

THE AIRPORT OPERATORS ASSOCIATION RESPONSE TO THE AIRPORTS COMMISSION AVIATION NOISE DISCUSSION PAPER SEPTEMBER 2013

1. Introduction

The AOA recognise that aircraft noise represents one of the most significant impacts from aviation experienced by local communities and our members remain committed to seeking ways of working with them, our industry partners and planning authorities to overcome them. This paper presents the views of the Airport Operators Association (AOA), building on previous views expressed in the AOA's 'Integrated Policy Framework for UK Aviation'¹ and presents evidence of work underway across the industry to address the issue.

2. Background

In launching the Aviation Policy Framework, the Rt Hon Patrick McLoughlin MP, Secretary of State for Transport, stated:

"The Government believes that aviation needs to grow, delivering the benefits essential to our economic wellbeing, whilst respecting the environment and protecting quality of life."

The AOA fully supports this view and UK airports have long demonstrated a commitment to enabling the £50 billion contribution to UK GDP, £8 billion to the UK Treasury and provision of one million jobs which is generated each year by the aviation industry whilst at the same time managing any local environmental issues.²

This year the AOA supported Sustainable Aviation³ (SA) in the development of a world first aviation industry Noise Road-Map, which shows how the UK aviation industry can grow without increasing noise – as demonstrated in the following graph from the introduction of new aircraft technologies. Current commitments from the aerospace manufacturing sector, including new aircraft and engine designs, offer enormous potential to reduce future aircraft noise:

- **Flight path 2050 Vision⁴** – UK and EU aerospace industry research commitments including a 65% reduction in perceived aircraft noise by 2050 compared to 2000;
- **Airbus A380** – which generates 50% less noise energy on departure than its nearest competitor, as well as three-to-four times less when landing;

¹ See <http://www.aoa.org.uk/media/7284/aoa-an-integrated-framework-for-uk-aviation-report.pdf>

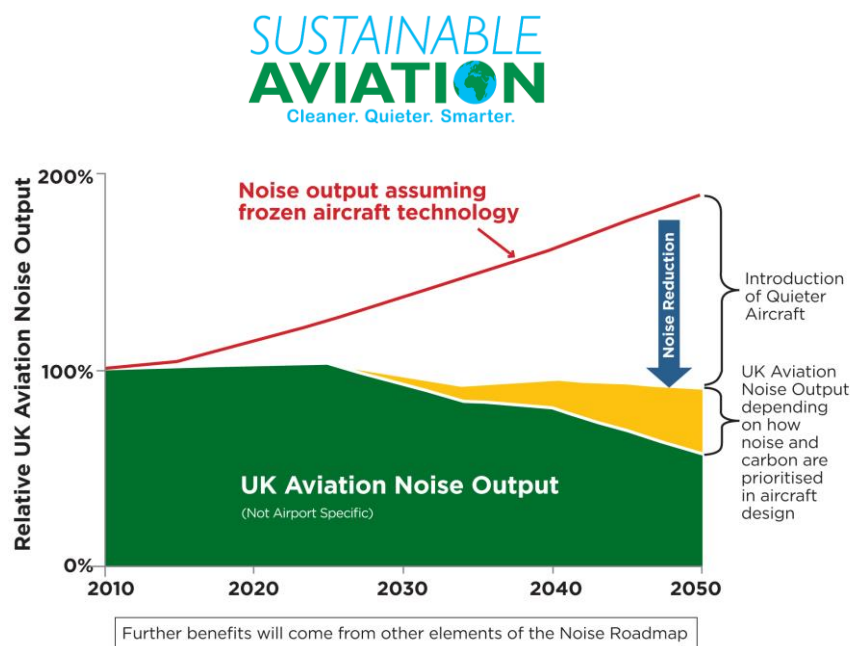
² Figures from Oxford Economics (2011), 'Economic Benefits from Air Transport in the UK'

³ Sustainable Aviation is an industry-wide coalition of airports, airlines, manufacturers and air traffic providers working for cleaner, quieter and smarter flying.

⁴ See <http://www.acare4europe.com/documents/latest-acare-documents/acare-flightpath-2050>

- **Airbus A350** – Airbus engineers have developed or improved several functionalities including the Automatic Noise Abatement Departure Procedure (NADP), which optimises the thrust and flight path to reduce the noise over crowded areas;
- **Airbus A320neo** – the A320neo will offer a 15dB reduction in engine noise compared to the current chapter 4 aircraft noise certification limits;
- **Boeing B747-800** – the B747-800 offers a 30% smaller noise footprint compared to the B747-400 series it is designed to replace;
- **Boeing 737 Max** – the B737 Max offers a 40% reduction in the noise footprint compared to the B737 next generation aircraft in service today;
- **Bombardier C Series** – the Bombardier C Series aircraft claims to offer the lowest noise levels of any commercial aircraft in production; and
- **Rolls-Royce Trent 1000** powered Boeing 787 is at least 3dB quieter than the generation of aircraft being replaced, equivalent to halving the noise footprint.

The Sustainable Aviation Noise Road-Map⁵



As these new aircraft are already being operated at some UK airports the noise reductions are already being felt. Beyond technology, further noise reductions are highlighted in the SA report covering operational techniques and land use planning.

Evidence from this paper and the SA response⁶ demonstrates that the aviation industry is committed to delivering its obligations to reduce the impacts of noise and that in allowing future growth in UK aviation there will not be a choice between more flights and less noise – both will be delivered.

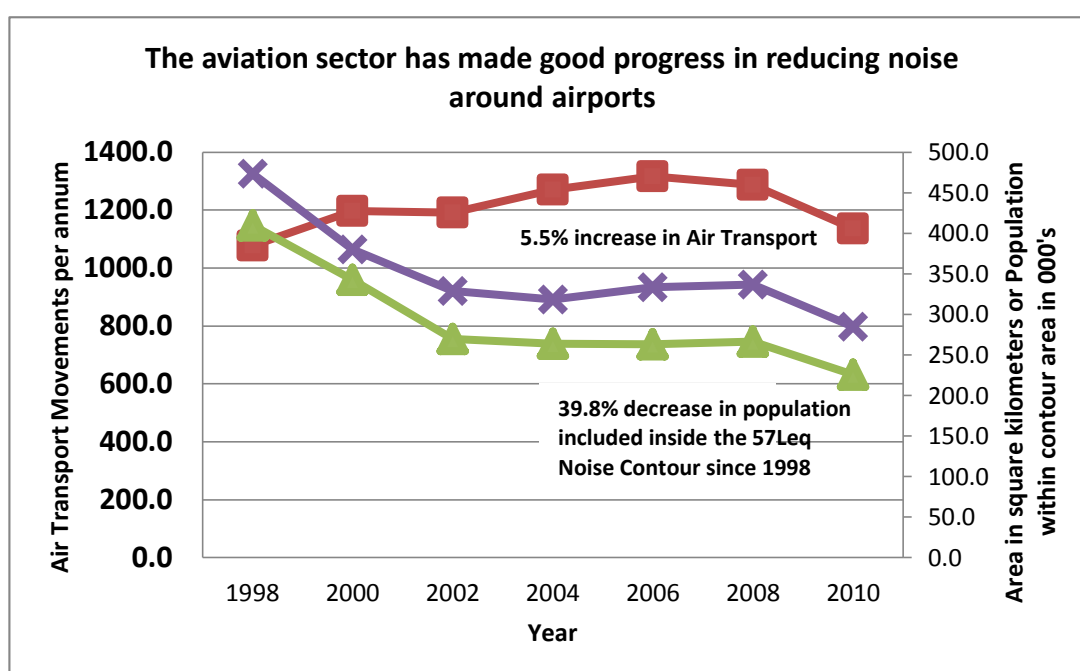
⁵ See <http://www.sustainableaviation.co.uk/>

⁶ See http://www.sustainableaviation.co.uk/wp-content/uploads/FINAL_SA_AC_Response_060913.pdf

3. Airports tackling aviation noise

Noise is a key issue for local communities. Airports have different types of noise impacts depending on the flights that operate in and out of them, the density of nearby housing, and peoples' perceptions of noise. The key to dealing with noise is to recognise that noise is a local issue, best dealt with by local solutions.

Historically, UK airports have enabled growth whilst at the same time reducing people affected.



	1998	2010	Change (%)
Number of aircraft movements (thousands)	1077	1136	+5%
Surrounding area exposed to significant noise levels (km2)	410	226	-45%
Number of people in this area (thousands)	473	285	-40%

(Source: Sustainable Aviation)

Notes:

1. Statistics are aggregated for 6 major UK airports: Birmingham, Gatwick, Heathrow, Luton, Manchester, and Stansted
2. Figures use the 57 dB(A) contour, which the Government uses as the average level of daytime aircraft noise marking the approximate onset of significant community annoyance

The AOA supports the “balanced approach” set down by the International Civil Aviation Organisation (ICAO), the aviation sector’s international regulator as the best way to manage noise and welcome the detailed review of this approach in the Airports Commission paper. Much of what our members do goes beyond current standards and practice, in many cases adopting world-leading practices in tackling the impacts of noise.

In addition to the information provided in the paper, the AOA would like to highlight the range of activities occurring at UK airports to tackle issues of aviation noise, categorised below.

Working with industry partners

As mentioned on page 1, the AOA and a number of individual UK airports are signatories to Sustainable Aviation⁷ (SA), the industry wide coalition of airports, airlines, manufacturers and air traffic control providers working for cleaner, quieter and smarter flying. The AOA is committed to realising the strategic ambitions of SA and fully endorses their response to this call for evidence. Following the publication of the SA Noise Road-Map in April 2013, demonstrating how significant growth in UK aviation can be accommodated with no increase in noise⁸, the AOA is now supporting work with SA to explore how best to take this work forward. We expect that a detailed plan covering activities over the next few years will be available later in 2013, and the AOA will work closely with SA to support its delivery.

Developing clear plans to tackle noise around airports

UK airports recognise that in order to secure a mandate to grow, there is a need to understand how aircraft noise will change; and putting in place measures to address and mitigate that noise are critical to success. Airports are already committing substantial resource into the following activities:

- **Airport Master plans** – They are developed to show how future airport growth is likely to occur and include details on environmental impacts. Regarding noise, they usually involve airports seeking to predict future airport noise contours based on predicted changes in the volume and type of aircraft likely to operate; and
- **Airport Noise Action Plans** – These have been developed by those airports required to do so under the Environmental Noise (England) Regulations 2006⁹. These plans draw together the range of activities airports commit to deliver on tackling issues from aircraft noise. They are discussed with a wide range of airport stakeholders and formally agreed by the Government. Once in place they remain in place for five years, after which they are reviewed and re-developed for a further five years. Scottish airports are currently undertaking this initial review period with English airports due to begin the process next year.

Together these plans provide a clear structure for tackling aviation noise at each airport and act as central pillars for the airport and stakeholders to monitor progress.

Working with stakeholders

UK airports already work with a wide range of stakeholders to address issues arising from aviation noise. These include:

⁷ See <http://www.sustainableaviation.co.uk/about/signatories/>

⁸ See <http://www.sustainableaviation.co.uk/wp-content/uploads/SA-Noise-Roadmap-Publication-version1.pdf>

⁹ The regulations apply to civil airports which have more than 50,000 movements per year (a movement being a take-off or a landing), excluding those purely for training purposes on light aircraft.

- Working with Airport Consultative Committees and any sub working groups on noise to understand community concerns and discuss potential solutions;
- Working through airport flight operating committees to share community concerns with airline and air traffic business partners and develop solutions;
- Working with industry regulators and planning authorities to explore opportunities to implement noise reduction solutions; and
- Carrying out direct engagement with local communities, action groups and others to share information on noise management work, trial new procedures and get regular feedback¹⁰.

Exploring quieter operating procedures

A number of UK airports are currently exploring new techniques to address community concerns about aviation noise. These include looking at the following:

- Continuous Descent Approaches;
- Departure trials to improve accuracy of aircraft track keeping in noise preferential routes;
- Arrival respite trials to explore opportunities to vary aircraft arrival track in to an airport; and
- Airport Collaborative Decision Making, to ensure aircraft arrive and depart from airports as efficiently as possible with the minimum of delay and unnecessary noise.

In June 2012, a joint aviation industry initiative called '*Reducing the Environmental Impacts of Ground Operations and Departing Aircraft – An Industry Code of Practice*' was published¹¹. The AOA took on the responsibility of promoting this work across UK airports. In delivering this responsibility a template was developed to enable airports to explore the opportunities to reduce noise at their airport, from introducing the procedures such as reduced engine taxi or enabling aircraft to use ground based electrical systems rather than use their own on board or ground fuel based generators.

Case Studies

Below is a list of recent and current trials by UK airports, seeking to improve how noise from aircraft is managed:

- Early Morning Respite Trial at Heathrow Airport – to see if alternating arrival patterns reduce noise annoyance;
- Satellite navigation (RNAV and RNP1) departure trials – to see if improved aircraft departure track accuracy can reduce noise annoyance¹²;
- Gatwick Airport, Future Airspace design – P-RNAV & Rotating Respite for Communities. Gatwick are amongst the leaders in the use of new technology to ensure that the design and use of our airspace and operational procedures are as efficient as possible. One such technology is Precise Route Navigation (P-RNAV), a method that uses satellite navigation, ground based aids, and on-board electronic systems to allow aircraft to self- navigate on any

¹⁰ An example of this is the recent early morning respite trial work at Heathrow working directly with HACAN, NATS and airlines. See <http://www.heathrowairport.com/noise/noise-in-your-area/early-morning-trial>

¹¹ <http://www.sustainableaviation.co.uk/wp-content/uploads/DCOPractice2012approvedhi-res.pdf>

¹² For details of the Gatwick trial see <http://www2.westsussex.gov.uk/ds/cttee/gat/gat180413i12.pdf>

desired path. Amongst other benefits, P-RNAV allows aircraft to follow much more accurate tracks and, over a 24 hour period, the currently broad swathe of aircraft tracks is reduced to a much narrower spread. In practice, this allows aircraft to fly routes that impact the fewest people, and allows the option of rotating respite to be introduced. P-RNAV also enables aircraft to climb at steeper gradients as they depart the airport thus reducing noise impacts further. Gatwick has been running a P-RNAV trial, and consulted on full implementation last year. The Safety & Airspace Regulation Group (SARG) of the CAA has recently granted Gatwick permission to roll this technology out across all nine of its departure routes, making it a leading UK airport player. Gatwick will also be running a night-time arrivals noise respite trial for 90 days, commencing in August 2013 to assess whether, and how, community respite can be introduced more broadly; and

- Flight profile monitoring trialling – to assess and share performance amongst airline operators and explore opportunities for improvement¹³. In many cases these trials take considerable time to develop from consultation with communities to agreement between the regulator and range of industry parties on how the trial will be run, assessed and implemented. Once the trial is complete, further time is needed to assess the results and if positive seek to implement the trial into standard operational procedure.

Managing aviation noise on a daily basis

Over the years UK airports have developed a range of tools to ensure issues from aircraft noise are managed effectively. The list below highlights some of these:

- Employing independent acoustic experts to monitor and manage aircraft noise issues;
- Managing an airport noise and track keeping system;
- Providing a public online aircraft height and track monitoring system;
- Providing a noise complaint handling system;
- Participating in regular industry and community noise meetings to discuss performance, trials to improve noise, agree noise monitoring studies in noise hotspots and discuss any wider community noise concerns¹⁴;
- Providing a variety of aircraft noise information materials on the website or hard copy;
- Holding regular seminars on aviation noise;
- Setting aircraft charges for noisier aircraft¹⁵; and
- Setting limitations on night time operations.

¹³ See <http://www.nats.co.uk/environment/corporate-responsibility-2013/30-minutes/air-traffic-management/flight-profile-monitoring/>

¹⁴ These forums are usually derived from the Airport Consultative committee and take different forms at each UK airport

¹⁵ For instance, differential charges at airports to incentivise quieter/newer fleet to operate from them. An example for Heathrow can be found at <http://www.heathrowairport.com/noise/what-we-do-about-it/measures-already-in-place/differential-noise-charges>

4. Next steps on reducing aviation noise

Through agreed noise action plans UK airports will continue to act as key players in reducing the effects of aviation noise. In addition to this, however, there are two key challenges on which the AOA encourages the Airports Commission to engage.

Firstly, there is a need to develop stronger land use planning policy around airports. Local authorities should be directed to ensure land around airports is developed in a manner which does not expose people to unnecessary levels of noise disturbance. The AOA made this point in the integrated policy document as follows:

'It is vital that Local Authorities put in place long-term policy and development control regimes that minimise the effects of noise around airports. To do this they require suitable policy content to put into Local Plans. A positive step that could be taken now is to provide model guidance on safeguarding, noise and land use planning as part of the Government's Aviation Policy Framework (APF).'

The siting of new schools, hospitals and housing estates merits particular concern.

The AOA would like to see new noise sensitive developments receive special consideration to ensure, where feasible, they are not built within the airport 57 Leq 16hr noise contour. By doing this, the benefits of quieter aircraft and operational techniques should be fully realised by those living near airports. Where this is not possible due to current development, the AOA would like to see a planning assumption to prevent further encroachment in these areas unless those likely to use the developments are clear and happy to accept the higher noise levels.

Secondly the AOA strongly supports further research on why individuals become annoyed by aircraft noise¹⁶. Initiated in the SA Noise Road-Map, '*the noise challenge*' identifies a range of possible variables in this complex area and highlights how the aggregated impact of these different variables in determining the total number of individuals affected by aircraft noise is poorly understood. It is certainly the experience from many UK airports that there is a diverse range of individuals contacting them about aviation noise disturbance for reasons which do not always follow logical patterns. The AOA welcomes the useful presentation on recent noise-related research in the discussion paper but strongly encourages the Airports Commission to support the request from SA for investment in further research. It is vital that we continue to improve the understanding of individuals' reaction to noise events, in order to help ensure the optimum tools can be applied to managing aviation noise – for example, we agree with the Commission that operational restrictions should not be applied as a first resort and that there are better, more targeted responses that should be based on this kind of evidence base.

In relation to the questions raised by the Airports Commission in their discussion paper, the AOA would like to make the following points:

¹⁶ See page 3 of the SA Noise Road-Map <http://www.sustainableaviation.co.uk/wp-content/uploads/SA-Noise-Roadmap-Publication-version1.pdf>

- On noise research the AOA would like to see a clear commitment from Government to jointly support research into better understanding individuals' reaction to noise events, to ensure as an industry we can invest in the right tools to improve noise;
- On comparing different airport noise footprints, the AOA appreciates the desire to compare but how this is to be done is not clear. For instance, the shape of an airport noise contour is made up of a range of airport specific variables including traffic mix, airport topography and runway directions. The impact of these would need to be clearly explained in any airport comparisons. Additionally for this to be successful a single noise metric should be used that enables historic as well as current and future noise performance comparisons;
- On night flights the AOA developed a detailed paper reviewing the reasons for night flights in response to the recent DfT consultation¹⁷. In summary the AOA conclude there is a compelling national interest in not only permitting existing provision for night flights but to develop and expand them further, where appropriate, to enhance the UK's global connectivity and opportunities for economic growth;
- For discussion with local communities, the AOA would advise that noise metrics used need to be relevant and appropriate for the local situation – this could involve the use of a variety of noise metrics;
- For more industry-wide views on the questions asked in the Commission's discussion paper, the AOA endorses the Sustainable Aviation response.

The AOA strongly encourages the Airports Commission to consider these views in future decisions on airport capacity¹⁸.

5. Summary

In summary, the AOA continues to support UK airports and Sustainable Aviation in a range of measures to address the issue of aviation noise. To ensure that these efforts to reducing noise impacts are achieved, we call on the Airports Commission to ensure any decisions on future airport capacity take full account of the barriers to reducing noise. Issues of land use planning and better understanding of how and why individuals react to aviation noise events are critical in enabling full use of airport capacity.

¹⁷ See Appendix 1

¹⁸ Further details on the AOA's recommendations on Aviation Policy can be found in our report, 'An Integrated Policy Framework for UK Aviation: Connecting the Economy for Jobs and Growth' (<http://www.aoa.org.uk/media/7284/aoa-an-integrated-framework-for-uk-aviation-report.pdf>)

Appendix 1

AIRPORT OPERATORS ASSOCIATION NIGHT FLIGHTS PAPER, APRIL 2013

1. Foreword by Darren Caplan, the AOA Chief Executive

In launching the Aviation Policy Framework the Rt Hon Patrick McLoughlin MP, Secretary of State for Transport stated,

“The Government believes that aviation needs to grow, delivering the benefits essential to our economic wellbeing, whilst respecting the environment and protecting quality of life.”

The Airport Operators Association, (AOA), fully supports this view and UK airports have long demonstrated a commitment to enabling the £50 billion contribution to UK GDP, £8 billion to the UK Treasury and provision of 1 million jobs which is generated each year by the aviation industry whilst at the same time as managing any local environmental issues.¹⁹

This paper sets out why night flights are a vital necessity in enabling the social and economic benefits that aviation brings to the UK.

When this is linked with the Sustainable Aviation Noise Road-Map, of which the AOA is a key member, showing that noise from UK aviation will not increase, even with air traffic movements nearly doubling in the next 40 years, there is a compelling need to nationally not only keep existing night flights but to develop them further where appropriate to enhance the UK’s global connectivity and opportunities for economic growth.

The AOA calls on Government and Local Authorities to ensure any decisions regarding night flights fully evaluate all the facts in an open and transparent manner. This must show how the economic and social benefits of night flights have been determined and how these balance against any environmental impacts.

2. Introduction

This paper sets out why night flights are important to both people and the economy of the UK. It will highlight the significant benefits that night flights enable.

Night flights occur today in response to a need from the public and businesses for a range of reasons as summarised in figure 1.

¹⁹ Figures from Oxford Economics (2011), ‘Economic Benefits from Air Transport in the UK’



Figure 1: Why night flights occur

- The UK public and businesses generate demand for express mail deliveries, especially delivery of critical medical supplies, 1st class mail and urgent machinery parts.
- In response to customer requirements, UK and non UK businesses require the movement of larger air freight at night because there is not sufficient capacity or ability to move it during the day. Examples of goods that rely on air freight are perishable products such as fresh fruit and vegetables, technology products such as mobile phones and TV and audio equipment.
- The UK public rightly demand the opportunity to have an affordable holiday. To enable this, however, airline operators need to operate their aircraft as efficiently as possible, including flying during the night.
- The UK public and businesses rightly demand the ability to fly from the UK to the rest of the world. Accommodating large time zone changes and time restrictions at non UK airports means airlines need to arrive early in the morning or depart late in the evening from the UK.
- The aviation industry needs to spread public and business travel demand to meet capacity limits and ensure efficient use of aircraft over a full 24 hour period. Operating at times of the day where capacity permits and flying the aircraft for as long as possible is key to achieving this. Given the current capacity constraints at some major UK airports this requires night flights.

The AOA believes a more balanced discussion regarding night flight operations in the UK is required. This needs to be fact based and fairly reflect both the positive and negative effects of night flights.²⁰ The AOA is all too aware of the negative impacts of night flights as the Government has detailed in its consultation on the night flying regime for the three designated London airports. However, there is regularly a loss of the economic and social benefits these flights enable in the debate. Figure 2 summarises this picture.

²⁰ For instance see case study from Stansted Airport in appendix; less than 1.5% of current night flights at the airport receive complaints.

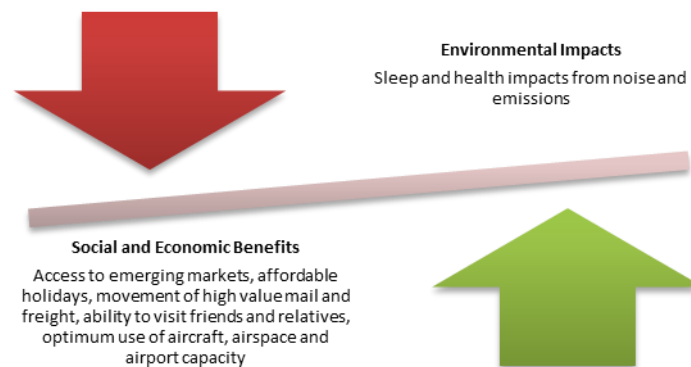


Figure 2: Striking the right balance for night flights

The AOA fully respects the need to be a good neighbour and accepts that noise disturbance from night flights is seen as the most significant impact to some people living close to airports. In recognition of this the AOA is taking direct action through its full support to the commitments made in the Sustainable Aviation Noise Road-Map. This evaluates that even with air traffic movements nearly doubling in the next 40 years, noise from UK aviation will not increase, thanks to quieter aircraft and better operating procedures. This means that although there will be more flights, the planes will actually be even quieter than they are now. This new Road-Map work is on top of the many existing noise controls on aircraft operations at UK airports as detailed in individual airport noise action plans.²¹

Respecting these commitments, the AOA expects Government and Local Authorities to engage with us and our members to responsibly manage and develop night flights moving forwards.

3. Exploring the Need for Night Flights

Each need for night flights in the UK is explored in this section, providing key data on the social and economic benefits they enable.

4. Making First Class Mail and Next Day Deliveries happen

Express freight services are used primarily to achieve the next-day delivery of goods and documents. Packages are collected towards the end of the business day for delivery early the following day. In 2010 these services contributed £2.3 billion to UK GDP²².

To deliver an overnight service, the main part of the delivery process must take place during the night, using night flights to cover longer distances in an acceptable time frame. Figure 3 shows how the Royal Mail work to ensure our first class post gets delivered across the UK by the next day.

²¹ An example of specific actions to address issues of night noise is given in the Heathrow airport case study in the appendix to this paper.

²² As reported in the Government's Aviation Policy Framework 2013. Further facts on the economic benefits of the express freight industry to the UK are presented in the appendix.

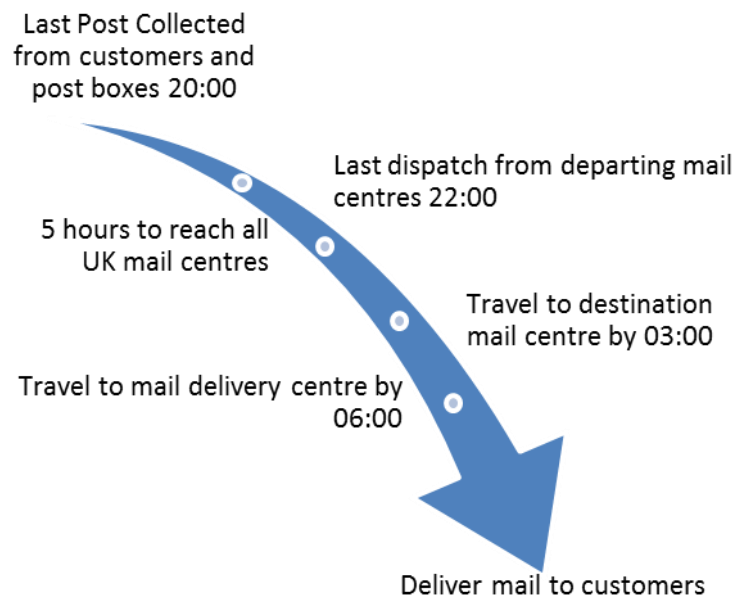


Figure 3: How UK 1st Class mail deliveries work

Given that there are only 5 hours to reach all UK mail distribution centres, to ensure a next day delivery it is imperative some UK mail travels by air. For instance to travel from London to Belfast by road would take around 18 hours but a flight only takes 1.15 hours.

5. Why overnight deliveries are important to you and UK businesses

If night flights were banned at UK airports Royal Mail estimates there will be a cost to both the UK public and economy of around £2 million, not to mention the inconvenience and frustration it would cause everyone. It would put at risk the ability to maintain the UK 1st class postal service as well as overnight deliveries to Europe, the US and Canada. Royal Mail highlight to following key businesses partners that would be impacted by a ban:

- UK Government and Parliament
- All major Banks, Investment Houses
- Amazon
- British Gas
- E-Bay
- Screwfix

Additionally Royal Mail estimate that 1,000 jobs would be lost if night flights were banned.

Taking the Royal Mail case study into account it is clear that express freight services in the UK then are crucial to enabling the ability of the UK to function. In the South East, a survey of City of London companies found express air freight deliveries were critical to 23% of respondents and very important for a further 30%.²³

²³ Oxford Economics (2009), 'Aviation: The Real World Wide Web'

The indirect benefits from the express freight market must also be taken into account. An Oxford Economics²⁴ express freight survey showed that around 10% of firms would relocate from their strategic location close to the East Midlands Airport freight hub (and potentially from the UK) if international next day delivery services were no longer available.

6. Delivering products that people and business need

Air freight delivers goods, especially high value goods, quickly, across long distances. Typical air freight operations include²⁵:

- Medication and medical equipment
- Computer equipment and electronics
- High value/secure cargo
- Fresh food products including fruit, vegetables, herbs and spices

Due to capacity constraints or time zone change limitations, delivering these products to UK customers requires night flights to take place.

If night flights were banned many people and business would be at risk of not receiving medicines they need for treatments, not being able to repair or replace broken IT equipment such as computers or TVs and many UK production lines would be at risk of stopping as critical parts to keep machines operating fail to arrive. In the shops the fruit and vegetables we cannot grow in the UK, such as bananas, pineapples and green beans in winter, may run out as suppliers are not able to re-stock the shelves quick enough.

7. Why moving products by air is important to the UK economy

Some £116 billion²⁶ or 40% (by value) of the UK's exports go by air²⁷ generating 38,000 direct and 43,000 indirect jobs.²⁸ Air-freighted shipments between Europe and Asia have increased by an average of 10% a year since 1991.²⁹

This sharp rise reflects businesses' reliance on aviation to trade with high-growth economies like China and India. Vital express freight services often take place during the night, allowing, for example, "Just in Time" (JIT) delivery, which has delivered over £6 billion a year in efficiencies through reduced stockholding.³⁰ A case study of this issue faced by Jaguar Land Rover is given by Birmingham Airport in the appendix to this paper.

²⁴ Oxford Economic Forecasting (2006), 'The Economic Contribution of the Aviation Industry in the UK'.

²⁵ Based on data from Stansted Airport Noise Factsheet on Cargo Operations
(http://www.stanstedairport.com/static/Stansted/Downloads/Noise_PDFs/STAL_Cargo_FS_V4_0112.pdf)

²⁶ Government 2013 Aviation Policy Framework

²⁷ Department for Transport (2009), 'The Air Freight End-to-End Journey

²⁸ Government 2013 Aviation Policy Framework

²⁹ Boeing (2010), 'World Air Cargo Forecast 2010-2011'

³⁰ Sir Rod Eddington (2006), 'The Eddington Transport Study'

The 2012 Airbus Global Market Forecast³¹ states,

“the semiconductor/high technology and telecommunications industries are the largest users of air freight in terms of the value of transported goods. Semiconductors alone accounted for 17% of the value of all goods transported in 2011. These goods were closely followed by “valuables” and pharmaceuticals. In terms of weight, the fresh foods industry is the largest contributor to the air freight industry. All in all, the air cargo industry carried \$ 2.9 trillion in cargo value in 2011, according to Seabury.”

Regarding growth it goes on to say,

“The total number of Freight Ton Kilometres (FTKs) in 2011 was 7 % above the pre-crisis high in 2007 and 23 % higher than the low in 2009. There are 21 flows that were studied for the forecast did not have a single year of decline from 2007 to 2011, and these flows represented 12% of all of the traffic in 2011. The largest example of this is the Europe to Peoples Republic of China (PRC) flow, which grew at 4.5 % per year from 2007 to 2009 and was more than 64% higher in 2011 when compared to 2007.”

Between 2012 and 2031 Airbus predict that the Europe to India freight market will take over as the fastest growing freight market in Europe. It is predicted to grow by over 7% making it the 5th fastest growing freight market in the world. In terms of size though the Europe to PRC and PRC to Europe freight flows are predicted to be the 3rd and 4th largest in the world generating over 50 billion Freight Tonne kilometres.

This growth is driven by an evolution in the freight market as products and sub-components are manufactured in more diverse regions. The smaller component sizes and distance from the assembly plants and end market places are what is predicted to drive the need for growth in air freight moving forwards.

Turning this economic potential into reality for the UK economy and businesses, whilst maintaining our current capacity to deliver products by air, will require additional night flights to some UK airports.

8. Why tourists need night flights

Surely it is everyone's right to have a holiday abroad if they want to and for non-UK residents to visit the UK? The AOA believe it is!

For those living in the UK the weather doesn't always give us the sunshine or snow when we want it. As a result many of us opt for a well-earned break in a foreign country each year.

In 2012, 44.9 million UK residents travelled by air representing almost 80% of all overseas journeys. Of these air travellers, 28.6 million or 63% were going on holiday and a further 9.8 million or 22% travelled to visit friends and family.³²

On the opposite side, despite being a small island nation with a sometimes fickle climate, we are the 7th most popular destination in the world, with London the most popular destination city in the world.³³ This results in 31 million people visiting the UK each year, for sightseeing or to visit friends and family. Almost three quarters of them arrive by air!

³¹ <http://www.airbus.com/company/market/forecast/>

³² Office for National Statistics 2012 Travel trends - <http://www.ons.gov.uk/ons/rel/ott/travel-trends/2012/rpt-travel-trends--2012.html>

³³ Tourism Alliance – UK Tourism Statistics 2013 http://www.tourismalliance.com/downloads/TA_348_373.pdf

To meet the peak demand for summer holidays in the UK, tour operators have to operate aircraft at night. The Thomas Cook case study in the appendix explains this further. If night flights were banned it is predicted that the average cost of a holiday would go up and given the capacity limits at some major UK airports it is unlikely some people would be able to fly from their local airport.

9. What tourism means for the UK Economy

Tourism is the UK's sixth largest industry. In the recent Government Aviation Policy Framework it states air travel is essential to the Government tourism policy. This policy aims to attract 4 million extra visitors to the UK in the next 4 years. A key source of these visitors will be from China and the emerging markets. Prime Minister, David Cameron said in 2011:

"I want to see us in the top five destinations in the world. Currently we have 3.5% of the world market for international tourism. For every half a percent increase in our share of the world market we can add £2.7bn to our economy, and more than 50,000 jobs."

The 31 million people that visited the UK in 2012 generated £18 billion of earnings, £15.6 billion or 84% of which came from people arriving by air.³⁴ Overall the tourism industry supports 249,000 businesses in the UK, mainly SMEs.

To enable the vision outlined by the Prime Minister to be achieved the UK needs to make the most of emerging tourism demand to visit the UK. Key changes to inbound tourism markets are shown in table 1 showing that the fastest growing demand to visit the UK is mainly coming from outside the EU.

Largest Increase		Largest Decline	
Argentina	+29%	Greece	-27%
China	+24%	Finland	-10%
Hungary	+23%	Malaysia	-9%
Singapore	+19%	Australia	-7%
Thailand	+19%	New Zealand	-6%
Poland	+17%	Brazil	-6%
South Korea	+12%	Spain	-6%
Czech Republic	+12%	Ireland	-5%
Belgium	+11%	Hong Kong	-5%
South Africa	+11%	Netherlands	-4%

Source: International Passenger Survey, ONS, 2013

Table 1: Growing and Declining Inbound UK Tourism Markets

In 2011 analysis showed there are 2.72 million tourism jobs in the UK and as an industry £134 billion of revenue was generated by tourist in the UK in 2012³⁵. Additionally a further 1.3 million jobs through associated activities.³⁶ Putting this in perspective, 1 in 11 people in the UK work in tourism. Tourism also

³⁴ Office for National Statistics 2012 Travel trends - <http://www.ons.gov.uk/ons/rel/ott/travel-trends/2012/rpt-travel-trends--2012.html>

³⁵ Tourism Alliance – UK Tourism Statistics 2013 http://www.tourismalliance.com/downloads/TA_348_373.pdf

³⁶ Deloitte (2010), 'Economic Contribution of the Visitor Economy: UK and the Nations'

benefits the wider UK economy and 2009 figures show that overall tourism boosted the wider UK economy by £115 billion, about 8% of UK GDP.³⁷

The Tourism Alliance³⁸ predict that globally tourism will grow by 60% by 2020 with almost half of this growth coming from Brazil, Russia, India and China, known as the BRIC countries. On average visitors to the UK spend £570 per person. Chinese people however spend on average £1,690 per person. This compares to an average spend of £390 by visitors arriving on Eurostar and £300 by visitors arriving by Ferry at Dover.³⁹

For instance, if you filled a Boeing 747-400 with Chinese visitors to the UK it would generate £1 million for the UK economy, 20 full time jobs and £160,000 for the UK Treasury.

Additionally the ability for UK people to travel brings wider social benefits as acknowledged by the Government in the Aviation Policy Framework. This enables UK citizens to experience different cultures, enjoy a well-earned holiday or visit friends and family. The latter is now the main source of travel at Heathrow, Luton and Stansted airports reflecting the increasingly global society we live in.

Continuing to realise the enormous potential economic and social benefits of tourism to the UK will require further growth in night flights.

10. Why Businesses need night flights

Business people fly for many reasons: to close deals, meet customers, and invest in employees. Night flights play a unique and crucial role in connecting the UK to the rest of the global economy. These flights are an essential part of the operating models of many British and international businesses, allowing for the timely movement of people and goods, getting them to where they need to be in order to facilitate exports, maximise productivity and increase competitiveness.

As such, night flights are an integral part of enabling the UK's ambitions as a trading nation. Without these flights, businesses in the UK face a critical delay to their operations and international investors may choose to go elsewhere.

Work by the Civil Aviation Authority (CAA)⁴⁰ found a strong correlation between the countries business people travel to, or from, and the UK's success in trading with them. The value of international transport links for opening doors to new trade and exports is well established but with recent analysis published by the CBI⁴¹ concluding that each and every daily route to an emerging market is worth as much as an additional £128 million in trade per year, the need to develop these links for the UK economy is clear.

Figure 4 clearly shows that emerging markets in countries such as China and India are now growing at a quicker rate than the mature markets in places such as the US and Europe. For the UK to grow in the future, trade links with and business travel to these emerging markets will need to increase. Aviation is

³⁷ Deloitte (2010), 'Economic Contribution of the Visitor Economy: UK and the Nations'

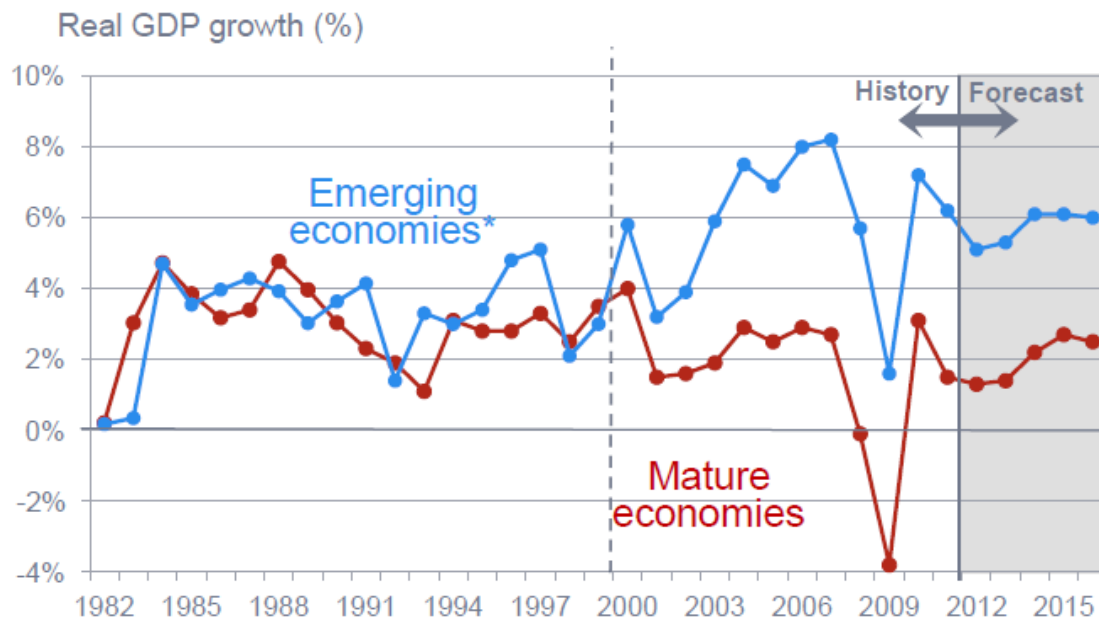
³⁸ http://www.tourismalliance.com/downloads/TA_327_353.pdf

³⁹ Office of National Statistics data 2010

⁴⁰ CAA (2010), 'Flying on Business: A Study of the UK Business Travel Market'

⁴¹ CBI/Steer Davies Gleave, (2013) *Trading Places: Unlocking export opportunities through better air links to new markets*

likely to be the primary vehicle used to access these markets for many UK businesses due to the geographic distances involved.



Source: Airbus Global Market Forecast 2012

Figure 4: Real GDP growth trends of emerging versus mature economies

Boeing explores how these emerging markets are forecast to growth out to 2031 in their 'Current Market Outlook 2012'. They state:

'Emerging and developing economies will account for 72 percent of global growth between 2011 and 2031. Their share of real global Gross Domestic Product (GDP) will increase from 30 percent to 44 percent over the same period. The fastest growing economies include Asia Pacific (projected 4.6 percent growth), the Middle East (projected 3.9 percent growth), and Latin America (projected 4.1 percent growth).'

This compares to a projected annual GDP growth in Europe between 2011 and 2031 of 1.9%.

Clearly for the UK to achieve sustainable economic growth in the future, robust access to the emerging markets is critical. Due to the distance these markets are from the UK and the time zone changes involved, providing the right level of connectivity to them will necessitate the need for night flights in and out of UK airports.

Of particular importance in this is how the UK can meet the requirements of the long-haul business travellers. They often want to maximise their productive time by travelling overnight and arriving in a new market ready for a full day's work. In order to depart from destinations in the Far-East, for example, and arrive in the UK at a reasonable time, night flights are unavoidable to meet this passenger demand. The case study from British Airways in the appendix to this paper explains why this is the case.

To enable the UK to expand opportunities for business and the economic benefits this generates, we need to maintain and further develop night flights where appropriate.

11. Why the aviation industry needs night flights

The aviation industry is designed to meet the requirements of their customers. Airports exist to service the needs of people and business to fly. For airlines there is a need to operate an aircraft schedule that meets the following requirements:

- Meet customer demands for the right destinations at the right frequency and time of day
- Operate the aircraft as efficiently as possible
- Meet airport operating restrictions at both ends of the route, allowing for time zone changes

To meet these requirements as we have shown earlier in this paper, airlines must operate flights at night. If there were a ban on night flights many passengers and businesses would face delays and disruption to their travel plans and airlines, airports and air traffic control would not be able to make the best use of their capacity.

The case studies by East Midlands and Gatwick Airports in the appendix define these risks directly.

12. What night flights mean to people and the wider UK

To enable the future economic growth and social benefits from tourism and visiting friends and family that is predicted, more night flights will be required in future. The aviation industry is committed to continuing its achievements in delivering more flights whilst reducing impacts such as noise or emissions. Taking the previous section into account we will now summarise the benefits of night flights to the people and economy of the UK.

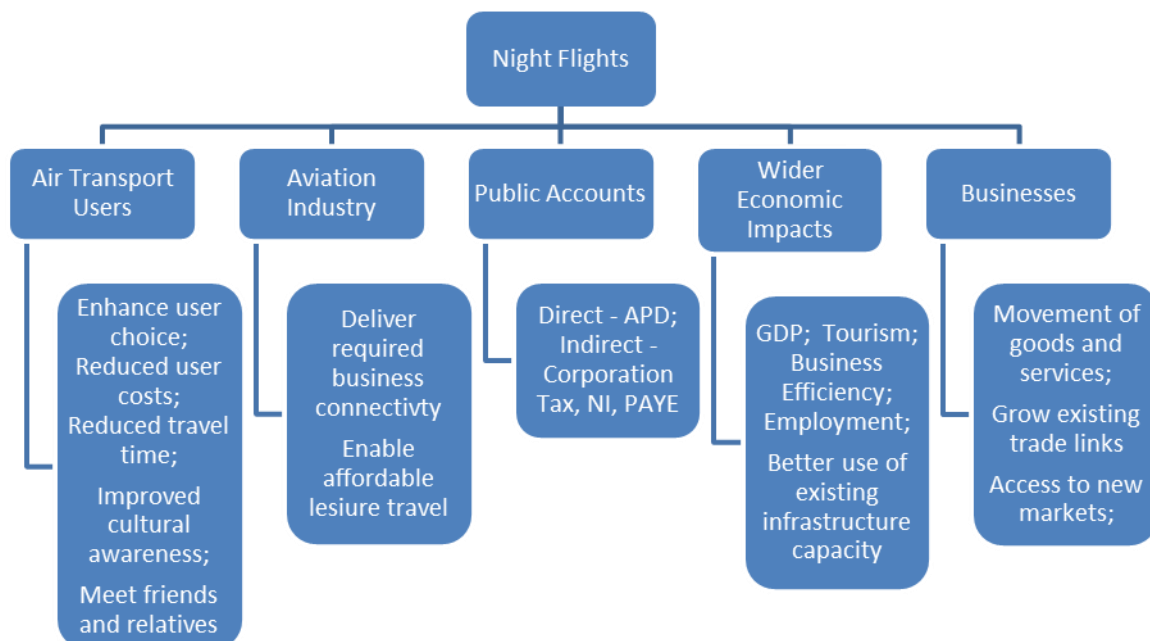


Figure 5: Benefits of Night Flights

13. The AOA position

Calls to ban night flights are based on a basic misunderstanding, and lack of awareness, of why they need to take place. Every night flight is made for a good reason. Whether postal, freight or passenger services, they are essential to the UK's connectivity at a time when we are desperate to create jobs and growth in what we all know are tough economic times. Banning such essential flights would be a retrograde step, making the UK and its regions less well connected and depriving communities, businesses and individuals of essential services.

Night flights contribute an enormous amount to the whole of the UK in terms of jobs, growth and connectivity. Businesses and households rely on them for overnight mail delivery and the transfer of urgent parts and medical supplies. Without night flights, for example, Royal Mail would be unable to offer a first-class postal service across all parts of the UK, and the deliveries people have come to rely on today, such as goods from Amazon, would not arrive on time.

Demand for both leisure and business travel also necessitates night flights. To enable affordable holidays for UK families, tour operators need to operate aircraft as efficiently as possible, which means offering flights during night time hours. During the summer season for instance, there is a 30% increase in demand for leisure travel, which due to airport and aircraft capacity constraints can only be provided at night. Moreover, for UK businesses to benefit from the growth opportunities presented in the Far East, night flights are required. This is necessitated by the flight times and large time zone changes between the UK and the Far East which mean airlines need to arrive early in the morning or depart late in the evening from the UK.

The UK aviation industry understands the concerns about noise from night flights and is committed to reducing the impact of those aircraft operations. Much has already been achieved in this respect. Based on a review of current noise contour information at Birmingham, Gatwick, Heathrow, Luton, Manchester and Stansted airports, between 1998 and 2010 the number of people inside the UK Government's standard 57 dbA Leq noise contour has reduced by nearly 40%. This has been achieved as a result of significant development and investment by the industry in quieter aircraft and operating procedures.

There is a compelling need to nationally not only to keep existing night flights but to develop them further where appropriate to enhance the UK's global connectivity and opportunities for economic growth.

[Night Flying Restrictions at Heathrow, Gatwick and Stansted Stage 1 Consultation – Answers to questions.](#)

Policy and legal landscape

Q1: Are there any other matters that you think we should cover in the second stage consultation?

The AOA expects the Government to take into account the Sustainable Aviation Noise Road-Map findings when considering any proposed night flights limits. The Noise Road-Map shows that even with air traffic movements nearly doubling in the next 40 years, noise from UK aviation will not increase, thanks to the development and introduction of quieter aircraft. Opportunities to reduce noise through better operational procedures and controls on how land around airports is developed.

Factual Information

Q2: Do you have any comments on our assessment of the extent to which the current objectives have been met?

The AOA agrees with the Government assessment of how Gatwick, Heathrow and Stansted have met the current objectives. In particular the AOA would like to re-enforce that at all three airports the average Quota Count (QC) rating per aircraft has fallen over the last 10 years, which indicates that quieter aircraft are being used. The number of QC/4 aircraft operating in the night quota period has generally fallen at all three airports over the course of the current regime.

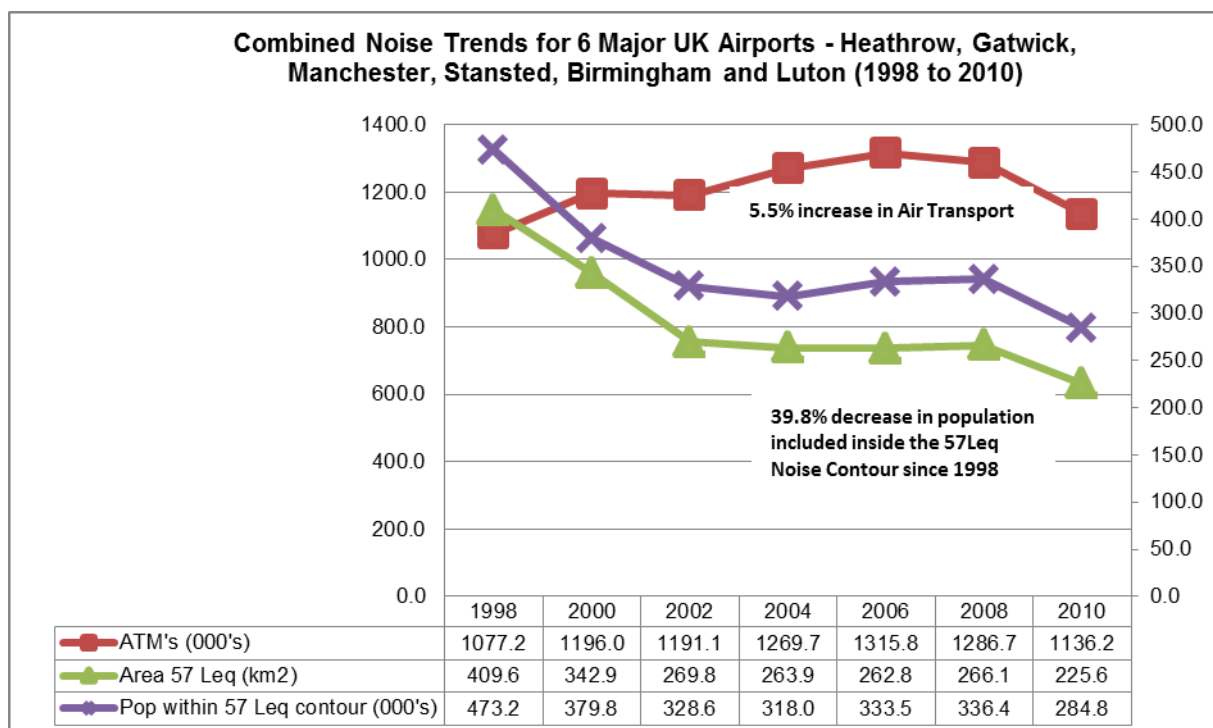
Average QC per Aircraft Night Flight

Airport/Season	Winter 2005/06	Summer 2006	Winter 2011/12	Summer 2012
Gatwick	0.82	0.71	0.65	0.51
Heathrow	1.63	1.71	1.31	1.38
Stansted	0.83	0.70	0.71	0.62

Source: DfT Night Flying Restrictions at Heathrow, Gatwick and Stansted Stage 1 Consultation 2013 pg 20-22

In addition to the three airports meeting the specific night noise abatement objectives set by the Government the AOA would add the following.

Since 1998 the combined noise contours at six of the major UK airports have shown that there has been a 40% reduction in the people exposed to noise levels above the 57 Leq noise contour despite over a 5% increase in aircraft movements. This can be seen in the chart below, reproduced from the Sustainable Aviation Noise Road-Map.



Q3: Do you have any views on how these objectives should change in the next night noise regime?

The AOA believes all attempts to manage issues of aircraft noise should follow the principles of the ICAO balanced approach. This seeks to address noise issues through a prioritised process of reducing noise from aircraft, use of operational procedures, effective land use planning and finally consideration of operating restrictions to reduce noise.

Any objectives regarding managing aircraft noise at night must be balanced, seeking to grow economic and social benefits whilst continuing to reduce environmental impacts.

Structure of the Current Night Noise Regime

Q6: Do you have any views on the optimum length of the next regime and how this should align with the work of the Airports Commission?

The AOA believe the length of the next night flying regime needs to fit in with any time scales that develop through the Airports Commission as clearly the outcome of this work has significant potential to alter the current pattern of aircraft operations in the London area.

Q8: Do the dispensation guidelines still adequately reflect current operational issues?

The AOA believe the current guidelines are adequate. Any further restrictions are likely to create social and economic impacts which would need to be fully considered against any environmental benefits before any decisions are made.

Q10: Do you consider there is still a need to retain the principles of carry-over and overrun? If so, please give reasons why.

The AOA believe there is a need to retain these principles based on evidence from both the British Airways and Thomas Cook case studies and feedback from our airport members. Flexibility to accommodate changes to even the best laid plans due to unexpected changes or events on the day should be kept.

Exploration of Options for the Next Night Noise Regime

Q12: Do you have any comments on our analysis of fleet and operational trends?

The AOA would encourage the Government to read the SA Noise Road-Map which shows how the industry expects new aircraft and operational trends to develop from now to 2050.

Q13: In the absence of any new restrictions, what changes in operations and fleet mix do you expect in the period between now and 2020 (and beyond 2020 if possible)?

The SA Noise Road-Map shows the industry and AOA's view of how we expect operations and aircraft mix to change in this period.

Q14: Please set out how you expect local land use planning policies to impact upon the numbers of people exposed to night noise in the next regime. Please give details of any housing developments planned to take place within the current night noise contours (see Annex B).

The AOA believes the issue of land use planning around airports is in need of improvement. Our thoughts are captured in the SA Noise Road-Map section on land use planning.

Q15: Please provide any information on the feasibility of increasing the angle of descent into Heathrow, Gatwick or Stansted, particularly within the next seven years.

The AOA supports the principle of steeper approaches for aircraft operations at UK airports where this is safe and feasible. Use of the procedure at airports must be looked at on a case by case basis between airlines, manufacturers, NATS and airports. The AOA is aware that there are a number of costs to airlines and airports for introduction of these schemes which need to be taken into account.

Q18: Please provide any information about the feasibility of using displaced landing thresholds in the next seven years for arrivals from the east at Heathrow and from the north east at Stansted

The AOA supports the use of displaced thresholds where this can reduce noise to communities close to airports and can be achieved without risk to safety or operational capacity at airports.

Q19: Please provide any information about airspace changes or other operational procedures which could mitigate the impact of night noise in the next regime period

The AOA is aware of a number of airspace change programmes under evaluation by NATS which should improve the efficiency of aircraft movements. This is welcomed. In addition there are a number of local discussions between UK airports, NATS and local communities to discuss departure and arrival patterns of aircraft. This includes discussions on dispersing or concentrating aircraft tracks through the use of precision navigation, using satellite GPS technology. The AOA believes Government should enable a framework to enable local solutions to be developed to address noise issues at UK airports.

Q21. In the absence of any new restrictions, how do you expect demand for movements in the night quota period over the course of the next regime to change?

The AOA expect the demand and need for night flights at UK airports to increase in future partly as a result of increasing capacity limits during other times of day at airports and partly due to business and leisure demand as explained through the case studies and information provided in this paper.

Q24: Do you have any views on the relative disturbance caused by the noise of an individual aircraft movement against the overall number of movements in the night quota period?

The AOA believes that how individuals respond to noise from aircraft is a complex issue. The SA Noise Road-Map refers to this as the noise challenge and the AOA supports the call for Government to work with the industry and local communities to improve our understanding of this issue through research before further policy is made.

Q26: How many QC/4 aircraft do you expect to be in operation over the next seven years during the night quota period? Is the downward trend at Heathrow expected to continue?

In the SA Noise Road-Map we have defined the expected timeframes for the retirement and replacement of aircraft. The AOA supports the views expressed in this document.

Q27: What are your views on the feasibility of a QC/4 operational ban in the night quota period at any or all of the three airports? Please set out the likely implications of such a ban and the associated costs and benefits.

The AOA is not convinced that an operational ban on QC4 aircraft would provide the right balance between the social and economic costs compared to the environmental benefits. This is based on our understanding of the need for some QC4 aircraft to operate long haul services to emerging markets for at least the next 5-10 years.

Q28: Are there more cost-effective alternative measures (such as penalties) to reduce the number of unscheduled QC/4 operations during the night quota period?

The AOA believes the work of the SA Noise Road-Map outlines the benefits to noise reduction that can be achieved without the need for imposed penalties. Factors such as accelerating the progress towards a single European sky and supporting the manufacturing sector to develop quieter aircraft should be the focus instead of operational restrictions.

Q29: What are your views on the feasibility of an operational ban of QC/4 aircraft at any or all of the three airports during the shoulder periods? Please set out the likely implications of such a ban and the associated costs and benefits.

The AOA does not support this idea – see answer to questions 28 and 29.

Q30: What is the rationale for operating services at precise times during the night quota period (as they do now)?

Night flights operate to meet customer demands, be they businesses or passengers. The AOA does not support imposing a control on this unless it can be proved that the environmental impacts significantly outweigh the social and economic benefits.

Q31: What is the scope for introducing a respite period at Gatwick or Stansted? Please set out the associated costs and benefits.

The AOA believes all attempts to manage issues of aircraft noise should follow the principles of the ICAO balanced approach. This seeks to address noise issues through a prioritised process of reducing noise from aircraft, use of operational procedures, effective land use planning and finally consideration of operating restrictions to reduce noise. Before considering introducing enforced respite periods at any UK airports the AOA would expect all efforts on the other areas of the ICAO balanced approach to have been exhausted. If after this operating restrictions or regulations are required they must be shown to be cost effective.

Q33: If you favour a guaranteed respite period, what would be the minimum period which you would consider to be worthwhile?

The AOA refers to our answer given in question 31 and otherwise believes this is a matter for local negotiation.

Q34: What are your views on the principle of trading off a complete restriction on movements in one part of the current night quota period against an increase in flights in another part of the night quota period?

The AOA does not support this approach unless all other efforts to manage aircraft noise can be shown to have failed and new regulations can be shown as cost effective as discussed in our answer to question 31.

Q36: What value do you place on day time respite compared with relief from noise in the night quota period?

The AOA believes any discussion on respite during the day must consider the operational capacity impacts and the social and economic impacts these would generate. The AOA also wonders if the environmental benefits from day time respite would be as significant. If the balance can't be achieved it should not be considered.

Q37: Do you have any views on the extent to which landing fees can be used to incentivise the use of quieter aircraft during the night period?

Some UK airports have and do apply differential landing fees to aircraft due to their noise levels. This has resulted in some airline decisions to alter aircraft operating to some IUK airports and in the design of the Airbus A380.

The AOA believes that any approach to set airport landing fees to incentivise the use of quieter aircraft during the night period should be conducted at a local level and be reflective of the specific noise issues that may occur at each airport.

Beyond this the AOA would like Government to consider the comments in the SA Noise Road-Map regarding operational restrictions.

Q38: Please provide comments and evidence on the extent to which the noise insulation scheme criteria have been met. Where possible please include figures for numbers of properties insulated under the scheme and numbers which are still potentially eligible.

The AOA believe noise insulation schemes should be agreed locally between airport operators and local planning authorities. Clearly it is important to ensure that any schemes are relevant and effective. One of the key issues the AOA believes needs to be explored in more detail is how development of land close to airports is managed. This should include setting clear noise expectations for those living close to airports as part of the wider commitments for exploring options to minimise additions of noise sensitive dwellings close to airports unless there is an agreement on noise exposure levels.

Q40. Do you have any proposals for new or improved economic incentives that could be deployed to incentivise the use of quieter aircraft during the night period?

The AOA believe any use of economic incentives should be designed to enable airlines to invest in quieter aircraft sooner than would otherwise be the case. Beyond this the AOA believes development and implementation of specific economic incentives is a matter for individual airports and their local communities to agree.

Night flights Evidence Review

Q41: Is there any other evidence we should consider in assessing the response of airlines and air transport users to changes in the night flights regime?

The AOA suggests Government review the data and many on-going commitments to noise reduction defined in the SA Noise Road-Map and the opportunities these offer for reducing noise from aircraft operations.

Q42: Is there any reason why we should not seek to ensure consistency with the Aviation Appraisal Guidance approach to assessing air passenger impacts?

The AOA calls on Government to consider the full social and economic benefits of night flights which we do not believe are currently fully evaluated. We have outlined what we believe these to be earlier in this paper.

Q43: What are your views on how we should assess the impacts on air passengers associated with a change in night flights regime, if we are unable to use the Department's aviation models?

The AOA would encourage Government to assess both the direct and indirect impacts on air passengers associated with changing the night flights regime. This should cover the following:

- Additional costs to travel at other times of day
- Additional infrastructure costs to provide for displaced capacity at airports
- Lost airline and airport revenue from those who now choose not to fly
- Lost direct and indirect revenue to the UK Government, retailers and other businesses
- Cost of lost jobs and/or failure of some businesses as a result
- Social and potential health costs associated with loss of jobs, failure to meet friends and relatives or improve cultural understanding

In addition there are costs pending to businesses directly and indirectly if air freight operations are restricted as explored in the Royal Mail case study.

Q44: Do you think there is merit in applying the approach employed by CE Delft? If so, do you agree that it is reasonable to assume that business passengers and transfer passengers prefer to arrive on a night flight, if they would choose to do so if one were available? What are your views on what we should assume about terminating passengers' preferred arrival times and about passengers' preferred departure times?

The AOA does not believe the CE Delft approach considers the wider (non direct) costs of changing night flight restrictions. We would expect any analysis to take into account the factors presented in our answer to question 43.

Q45: Do you agree that the impacts on passengers who decide not to travel (or become able to travel) as a result of the change in night flights regime could be critical to the balance of costs and benefits?

The AOA strongly believes this to be true. The cost of lost passengers goes beyond direct revenue streams to airlines and airports as highlighted in our answer to question 43.

Q46: Are you aware of any evidence that we could use to value the impacts on passengers who decide not to travel or (become able to travel) as a result of the change in night flights regime?

The AOA has provided some useful case study material in this paper and would be happy to work with DfT to develop further evidence going forwards.

Q49: Is there any other evidence or information that we should consider in assessing the impact on air freight service users of a change in the night flights regime?

The AOA would encourage Government to make use of the case study material provided in this paper but also seek further evidence from the air freight operators going forwards. The critical nature of the 'just in time' spare parts procedures used by many manufacturers means the value of air freight services go way beyond just the value of freight carried on the flights.

Q51: What are your views on how we should assess the impacts on profits, if we are unable to use the Department's aviation models?

Impacts on direct profits is just one of the financial impacts that must be considered. Other cost impacts as detailed in our answer to question 43 must also be taken into account.

Q54: Do you agree that the approach proposed by the Civil Aviation Authority (CAA) for estimating the cost of sleep disturbance from aircraft noise reflects the available evidence? If not, how do you think it should be changed?

The AOA believes the approach proposed by the CAA could be improved. To ensure the best currently available evidence is obtained we think CAA should be encouraged to engage more widely with experts to help shape a method supported by a range of stakeholders. The AOA would highlight that the SA Noise Road-Map has called for others to work with the aviation industry to improving our understanding in the general area of individuals' reaction to noise. Health impacts from sleep disturbance could be part of this work going forwards. If it is we would expect Government to take this into account in any future night flying policy decisions.

Q70: Are there any other impacts, not considered above, that we should consider in assessing the impacts of a change in the night flights regime (e.g. impacts related to the way people travel to and from the airport)? If so, what evidence should we consider in assessing these impacts?

Taking into account the Government's proposed approach with the additional comments made by the AOA in this response we do not believe there is anything further to add.

Appendices: Airport and Operator Case Studies on the Need for Night Flights

AIRPORT CASE STUDIES

1. Birmingham Airport

The following details have been provided by Birmingham Airport to highlight both the importance of night flights and the collaborative work carried out by the airport to mitigate the effects of the flights.

Importance of Night Flights – Case Study: Jaguar Land Rover

Blue City Aviation provides aircraft handling services at Birmingham Airport for a range of general aviation flights, including freight. During the early part of 2012 they handled freight aircraft providing just-in-time parts for the JLR car plant in Solihull. Car manufacturers all work on just-in-time logistics which means they don't have stocks of parts; they are delivered as they need them. The flights handled were usually to avoid line stops. It's cheaper to charter aircraft to fly stocks in than allow the line to stop. The big auto manufacturers quote figures of £250-300,000 per hour if their production lines are halted. The way the process works is that the delivery issue becomes apparent during the day, by mid-afternoon it becomes essential to fly. By the time the charter is fixed and aircraft in position the arrival time is invariably late evening/early hours.

Managing night flights - Case Study: Birmingham Airport's Night Flying Policy review 2011

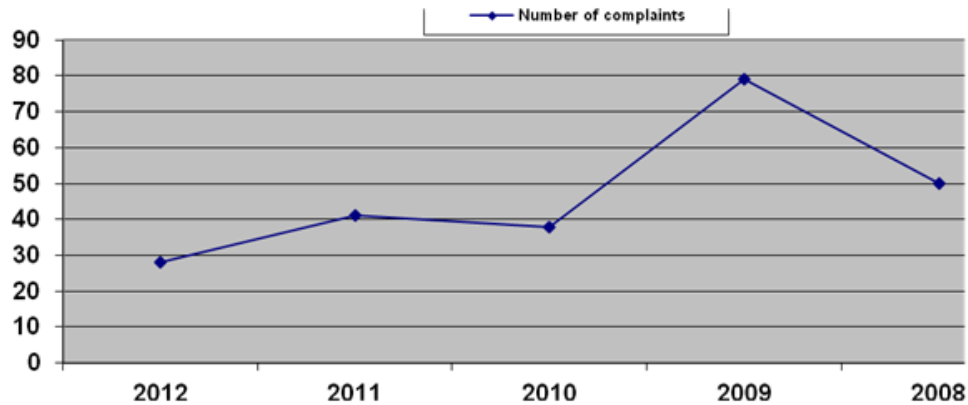
In 2010, Birmingham Airport recognised that its stringent night ATM limit was having a direct impact on the capacity of movements at night. The Airport was confronting a situation in which it may have been forced to turn down new air traffic. Much of this traffic would have been freight movements critical to the success of local businesses in the West Midlands region, including Jaguar Land Rover.

To overcome this issue, Birmingham Airport worked together with the Airport Consultative Committee (ACC), the local community, Solihull MBC and local councillors to devise a solution. The resulting solution was a mutually beneficial balance. The Airport benefited from increased night time capacity. The surrounding communities benefitted from a more stringent noise mitigation policy for night movements.

Commenting on the deal, Chairman of Solihull Council's Planning Committee, Councillor Stuart Davis, said: "I'm extremely pleased that, by working closely with Birmingham Airport, we have been able to agree a night time policy that reduces noise levels for our communities, and is also in line with other UK airports, giving Solihull, Birmingham and the wider West Midlands equal economic benefits. I'd like to thank colleagues on the airport working party and the Airport itself for showing true partnership working, with the environment

A link to a news article can also be found here <http://www.solihull.gov.uk/news/26593.htm>

The number of night noise complaints have also reduced in the last 5 years with Birmingham having some of the fewest noise complaints, despite the density of the population surrounding the airport. This is shown in the graph below.



2. East Midlands Airport

- In 2012, over 300,000 tonnes were carried making EMA the second busiest cargo airport in the UK and the largest for pure freight.
- In 2011, York Aviation estimated that EMA supported around £239 million of GVA and 8,500 FTE jobs in the East Midlands region
- Overall, EMA's operations support over £500m in GVA across the UK and 14,000 FTE jobs.
- 40% of employment at EMA is related to cargo / freight. 41% of ATMs are also cargo flights
- 10% of companies surveyed by Oxford Economic Forecasting said access to the freight services was a 'very important factor in determining their location in the East Midlands. Also identified that around 20% of companies use express freight services 'very frequently' and 40% 'occasionally'.

3. Gatwick Airport

The distribution of night flights by QC band is shown in Table 1 for 2012/13. Across the year as a whole, 45% of night flights were in the quietest category (QC 0.25) with a further 35% in the second quietest category (QC 0.5). It should be noted that aircraft in QC point band 4, 8 or 16 are not allowed to land or take-off at all at Gatwick in the night period, although there was one landing by an aircraft in QC points band 4 in the summer and one in the winter period.

Table 1: Gatwick Distribution of Night Flight Movements by QC Band, 2012/13, %			
QC Point Band	Summer 2012	Winter 2012/13	Total 2012/13
QC 0.25	45.6	38.6	44.8
QC 0.5	34.7	38.9	35.2
QC 1	17.0	5.9	15.6
QC 2	2.7	16.6	4.5
QC 4	0.0	0.1	0.0
QC 8	0.0	0.0	0.0
QC 16	0.0	0.0	0.0
Total	100.0	100.0	100.0
Source: Gatwick Airport data			

Table 2 provides a summary of the estimated number of movements, cargo and passengers arriving or departing during this period in 2012/13. Details of the actual number of passengers and cargo are not yet available so estimates have been made using average passengers or cargo per ATM for the airport as a whole during 2012/13 and applying these ratios to the number of night movements. It is estimated that almost 1.7 million passengers travelled on night flights at Gatwick in 2012/13.

Table 2: Gatwick Movements, Cargo and Passengers in Night Period, 2012/13			
	Movements	Cargo (tonnes)	Passengers
Summer	10,069	3,737	1,477,049
Winter	1,436	740	194,906
Total	11,505	4,477	1,671,955
Source: Gatwick Airport data and Optimal Economics			

Table 3: Gatwick Night Flight Passengers by Journey Purpose and UK/Foreign Passenger, 2012/13 (000s)			
	Business	Leisure	Total
UK	168.7	1,024.1	1,192.8
Foreign	103.5	375.7	479.1
Total	272.2	1,399.8	1,672.0
Source: Optimal Economics			
Note: Columns may not sum due to rounding			

Table 4: Estimate of Gatwick Employment and GVA Supported by Night Flights, 2012/13

	Employment	GVA, £m
Direct On-Airport	1,040	40.8
Direct Off-Airport	110	4.9
Indirect	140	8.1
Induced	780	44.3
Total	2,070	97.7
Source: Optimal Economics		

Table 5: Gatwick Wider Economic Impact of night flights, 2012/13

	Employment	GVA £m
Inbound Tourism	3,450	74.4
Business efficiency	n/a	54.4
Source: Optimal Economics		

APD

As no data are available on the class of travel we have assumed that 75% of passengers travel in the lowest class and pay APD at the standard rate. The remaining 25% pay APD at the higher rate. In 2012/13 the total revenue generated by passengers who were dependent on a night flight at Gatwick was £25.9 million.

4. Heathrow Airport

Heathrow is the UK's only international hub airport, providing the connectivity that has supported the UK's leading position in the world economy. Heathrow handles around 70 million passenger and more international passengers than any other global hub. Home to 80 airlines, Heathrow provides the UK with 175 connections to 80 countries including the majority of its intercontinental connectivity. Over 90% of the South East's long-haul passengers travelling for business fly from Heathrow. Additionally 1.46 million metric tonnes of cargo are handled at the airport.

Heathrow forecasts constrained traffic growth of around 0.5-1% p.a., with growth slowing as the hub capacity constraint tightens. This low level of growth reflects the reality that Heathrow is already operating at over 98% of its 480k Air Traffic Movement (ATM) cap.

Heathrow understands the need to balance the economic and social benefits generated by the airport against the environmental issues. In the last 6 months the airport has taken a number of actions to manage issue of aircraft noise.

New Arrivals Trial

Heathrow, in partnership with HACAN, NATS and British Airways, has conducted a new trial to test whether creating 'noise relief zones' for communities under the flight path could ease disturbance for residents.

On average, around seventeen flights arrive at Heathrow each morning between 04.30 and 06.00. As air traffic controllers route these aircraft through the sky to achieve the safest and most efficient arrival routes, the flight paths are spread across areas of London – there is no set route. The Early Morning Noise Respite Trial explored whether the flights – particularly at the beginning of their approach into Heathrow - can be routed in a more defined way, offering more predictability for residents living below.

The trial worked by defining two zones over each trial area that were 'active' sequentially week by week. Pilots were directed by air traffic control to avoid flying through whichever zone was active for that particular week. The aim was to provide communities with definite periods of relief from early morning aircraft noise.

Matt Gorman, Heathrow's Sustainability Director said: 'We are very pleased to be working with HACAN to find innovative solutions to minimise the impact of aircraft noise on residents. Working with the air traffic controllers at NATS, we are testing whether aircraft can be directed around specified areas to provide some respite and certainty for local residents. A relatively small adjustment in terms of the flight path can have a big impact on those living underneath it.'

HACAN chair John Stewart said: 'Periods of respite are very important for residents under the flight paths. We welcome this initiative'.

Ian Jopson, NATS Head of Environmental and Community Affairs, said: 'NATS has unparalleled expertise in designing and managing airspace. We are delighted to have been able to use that expertise to work in collaboration with Heathrow, British Airways and HACAN to explore opportunities to improve the day to day experience of people living under the Heathrow flight paths.'

Whether the aircraft land from the east or west depends on the wind direction so there were four trial areas, two to the east of the airport and two to the west. These areas cover places such as Vauxhall, Wandsworth, Battersea, Clapham Common, Westminster, Bermondsey and Streatham to the east of the airport, and Binfield, Reading, Purley on Thames and Winnersh to the west of the airport.

The trial began on 5th November and ran for five months. Heathrow will report on this in the next couple of months once they have collated the results and worked with the local communities to assess the results.

Testing a New Noise Insulation Scheme

Heathrow is now trialling a new noise insulation scheme, designed to provide more effective and tailored assistance for people affected by aircraft noise.

The 'Quieter Homes Initiative' has been developed following a consultation about the existing noise insulation schemes on offer and research into schemes offered by other major airports around the world.

Under the pilot, residents are offered customised noise insulation plans based on an assessment by an independent noise appraisal expert. They are also offered a wider range of products and suppliers as well as up to 100% of the installation costs.

The scheme is being piloted in three zones around Heathrow, chosen according to the level of noise from the overflight of aircraft. The overall principle is one of equity and fairness: the more a property is affected by Heathrow's operations, the more help will be available. Those in the zones closest to the runways will receive up to 100% of the costs, and those further away will receive up to 50% or 25% of costs.

Matt Gorman, Heathrow's Sustainability Director, says: 'We know aircraft noise can disturb people living under the flight path so we are pleased to be launching this pilot, which has been developed following feedback from local communities. Our aim is to develop a simple, fair and effective scheme to help those that are most affected by aircraft noise.'

Those eligible to take part in the pilot have already been contacted. Once the participants have been selected, independent assessors will start to visit homes from April and works will be completed over the next year. At the end of the pilot, participants will be invited to feedback about what works and what doesn't, to inform the launch of a new scheme in 2014.

Areas covered by the pilot include Horton, Colnbrook, Stanwell North, Syon, Isleworth, Feltham North and Windsor.

Heathrow currently operates a range of measures to reduce the impact of aircraft noise on local communities. These include the existing noise insulation schemes which will continue to operate during the pilot, encouraging airlines to fly only their quietest aircraft into Heathrow by charging airlines more for noisier aircraft, and working with noise campaigners to give people predictable periods of respite from aircraft noise.

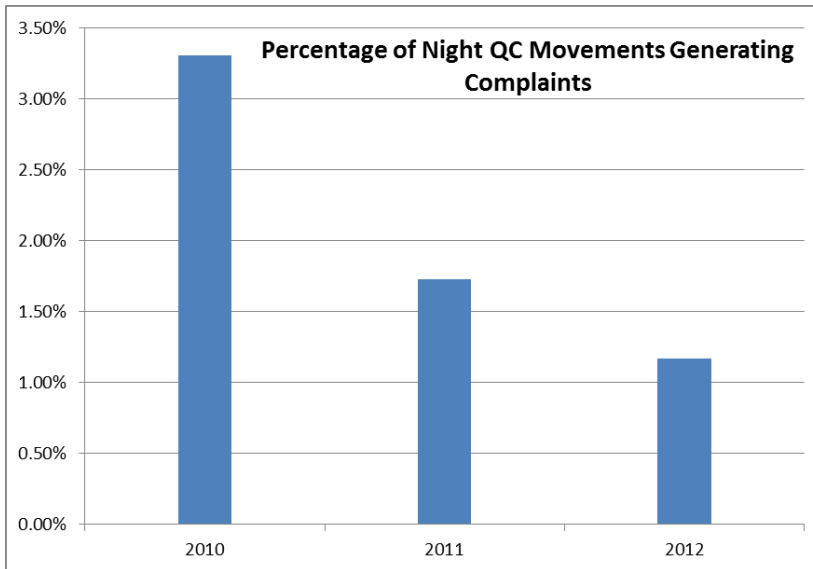
5. Stansted Airport

Stansted is one of the largest freight hubs in the UK and home to an international cargo operation that transports over 200,000 tonnes of goods to destinations worldwide, including the USA and Far East. A testimony to the airport's status as a major international cargo facility is the growing number of industry leaders that have already chosen to operate from the airport – Asiana, British Airways World Cargo, Cargolux, Global Supply Systems, Fed EX, Martinair, Royal Mail, Panalpina, Titan, TNT and UPS.

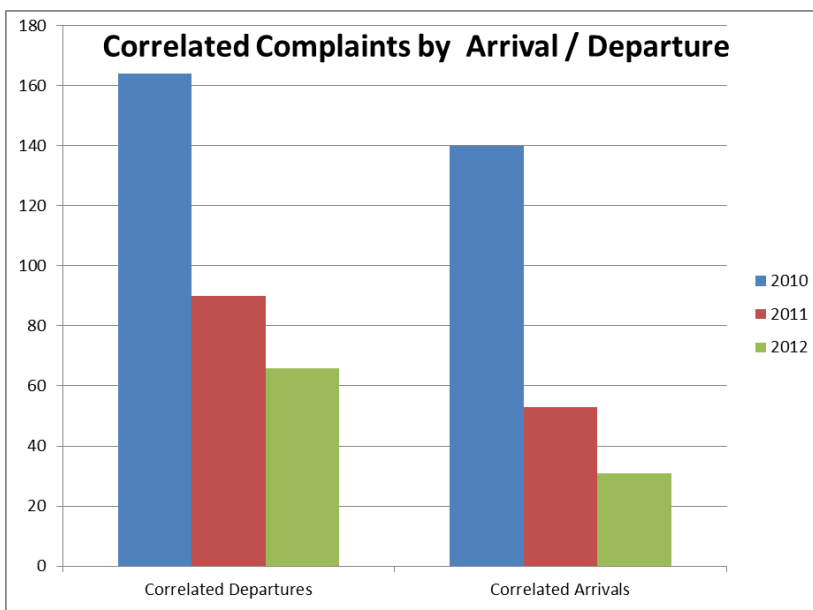
Stansted's main operators and night movements

Season	Ryanair	easyJet	All PAX	Titan	Channel Express	All Cargo
Winter 2006/07	1338	166	1626	598	378	1869
Winter 2007/08	1132	100	1446	802	589	2076
Winter 2008/09	1176	61	1380	813	470	1792
Winter 2009/10	960	117	1349	763	483	1976
Winter 2010/11	684	93	922	716	409	1578
Winter 2011/12	472	40	551	729	431	1667
Summer 2007	2531	982	4390	1006	550	2686
Summer 2008	2301	901	3656	1260	667	2815
Summer 2009	1842	907	3073	1134	671	2595
Summer 2010	1677	1159	3474	1052	664	2488
Summer 2011	1555	1122	3325	1122	640	2508
Summer 2012	1419	840	3069	1123	655	2585

The figure below show what percentage of these flights generated complaints.



And below shows how total night flight complaints at Stansted have fallen over the last 3 years.



A correlated complaint is a noise complaint made to the airport that can be linked with either an arriving or departing flight from the airport.

OPERATOR CASE STUDIES

1. Royal Mail Case Study on Overnight Deliveries



Given that there are only 5 hours to reach all UK mail distribution centres, to ensure a next day delivery it is imperative for some UK mail travels by air. For instance to travel from London to Belfast by road would take around 18 hours but a flight only takes 1.15 hours.

To achieve this Royal Mail has established the following operation:

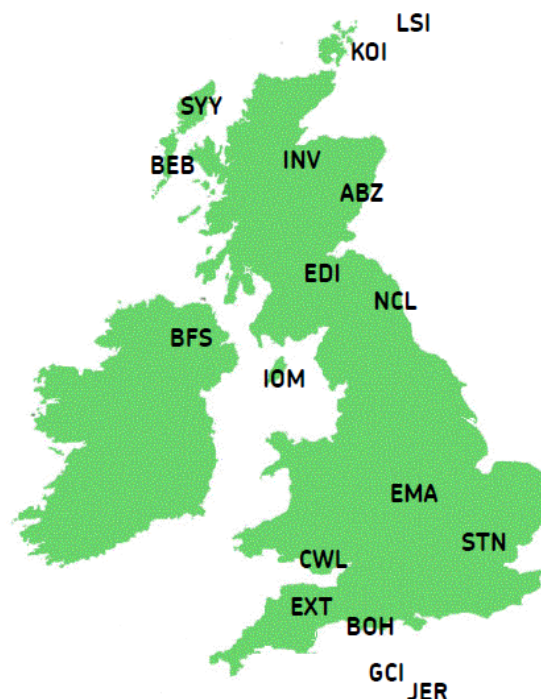
- Uses 10 key airports and 7 on islands (incl. Scottish islands, Channel Isles and Isle Of Man)

Current Airports

KEY:	
ABZ	ABERDEEN
BFS	BELFAST
BOH	BOURNEMOUTH
EDI	EDINBURGH
EMA	EAST MIDLANDS
EXT	EXETER
INV	INVERNESS
NCL	NEWCASTLE
STN	STANSTED
CWL	CARDIFF

BEB	BENBECULA
KOI	KIRKWALL
LSI	SUMBURGH
SYU	STORNOWAY

GCI	GUERNSEY
IOM	ISLE OF MAN
JER	JERSEY



- Operates 55 separate flights (sectors) Tuesday to Friday 60 on a Monday night and 15 on a Saturday
- Carries a daily average payload of 250 tonnes, about 5 million items per night
- Times the Air Network operates:
 - Screen some 55,000 items 22:00 to 00:30
 - Flights at our Hub at EMA 23:00 to 01:30
 - Flights at our London Gateway at STN 23:45 to 01:00
 - Flights at EDI 23:30 to 02:30
 - Flight at BFS 19:20 to 01:30
- Items flown by Royal Mail:
 - All 1st Class despatched by mail centres e.g. STL, packet post and flat rate contracts, 1st Class returns, International export.
 - 1st Class packets despatched by Amazon
 - Special Delivery items throughout UK
 - 2nd Class (including Tracked) despatched by mail centres where necessary for instance to and from the Isle of Man
 - Royal Mail Parliament & Queens pouches Edinburgh/London

Source: Taken by permission from the Royal Mail presentation to the BATA Night Flights Debate in January 2013

2. British Airways – Long Haul Scheduled Airline Challenge

It should be remembered that scheduling a global network of flights is a complex process. There are over 35,000 routes between 3, 846 airports (IATA 2012 annual report Pg 56) around the world. Wind patterns vary by season (greatly affecting flight times), routings may be forced to change or be inflexible due to areas of conflict or political sensitivity and a variety of differing scheduling restrictions will normally apply at every airport.

Importantly, demand and competitor position at the respective airports are important to consider. The key point is that competitors will be drawn to serve routes with the highest demand. As the competition on these routes becomes more intense the more important it is for an airline to schedule their flights at the most convenient time for their passengers. Flights scheduled after this optimum 'window' will be less attractive and therefore attract fewer passengers, at lower fares.

These points are explored in more detail using Hong Kong to London Heathrow as an example:

- **Demand and departure time preference:**
 Hong Kong is a vibrant market with strong historical and commercial links to the UK. This generates significant demand for travel and in particular, business travel, between the 2 cities. Customer feedback shows a strong preference for an overnight flight, departing Hong Kong before midnight. Such flights allow business travellers to sleep during the journey and arrive in time for a full days business, or to connect to other flights. On average, 30-40 % of passengers are connecting. Whilst minimum transfer times of 1 hour are available, the most popular connection time is approximately 2 hours based on the actual booking behaviour of connecting British Airways passengers, which we surmise is due to passengers making allowance to offset the risk of flight delays.

- **Competitor timings:**

It is important to remember that 30-40 % of passengers are transferring to non-London destinations and have viable alternatives to reach their destinations. Feedback from key corporate customers highlights their ability to reach other domestic airports and near European short haul destinations by choosing carriers that fly via Dubai, Frankfurt, Amsterdam and Paris. This is critical for BA as without the contribution of transfer passengers, fares rise and indeed the viability of the route could eventually be undermined.

Figure 1 shows how our flights are scheduled in relation to other carriers for the Summer 2013 season from HKG.

Hong Kong	Depart	Arrive	LHR service	Europe service
	19:00	01:00		
	20:00	02:00		
	21:00	03:00		
	22:00	04:00		
	23:00	05:00	2xBA Cathay, Virgin	KLM, Lufthansa, AirFrance, Swiss
	00:00	06:00	Cathay	Finnair
	01:00	07:00		
	02:00	08:00		
	03:00	09:00		
	04:00	10:00		
	05:00	11:00		
	06:00	12:00		
	07:00	13:00		
	08:00	14:00		
	09:00	15:00	AirNZ (ends S13)	Finnair 2pw
	10:00	16:00	Cathay	AirFrance 5pw
	11:00	17:00		
	12:00	18:00		
	13:00	19:00		
	14:00	20:00	Cathay	
	15:00	21:00		
	16:00	22:00		
	17:00	23:00		
	18:00	00:00		

Source: OAG Schedule data for August 2013

Figure 1

There are 9 flights in total departing between 2300-0000 for London or key West European destinations. It is telling that almost all European carriers choose this 1 hour window in which to depart.

- **Aircraft cruising speed:**

Aircraft have a range of speeds that they can fly at, bounded by a minimum and maximum safe speed. The optimum speed is one which is calculated to offer a balance between fuel economy and flight time. However, on a representative sample of BA flights from HKG, over 60% of flights have to be flown at or close to minimum speed (i.e. sub optimal). Flight times are calculated using default cruising speeds, standard routings, 50th percentile en-route winds and nominal 80% load so as not to land at Heathrow before 0430.

- **Seasonal wind patterns:**

Global wind patterns are affected by the seasons and have an impact on flight times. Average flight times for a B747-400 aircraft flying between HKG and LHR are 12 hours 17minutes in January compared to only 11 hours 38 minutes in July. Thus, flight times vary by some 39 minutes on average but can encounter much greatly variability on a daily basis.

- **Daylight Saving Time:**

Whilst the UK advances clocks by one hour in the Summer, Hong Kong does not. It is for this reason that there are less night flights required in the Summer vs. Winter season at Heathrow. However, the seasonal wind pattern changes described above negate all but 20 minutes of this clock change.

- **Airport / Facility Restrictions:**

Most airports impose restrictions on night flights. There are no departure restrictions from Hong Kong (aside from the competitive pressures described above) but there is a voluntary ban on arrivals at Heathrow before 0430. In addition, the complexity of merging multiple airline requests for landing slots with the physical limitations on availability of parking stands, runway landing slots etc. force further changes to the draft schedule.

Moving LHR early morning flights earlier

The potential to move current early morning arriving flights to a later time in the morning would result in an inability for those long haul flights to meet UK and European connecting flights. The position for British Airways is shown in figure 2.

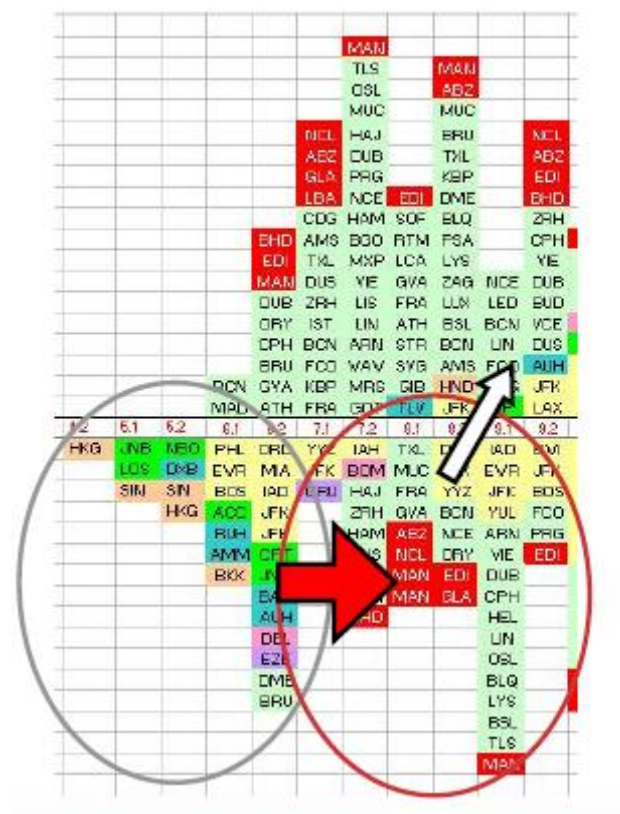


Figure 2

The UK and European departures are shown on the top of the diagram, with the arrival flights shown below. As stated previously BA customers seek on average 2 hours to connect from one flight to the next. In this situation it would not be possible for passengers to arrive to a European destination until the afternoon which may be too late for business purposes compared to going via other European hub airports such as Amsterdam or Paris.

3. Thomas Cook - The Charter Airline Challenge

Thomas Cook operates 32 aircraft in the UK to deliver an extensive charter programme focused on Gatwick and Manchester airports.

The airline model is dependent on achieving high aircraft utilisation. In the summer 2012 for instance Thomas Cook aircraft were utilised for an average of 15.2 hours per day. This level of utilisation is amongst the highest in the UK. The reason for this is the need to achieve 2 (or even 3) reasonable length rotations per day.

A typical day might look like:

-06:00 LGW - PMI 08:30; 09:30 PMI - LGW 12:00
-13:30 LGW – AYT 18:00; 19:30 AYT – LGW 23:59

Thomas Cook flights support tour operator programmes with the flights marking the start and end of a customer's holiday. As a consequence they cannot normally be cancelled but are also at an increased risk of flight delays to ensure the flights meet cruise boat or other land travel arrangements.

Holiday demand leads to a peak high season during school summer holidays. Charter airlines often meet that demand by adding a third rotation, usually overnight, which, has to be fitted in during the aircraft's remaining free time, generally between 23:59 to 06:00 after the first 2 rotations are finished.

If night flights are banned at UK airports charter airlines will lose the ability to operate a 3rd rotation which will mean some holidaymakers cannot travel and due to the need to recover operating costs across a smaller number of holidaymakers it is likely the average cost of the flight portion of holidays will increase.

Given the noise reductions charter airlines have achieved through the introduction of quieter aircraft and the additional potential costs if night flights in the UK are not possible, Thomas Cook need airports to operate the longest appropriate hours commensurate with good neighbour policies.

For charter airlines the loss of opening hours at the margins can have big impacts on the ability to run our tour operator schedules. It only takes small flight delays either due to air traffic control congestion or tour operator delays to have big impacts if these result in aircraft hitting night closure hours.

In addition to the UK Thomas Cook also have charter airlines based in Germany, Denmark which covers operations from all Nordic countries and Belgium. As a result their concern about restricting night flights reflects ongoing experience of night restrictions impacting on their tour programmes through other base airports like Frankfurt, Munich and Brussels and destination airports like Fuerteventura, Mahon and Arrecife.

4. Value of the Express Freight Industry to the UK Economy

The express industry in UK makes a substantial contribution to the UK economy ...

- The express industry contributed £2.3 billion to GDP in UK in 2010. The industry's gross value added (GVA) accounts for £1.1 billion of this total: the remainder is the GVA that the express industry supports in other sectors of the economy.
- 82,000 full time equivalent jobs were supported by the UK express industry in 2010. Over 38,000 people are directly employed in the express industry, while the express industry supports more than 43,000 jobs in other sectors of the economy.

... helping the development of the Single Market...

- 38% of UK companies surveyed frequently send shipments to other EU27 countries.
- Out of a total of 59 million cross-border express shipments sent from the UK, 30 million are sent to other EU27 countries.

...enabling European businesses to compete in the global market...

- One of the most important contributions that the express delivery industry makes to the European economy is to help firms compete in an increasingly global market.
- Out of a total of 59 million cross-border express shipments sent from the UK, 29 million shipments are sent to destinations outside the EU27 countries.

... and plays a critical role in facilitating business processes for UK companies...

- Express delivery services are mostly used in business to business (B2B) markets.
- Many UK companies deliver items that are time-critical using express delivery services, and these services are integral to their business models.
- 34% of express customers surveyed in the UK indicate that express delivery options were important for their implementation of “just in time” inventory management.
- 55% of survey respondents said that they used express delivery because it offers an all-inclusive service that handles customs clearance for cross border shipments.

...making it an essential service to many UK businesses

- UK businesses rely on express services for 28% of their sales revenue. A significant minority of UK businesses surveyed (28%) rely on express services for over 50% of their sales revenue.
- Over 80% of UK businesses surveyed state that their businesses would be badly affected if international next-day delivery services were no longer available.
- Almost 80% of UK businesses surveyed expect to continue or increase their spending on express delivery services over the next five years. 20% expect to increase their spending by over 10%.

Source: Oxford Economics (2011) The Economic Impact of Express Carriers in Europe Country Report: UK

[Appendix 2 - Further Information]

The following web links provide further information on the work of the 10 largest UK airports in tackling Noise⁴².

Airport	Web link
Birmingham Airport	http://www.birminghamairport.co.uk/meta/about-us/environment/noise-management.aspx
Bristol Airport	http://www.bristolairport.co.uk/about-us/environment/noise-management.aspx
Edinburgh Airport	http://www.edinburghairport.com/about-us/community-and-environment/aircraft-noise
Gatwick Airport	http://www.gatwickairport.com/business-community/aircraft-noise/
Glasgow Airport	http://www.glasgowairport.com/about-us/living-near-the-airport/local-environment-impacts/aircraft-noise
Heathrow Airport	http://www.heathrowairport.com/about-us/community-and-environment/sustainability/environment/aircraft-noise
Luton Airport	http://www.london-luton.co.uk/en/content/8/231/noise.html
MAG incl. Manchester and Stansted Airports	http://www.manchesterairport.co.uk/manweb.nsf/Content/environment and http://www.stanstedairport.com/about-us/local-environmental-impacts/noise
Newcastle Airport	http://www.newcastleairport.com/noise-including-complaints-and-flight-paths

For further information, please contact Tim Alderslade, AOA Public Affairs & PR Manager, on 020 7799 3171 or tim.alderslade@aoa.org.uk.

⁴² Based on latest passenger numbers from the CAA Airport Statistics