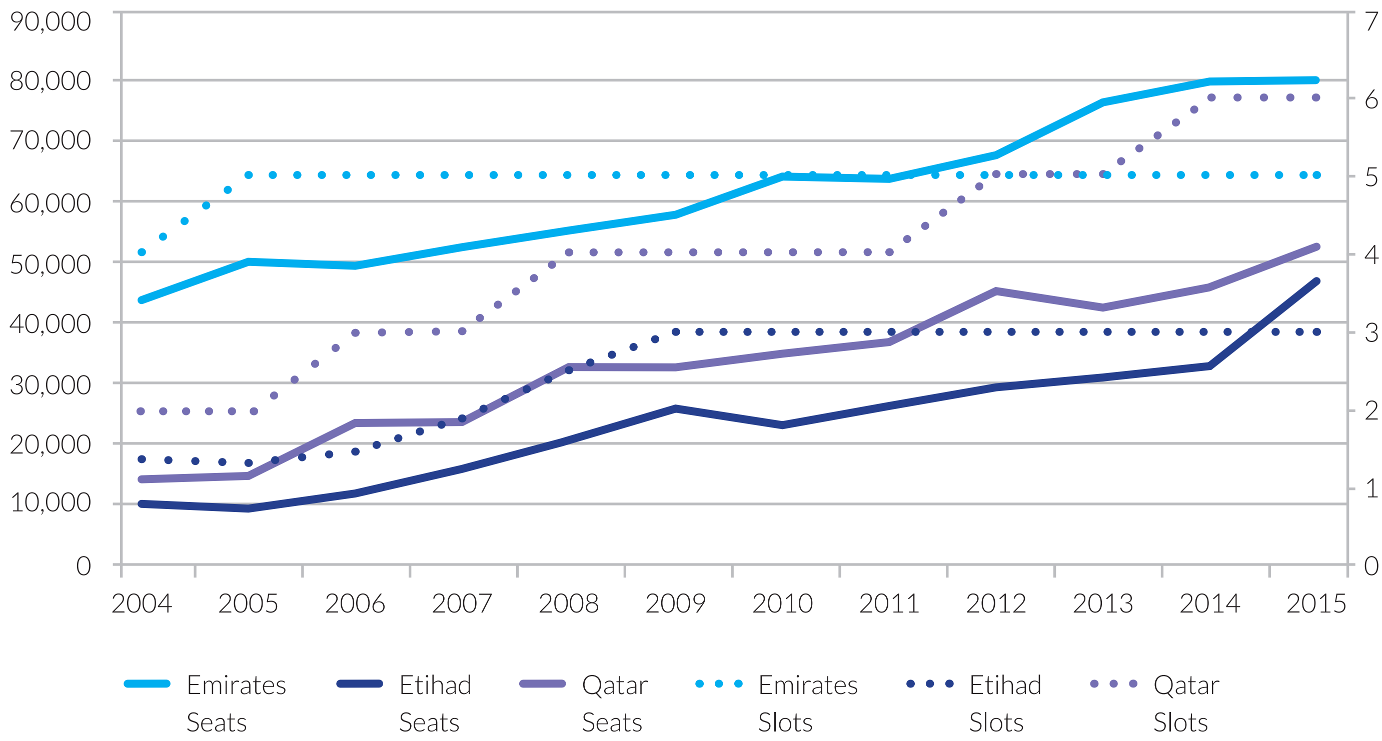
Gulf Carriers Growth

exc. Gulf Air and Oman Air

Emirates, Etihad and Qatar seats and slots at London Heathrow: Aug-2004 to Aug-2015



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How is London Growth Delivered?

Lack of runway capacity is being mitigated by industry, but

Airport Techniques

Encouraging lower yield traffic to use other airports (Charter, Freight, Corporate, Military, Maintenance, Storage, Training)

- Freeing up runway and aircraft parking capacity

Increasing declared runway capacity through use of improved taxiway layouts, and the automation and systemisation of Airport and ATC capacity tools

- Heathrow and Gatwick are the undisputed world leaders in runway efficiency

Favouring long haul routes with year-round demand, and using larger long-haul aircraft less likely to use overnight parking

- A strategy currently being pursued by Gatwick where summer capacity limits constrain growth

Investing in more aircraft parking and docking stands

Airline Techniques

- Up-gauging aircraft size - to serve more passengers with each flight and seating densification
- Serving UK markets with aircraft based overseas to eliminate the need for overnight parking and for (some) peak hour slots at UK airports
- Purchase of runway slots from other airlines
- Use of alternative airports within reach of the largest markets

Additional mitigations are needed at policy level to minimise risk to capacity of any failure of the new runway strategy

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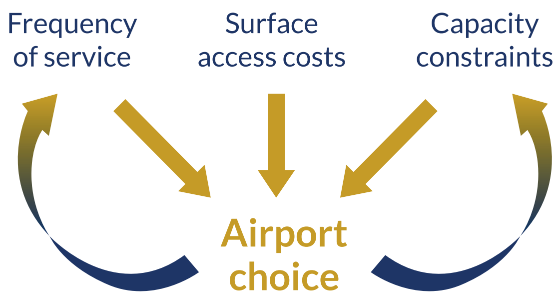
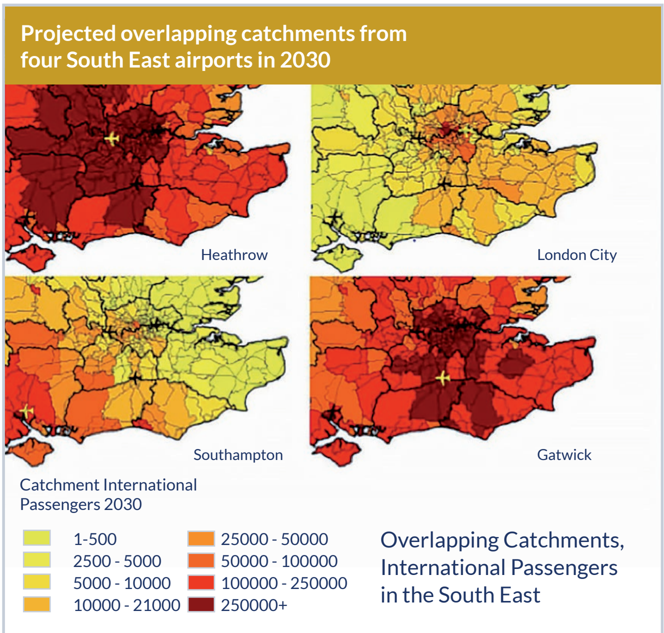
Airports Capacity in Southern England

Peak hour runway and overnight parking slots, needed for a minimum two rotations/day (required by LCC and Tour Operators) are not available the London Airports; LHR, LGW, STN or LTN) with a runway long enough for operation of near/medium haul routes





The only airports with that infrastructure capability within 2 hrs of LHR are to the North, West and South: Birmingham, Bristol and Bournemouth Airports

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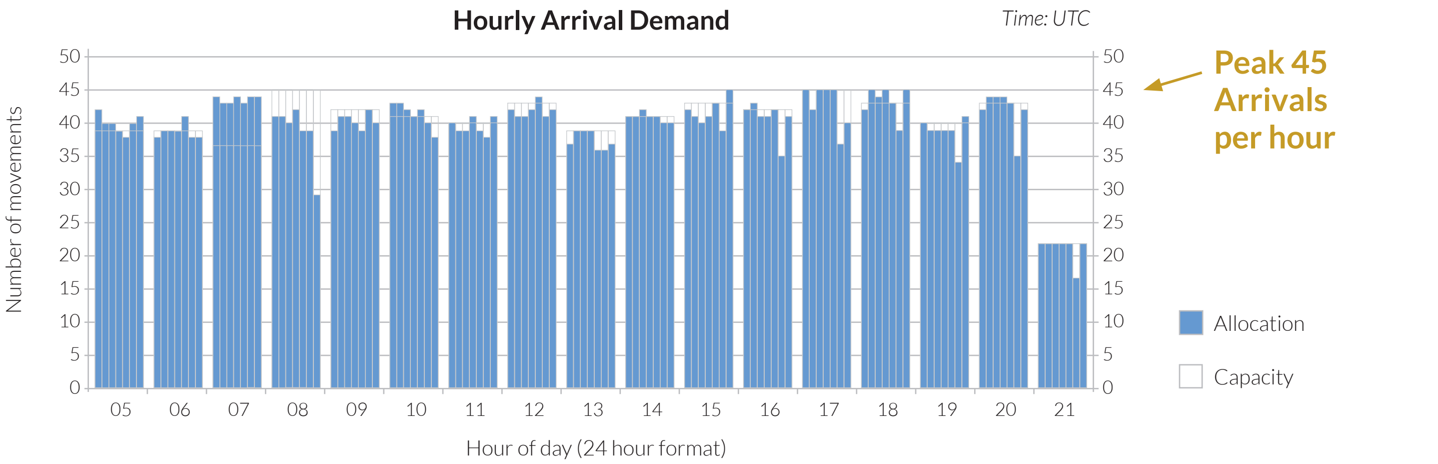
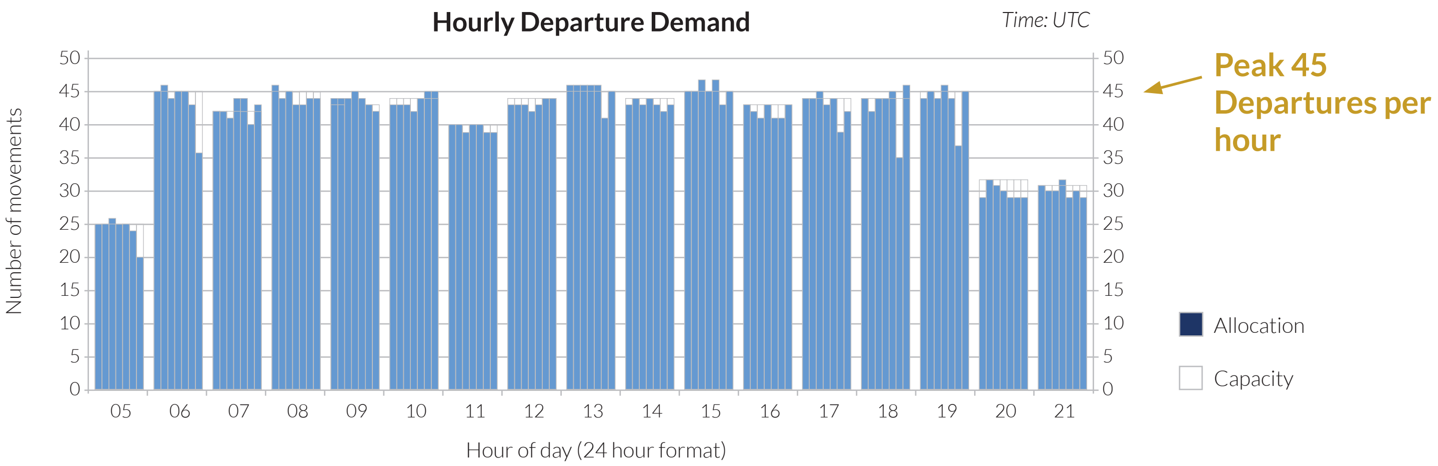
Heathrow Runway Demand





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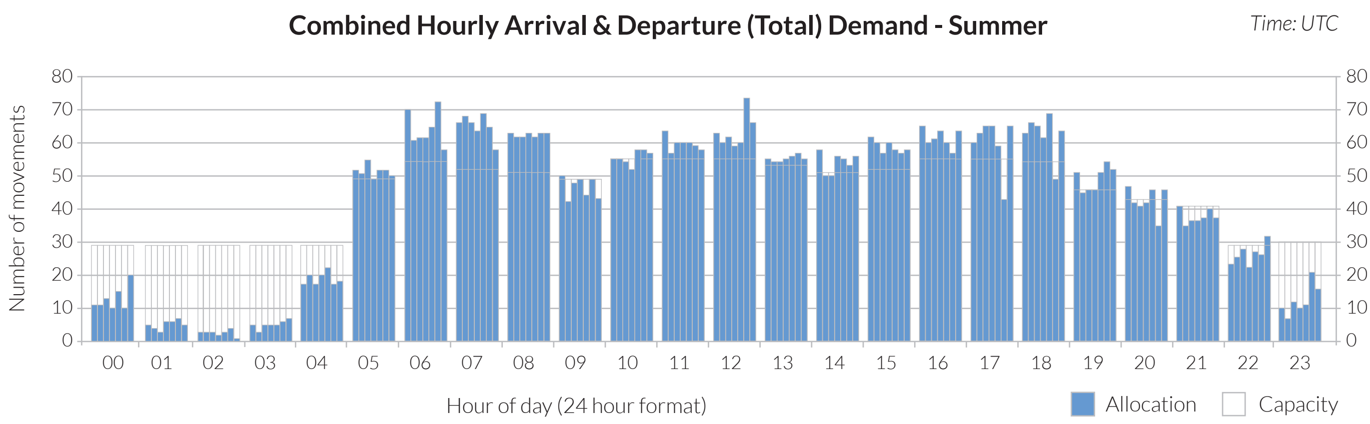
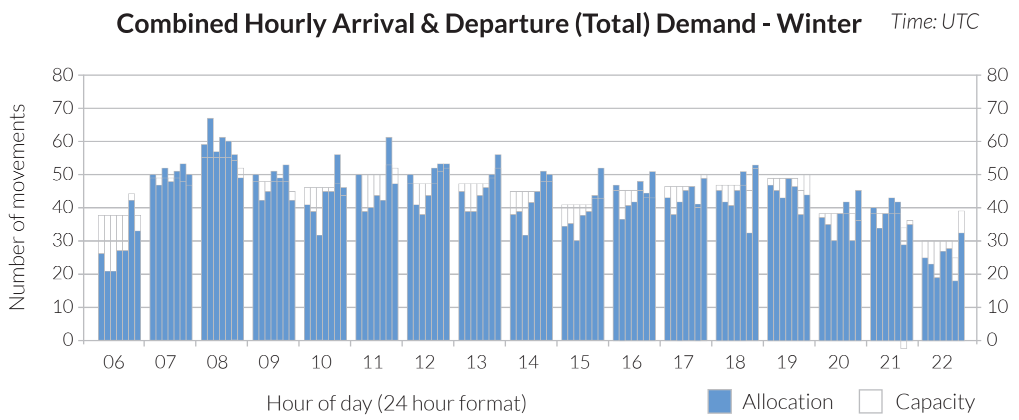
London Gatwick Runway Demand





Peak declared capacity 55 movements per hour

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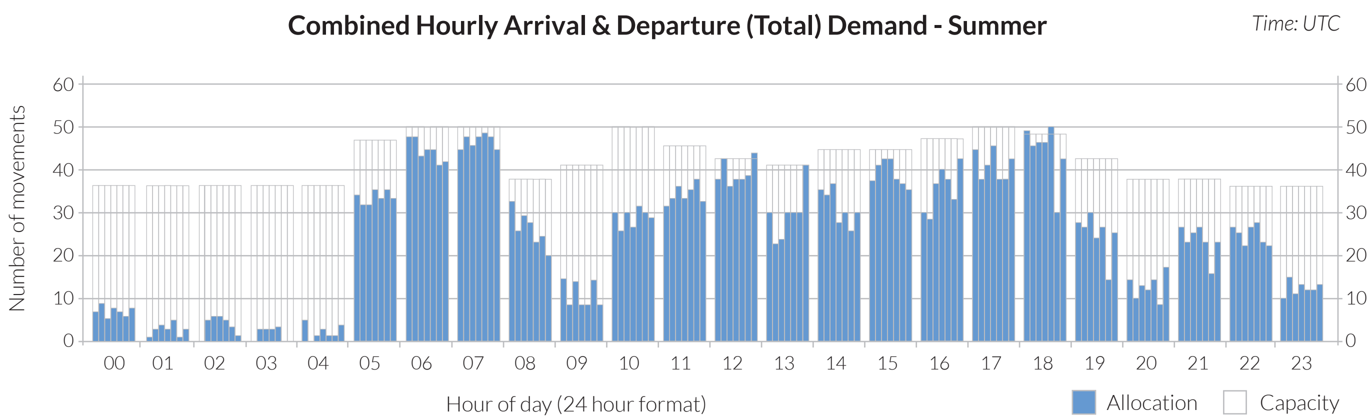
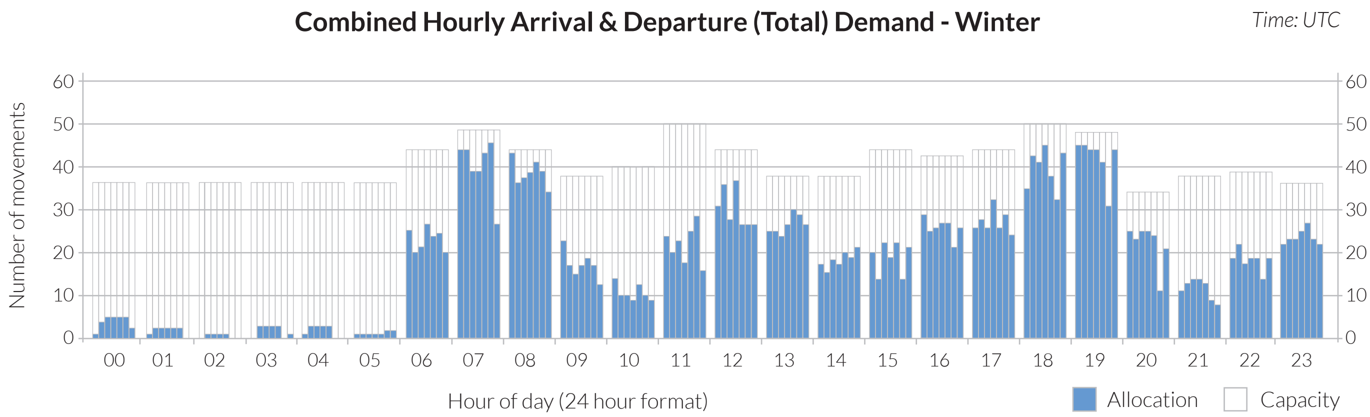
London Stanstead Runway Demand





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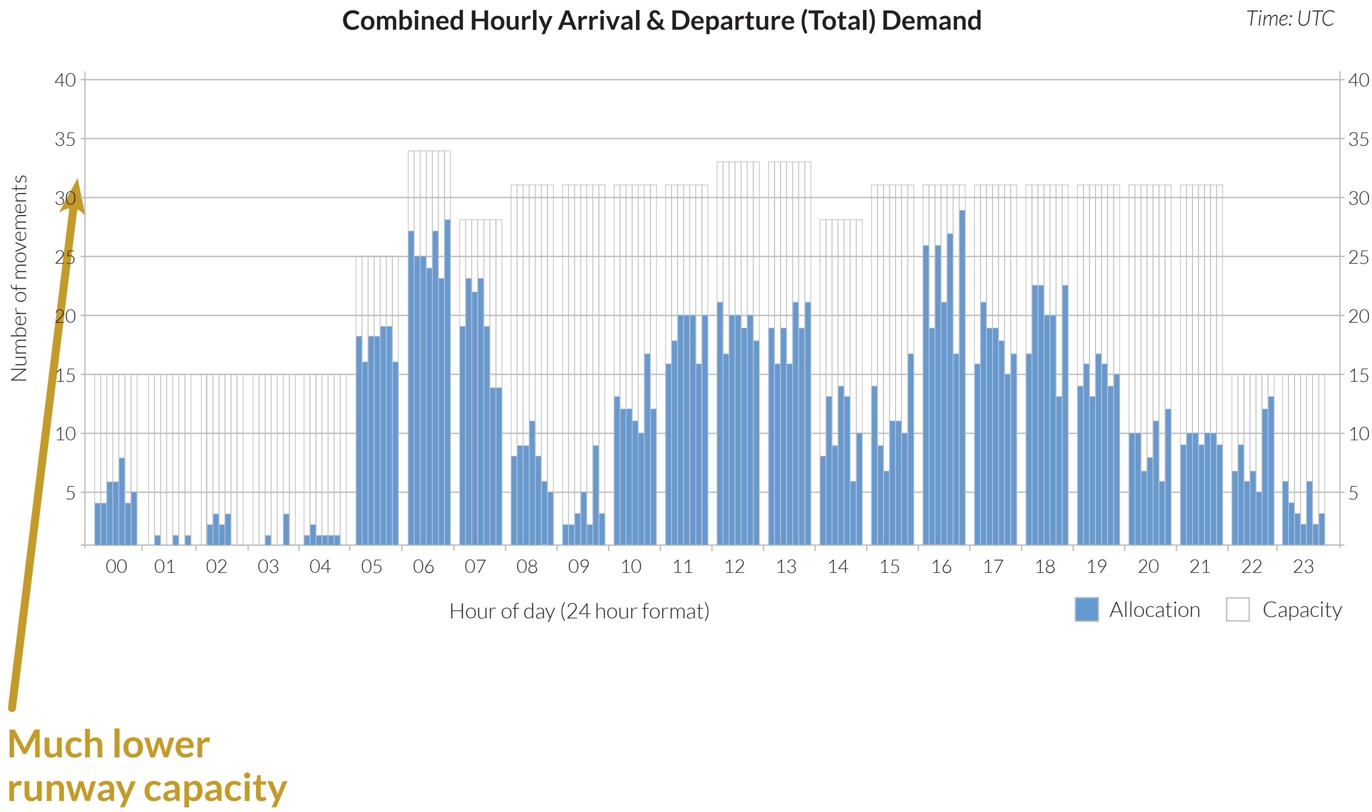
London Luton Runway Demand



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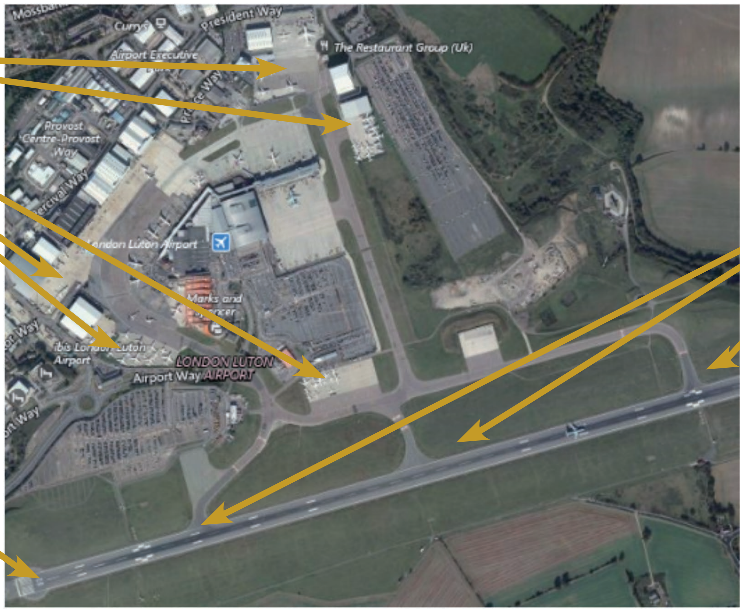
On-Ground Challenges

for instance

Congested aircraft parking

Inefficient layout
Lack of taxiways to runway end, and lack of high speed turn offs = reduced runway capacity



No high-speed turn-offs

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Runway Capacity for London

In the next decade

The Government regards airports as strategic national economic assets. The airports serving the Southeast of England have reached their runway, aircraft parking and airspace capacity limits.

There remains a low prospect of any new build runway, or airspace capacity change within the coming decade at London's main airports, one reason why Government policy is to make best use of existing airport capacity.

England can still make better use of existing runway capacity

The strategic importance of existing airports already equipped with the necessary capabilities and capacity, that are close enough to London to serve part of the Southeast catchment, is clear.

Average passengers/per ATM can be expected to increase by at least 10% in the next decade.

The number of ATM at all London airports (except LHR) will continue to increase.

It is unlikely to be enough

Environmental issues (noise and emission) will constrain progress.

SES has shown over the past ten years that airspace modernisation is very difficult to achieve.

Contingency planning is essential

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Airspace Congestion

Contrast the London area with the rest of UK

https://www.nats.aero/news/videos-imagery/airspace-plus-videos/

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Airspace

Due to both technical and political challenges, SES is unlikely to deliver agreed capacity objectives across Europe, FAS in UK faces an equally challenging public and political environment.

Future Airspace Strategy (FASI South)

- Overall programme of airspace change
- Reflecting ICAO GANP and European ATM masterplan
- Includes lower level changes around airports

London Airspace Management Programme (LAMP2)

- Airspace change in southeast above 7000 feet
- NATS have submitted a statement of need to CAA Implementation 2024
- Will be assessed using new regulatory requirements (CAP1616) not tested at scale

FAS is the largest airspace change ever

Considerable development work involved

Legal challenges likely from communities and possibly from airlines*

*complaint to CAA from Stansted and Ryanair: NERL (NATS) has attached higher priority to managing Heathrow than flights into other London airports (not upheld – but indicative of sensitivities)

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Airspace Change for London is Hard!

The lack of an overarching strategic vision and independent implementation oversight is hampering progress. Key stakeholders sometimes have conflicting roles

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What Next?

- Market led changes will continue
- Increasing size of aircraft
- Flat/Modest ATM growth
- Increased use of runway capacity enhancement tools (boosting traffic levels)
- Growth of larger regional airports in UK
- Significant political and policy challenges constrain Government ability to sanction and implement any new runway
- Social media is supporting aggregation of campaign groups as never before
- Airspace complexity and modernisation will become an increasingly critical issue
- An Airspace congestion charge, or variable APD, may become a necessity for south east

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