



2 September 2021

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Director, Airports & Infrastructure
Department for Transport
Great Minster House
33 Horseferry Road
London
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MAG's response to the 'night flights' consultation

Dear David

Thank you for the opportunity to respond to the Government's consultation on night flight restrictions at Heathrow, Gatwick and Stansted airports beyond 2024, and national night flight policy.

MAG owns and operates Manchester, London Stansted and East Midlands Airports. Pre-pandemic, these airports supported the travel of more than 62 million passengers per annum and the movement of over 733,000 tonnes of air cargo. This covering letter provides an overview of the key points in our consultation response and should be read alongside our detailed submission.

We are committed to supporting the Government with its consideration of the night noise control regime and broader issues of national night noise policy. Our views and evidence are intended to ensure that Government is able to form its view on the basis of the best available and most up-to-date information. However, we wish to draw the Government's attention to the legal obligation that Stansted Airport is subject to, as part of its planning permissions, not to seek any relaxation of the night flight restrictions currently in force. The views set out in this covering letter and our detailed response should not be interpreted as seeking any relaxation of current controls at Stansted Airport.

Through long-standing relationships with our local communities, we know that aircraft noise is a hugely important issue, particularly for those who live near to an airport, and that night noise can be more disturbing. We are committed to minimising the number of people impacted by noise from aircraft. To this end, our airports have worked with our local stakeholders to develop detailed Noise Action Plans that set out the measures we will take to manage noise.

At the same time, our airline partners are investing significant financial resources in modern quieter aircraft. The introduction of aircraft including the Airbus A320neo, Airbus A350, Boeing 737 MAX and Boeing 787 provides a step-change in performance. For example, the noise footprint of the Boeing 737 MAX is 40% smaller than that of the aircraft that it is replacing in airline fleets.

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Many of our stakeholders, including those who live locally to the airport, share an understanding of the importance of a successful aviation sector and of night flights in particular. New research shows that night flying directly supports 24,000 jobs at UK airports, with wider impacts for the UK economy reaching over 200,000 jobs and £16.5bn in gross value added (GVA).

Given this range of interests, the regulation of night flights is an important national issue and we welcome the current consultation. By taking account of the stakeholder views, Government can ensure there is a modernised and consistent regulatory framework that strikes an appropriate balance between the social and economic benefits of night flying and the noise impacts associated with those operations.

In carrying out the review, it is important for Government to recognise that the regulatory landscape has changed significantly in recent years. In light of these changes, it will be important to ensure that, consistent with the principles of good regulation, Government is able to provide a regulatory system that is targeted, proportionate and meets Government's international obligations to the International Civil Aviation Organisation's (ICAO) Balanced Approach.

We welcome this consultation and have provided a full response to the detailed set of questions that are posed. Several important themes emerge from our responses and are summarised below.

Night flights are important to the UK economy

- To ensure that the Government has the best available evidence to inform its policy decisions, MAG has contributed to original research by York Aviation to estimate the economic impact of night-time flying. This work, which is separately reported, finds that night flights are a very significant source of economic benefit to local, regional, and national economies. Nationally, night flights in 2019 generated £16.5bn GVA and provided 213,000 jobs¹.
- In addition to considering the national economic impacts of flying at night, York Aviation has provided further, more detailed, estimates of the economic value of night-time operations from MAG airports. This work reveals that MAG's airports contribute over a third of the national economic benefit of night flying – generating £6.4bn GVA and supporting 81,600 jobs. The results of York Aviation's work are discussed within our consultation response, and a copy of their report provided.

Night flights are important to our airlines and their customers

- Night flying is a critical part of the business model of our airlines.
- Many of the scheduled passenger flights at our airports are operated by 'low cost' airlines. These airlines represent the fastest growing market segment, have generated significant benefits for consumers, and are expected to continue to grow strongly in the future. By making intensive use of their aircraft, 'low cost' airlines generate greater revenue from their aircraft assets, enabling them to offer accessible ticket prices to their customers.
- For based aircraft in particular, it is likely that some aircraft cannot complete their flying programme without access to either an early morning departure slot (within the night-time period), or an arrival slot in the late evening or night. If an aircraft's full flying programme cannot be accommodated, the airline is unlikely to be able to amend the schedule, the more likely consequence is that they would choose to base the aircraft at a different airport where they can make more intensive use of it. That airport could either be in the UK or, more likely, a third country. This would lead to different patterns of flying, potentially relegating the UK to receiving 'W' pattern flights later in the day, eroding connectivity and reducing economic value.
- MAG airports play an important role in supporting operations by the express courier airlines. These airlines provide a high-value business-to-business overnight delivery service. Whilst flying is the most

¹ York Aviation (2021), *The Economic Impact of Night Flying in the UK*, Airlines UK.

expensive way for these companies to transfer their packages, it is often the only way that they can meet the exacting, time-critical requirements of their customers.

- Charter airlines offering leisure flights from our airports face the same cost pressures as 'low cost' airlines and must ensure high utilisation of their aircraft assets to maintain accessible ticket prices for their customers. In recent years we have seen substantial investment in new, more fuel efficient and quieter aircraft that are also able to fly longer sectors. The ability to fly longer sectors has allowed these airlines to offer their customers a greater range of destinations. These patterns of flying are predicated on access to night-time slots.
- Further information on the business models of our airline customers and the economic impacts of their night-time operations can be found in the York Aviation report.

The regulatory landscape has changed

- The introduction of the ICAO Balanced Approach, now enacted in UK law, along with the noise action planning process required by the Environmental Noise (England) Regulations 2006 has materially changed the regulatory framework that applies to the control of aircraft noise at night over the last decade. Placed alongside the designation powers in the Civil Aviation Act 1982, these regulatory controls now appear disparate, lack coherence and are contradictory.
- We are particularly concerned that:
 - The designation powers in the Civil Aviation Act 1982 are too vague and insufficiently targeted. We believe that the power to intervene and regulate operations at any airport "*if the Secretary of State considers it appropriate...*" without qualification risks regulatory decisions being arbitrary and inconsistent. It also fails to recognise the true nature of the Government's role in regulating these activities and the impacts of its decisions on a range of stakeholders. The addition of objective criteria would promote consistency and help stakeholders understand when Government is likely to exercise these powers.
 - The Environmental Noise (England) Regulations 2006 requires all operators of major airports to assess the impacts of aircraft noise using standardised metrics. Informed by this assessment, they are required to develop a proposed noise control regime, refine this regime following full public consultation and submit their noise action plan to Government for approval. With this statutory process in place, including the powers for Government to regularly approve or reject a noise control regime that includes night noise controls, there would appear to be no clear basis for Government also exercising the powers of designation in the Civil Aviation Act 1982, and directly intervening in the operations of an airport that Government has already deemed to have acceptable noise controls. The designation powers are explicitly "*for the purpose of avoiding, limiting or mitigating the effect of noise...*" an outcome that would appear to have been secured through the Noise Action Plan. As such, there appears to be duplication which conflicts with the principles of better regulation which require **regulation to be** targeted where it is necessary, and proportionate so that the impacts of regulation are no greater than are required to achieve the policy objective. Harmonising the regulation would also address any risk of inconsistency between the approaches, and avoid unintended consequences arising from overlaps or gaps between the policies.
 - The Balanced Approach prescribes an approach to noise controls. It requires the implementation of the most cost-effective measure or combination of measures taking account of:
 - the potential of reduction of noise at source;
 - land use planning and management;
 - noise abatement procedures; and,
 - operational controls.

Importantly, the Balanced Approach requires that noise controls “*shall not be more restrictive than is necessary in order to achieve the environmental noise abatement objectives set for that airport*”. With regard to operational controls, the Balanced Approach is clear that they should only be applied “*...where a noise problem has been identified*” and should not be used “*...as a first resort, but only after consideration of the other measures of the Balanced Approach*”.

To date, the Government has not demonstrated how its current practice, which is to impose limits on aircraft activity in addition to noise quota limits, is compliant with the Balanced Approach. In particular, the Government has not demonstrated the need for operating restrictions – which could be more restrictive than necessary – or published a full Balanced Approach Assessment, as it is required to do. The Balanced Approach is clear that, in all instances where new operating restrictions are proposed, the Government is required to publish a full Balanced Approach assessment, and that any phase out of aircraft types must take place incrementally over a period of not less than four years. We highlighted this point in our response to stage one of this consultation, with respect to the then proposed ban of QC4 operations. We have yet to see the required Balanced Approach assessment. It is important that the Government complies with its obligations to the Balanced Approach and provides all stakeholders with the transparency necessary to understand its rationale and intentions. This also provides an important opportunity for stakeholders to comment on any proposals and for Government to take account of stakeholders’ views before finalising policy decisions.

- We welcome the wide-ranging nature of the current consultation. Having considered evidence from all stakeholders, we believe the Government should review the requirements and powers set out in the Civil Aviation Act 1982, the Environmental Noise (England) Regulations 2006 and Regulation EU598/2014, which implements the Balanced Approach, to ensure that they work together to provide a coherent and consistent regulatory framework, making amendments as necessary. In undertaking this review, we believe the Government should be guided by the principles of good regulation, specifically that regulation should consider proportionality, accountability, consistency, transparency and targeting. By ensuring that regulation addresses the control of noise, rather than continuing to regulate activity, the framework of controls can be made more targeted. By bringing together the noise action planning process and the powers of designation, so that they work together more coherently, there is the opportunity to ensure that regulation is both proportionate and targeted. Consistent with the Government’s long-standing policy, this would allow noise controls to be locally determined where it is possible to do so, with Government retaining power of approval in all cases and the backstop of designation and direct central control in exceptional (defined) circumstances.
- We provide more detailed information on these points in our responses to questions 65 to 70.

An amended QC system is the most effective and efficient way to regulate night noise

- Measuring and reporting the impacts of aircraft noise is complex. The Government’s current system, using a quota count (QC) is one of several potential approaches that could be adopted. Whilst each of these potential approaches has strengths and weaknesses, on balance, we believe there is merit in Government maintaining the QC system subject to a number of important refinements. This system is transparent, objective, well understood by stakeholders and provides a clear and consistent incentive to airlines to invest in quieter aircraft types to reduce noise impacts.
- The QC system assigns different bands to aircraft types according to their noise characteristics. In doing so, it aims to provide equivalence between smaller numbers of individually noisier aircraft types and larger numbers of individually quieter aircraft types. This fundamental aspect of the design of the QC scale ensures that it can limit maximum noise, through the imposition of restrictions or prohibitions of the noisiest aircraft types and also balance the noise and frequency of operations to limit the overall impact of noise on local communities.

- We are pleased to see the improvements in noise and the corresponding improvement in QC that airlines' investment in quieter aircraft types has delivered. By way of example, the transition from the Boeing 737-200 series to the -800 series and then to the new MAX variant has seen noise from departing aircraft reduce by up to 92%, since the 1990s. At a practical level, this has made the QC scale unwieldy, as the Government has introduced lower and lower bands to ensure that new quieter aircraft types are captured by the system. The lowest QC band now stretches to three decimal places and there is now a strong case to re-base the QC bands system to provide a simpler and clearer system.
- The evidence base estimating the impacts of night noise on disturbance, awakenings and health continues to develop. Research using the physiological measurements (rather than self-reported sleep disturbance) studies, appears to suggest that aircraft noise levels below 58 decibels are unlikely to present any risk of sleep disturbance. In rebasing the QC system, we believe that the Government should consider the evidence base and define a QC zero band for those aircraft operations that are unlikely to result in significant impacts; this approach would be consistent with the approach of regulating the impacts associated with flying at night, as opposed to levels of activity.
- We provide more detailed information on these points in our answers to questions 27-35.

The dispensation mechanism is essential to the smooth operation of scheduled services

- Night flight dispensations are essential to protect the industry from the impacts of disruption due to events which are outside its control and which cannot be foreseen by airlines when scheduling flights. Without dispensations, airlines would be forced to cancel delayed flights, often at short notice, leaving passengers, crew and aircraft stranded. The disruption that would be caused by a rigid regime (without scope for dispensations) would have disproportionate impact on consumers and airlines.
- At the same time, we recognise that clear and transparent guidance is essential to ensure that night flight dispensations meet the needs of all stakeholders. We welcome Government's dispensation review and encourage Government to work with all stakeholders, including the Industry Resilience Group, to develop future guidance.
- By accelerating the delivery of airspace modernisation, both in the UK and overseas, the Government and its international partners could increase efficiency, reduce emissions from aviation and also make a positive contribution to a reduction in the number of dispensations required.

Consistent with the recent announcement of the outcome of Part One of the night noise consultation, we understand that the Government intends to bring forward any amendments to the night noise regime by October 2025. The roll-over of current conditions allows time for the Government to consider the evidence base and to make the necessary policy and regulatory changes. It is possible that these policy changes could extend to changes to primary legislation. As such, it will be necessary to maintain momentum with the process of review. We would expect that, as a next step, the Government will wish to bring forward a clear and considered set of proposals, that respond to the evidence submitted, for further consultation.

We welcome the chance to engage further on this issue and look forward to sharing our views further in subsequent consultations.

Yours sincerely



Tim Hawkins
Chief of Staff

Opening questions

Your details

Question 1a. Your name (used for contact details only):

Manchester Airports Group

Question 1b. Your email (used for contact details only):

policy@magairports.com

Question 2. You are responding as:

On behalf of an organisation

Organisation details

Question 3. Are you responding:

A representative of a business or firm

Question 4a. What is the number of people your organisation employs?

At the end of April 2021 MAG directly employed 4,862 full time equivalent people. Before the COVID-19 pandemic, MAG employed 6,500 people, provided on-site employment for over 40,000 people and supported nearly 90,000 additional jobs in the wider supply chain.

Question 4b. What is the main business or activity of the organisation?

Airport operator

Question 5. In what region of the United Kingdom is your activity predominantly based?

Evenly spread across the United Kingdom

Your local airport

Question 6. What airport affects you most?

Other: MAG operates East Midlands, London Stansted and Manchester Airports

Night Flight dispensation review

Question 7a. What are your views on the findings of the night flight dispensation review?

Under the current framework, dispensations are only relevant to MAG at London Stansted Airport. However, we note that this consultation is intended to inform the development of a national night flights policy and we encourage Government to apply policy on dispensations consistently to any and all airports that are or become designated.

MAG welcomes the Government's dispensations review and is pleased to see that it identified no significant concerns. MAG is committed to full transparency in the application of dispensations at Stansted Airport where they currently apply. Dispensations are scrutinised by our expert Noise and Track Keeping Working Group, which comprises representatives from local authorities, the Environmental Issues Group of Stansted Airport Consultative Committee, the Department for Transport and the Civil Aviation Authority. Through regular reporting, we provide all stakeholders with full visibility of instances when dispensations have been applied and the reason for application.

We recognise that the dispensation review reflects the growth of Stansted Airport and that it highlights the relationship between dispensations and the 'last wave' late evening arrivals of low-cost operators. Activity at Stansted Airport is dominated by such carriers, who depend on high utilisation of their aircraft to offer affordable connectivity to a wide range of destinations on aircraft which are based in the UK. Based aircraft offer more benefits than those which visit our UK airports but are based at elsewhere – they deliver greater connectivity and generate local employment in a wide range of roles from customer service and ground handling through to flight crew and technical maintenance roles. Dispensations are essential to secure based aircraft and to enable their ongoing operation. This is because they offer airlines the ability to respond to unexpected circumstances, including air traffic and network capacity delays, as well as weather-related disruption. Without dispensations, airlines would face significant disruption, which could take several days to recover from. Passengers, crew and aircraft would be displaced, and airports would face challenges regarding terminal capacity, passenger welfare and public order. Whilst Stansted Airport has become increasingly busy at night, we have been careful to only grant dispensations where absolutely necessary. Dispensations have not been applied in circumstances where sufficient QC and movement capacity was already available.

It should be noted that, in recent years, the number of medical dispensations granted by Stansted Airport has increased. Although small in absolute number, these dispensations follow changes made by the Government which mean certain aircraft are no longer exempt from night flight restrictions. Since those changes, Stansted Airport has issued dispensations to life-critical medical flights which are typically operated by small propeller aircraft, such as the Beech Twin.

Beyond our own activity at Stansted Airport, we note the review's observation that the number of dispensations has increased across other designated airports. The Industry Resilience Group (IRG) is a collaboration between airports, airlines, air traffic control and regulators and we recognise the learning and shared knowledge and that this group brings to aviation and, in particular, the recently formed IRG Night Operations Sub-group. MAG welcomes the ongoing and regular engagement between Government and the IRG. The sharing of information between Government, regulators and the industry has been successful in achieving greater consistency in the application of dispensations and obtaining evidence to support the granting of any dispensations. The Group has also increased awareness of the dispensation process, including when dispensations can and cannot be applied, within the airline community. As such, evidence to support dispensations is ordinarily provided by the operator through delay codes.

Our response to this question should be read alongside those to other night flight dispensation-related questions.

[Question 7b. What are your views on the proposals for the night flight dispensation review?](#)

Under the current framework, dispensations are only relevant to MAG at London Stansted Airport. However, we note that this consultation is intended to inform the development of a national night flights policy and we encourage Government to apply policy on dispensations consistently to any and all airports that are or become designated.

In our view, the proposals for the dispensation process are generally well reasoned and appropriate. At Stansted Airport, following previous Government advice, we publish information about dispensations that have been issued. This information is published within quarterly Flight Evaluation Unit reports, which follow Noise and Track Keeping Working Group meetings that themselves include representatives from the Department for Transport, neighbouring local authorities, National Air Traffic Services and the Stansted Airport Consultative Committee. We encourage Government to undertake periodic reviews of the dispensation regime and the guidance it issues on how dispensations should be implemented and reported. This guidance should include more detailed recommendations on the information airports should publish about dispensations that have been issued. In our view, the Industry Resilience Group (IRG), which brings together representatives from the industry and the Civil Aviation Authority as regulator, is the ideal platform to conduct these reviews.

MAG notes that the Government's night flight dispensation review did not identify any significant concerns relating to the granting of dispensations and we welcome the development of clearer guidance on the application of dispensations. We believe clear guidance, which can be understood by all stakeholders, is important to provide a robust system of dispensations that can be trusted by the aviation industry and communities alike.

MAG is fully committed to transparency; we routinely discuss dispensations with our specialist Noise and Track Keeping Working Group and publish details of all dispensations on our website. We welcome guidance on how our practices can be improved to provide further transparency and meet the needs of all stakeholders.

We encourage Government to consider how it will ensure that the views of all stakeholders are reflected in any future guidance. Government should ensure that any requirements, whether recommended or mandated, are necessary and proportionate to ensure compliance with the Balanced Approach. In all instances Government should ensure that recommendations can be implemented in a cost-effective manner. In our view, the Night Operations Sub-group of the IRG provides a useful forum to develop and test such guidance. The Sub-group would also provide a useful consultation platform for any further periodic night flight dispensation reviews.

Our response to this question should be read alongside our answer to other night flight dispensation-related questions.

Revising our night flight dispensation guidance

Weather related delays

Question 8. Should disruption due to local weather qualify for dispensations?

YES

Dispensations are an essential tool, enabling airlines to respond to unplanned events which affect their operations. We note that the Government's review of night flight dispensations found that, across the three designated London Airports, weather-related delays were the primary cause of night flight dispensations. Weather events, such as strong winds, winter conditions or intense periods of rainfall introduce safety hazards and reduce airport capacity. Consequently, they result in disruption and delays to airline schedules. Given congestion in the London area, the duration of this disruption often extends beyond the weather event itself. With schedules set well in advance of any operational season, it is not possible for airports or airlines to anticipate whether or when disruptive weather events may occur. It should also be noted that weather can change during a flight, particularly on longer routes. Dispensations enable operators to recover schedules, protecting the interests of consumers. In Summer 2019, at London Stansted Airport, MAG issued a total of 116 dispensations due to local weather. Collectively, these prevented hardship to up to 44,000 passengers.

In our view, Government should ensure that night flight dispensations are available to aircraft disrupted by adverse local weather. In coming to its decision, we encourage Government to consider weather-related dispensations as a tool which could support the aviation industry and airports in responding to climate change and climate-related extreme weather events.

Our response to this question should be read alongside our answer to other night flight dispensation-related questions.

Question 9. Should disruption due to en-route weather qualify for dispensations?

YES

Dispensations are an essential tool, enabling airlines to respond to unplanned events which affect their operations. We note that the Government's review of night flight dispensations found that, across the three

designated London Airports, weather-related delays were the primary cause of night flight dispensations. Adverse weather conditions en-route, including storm events and strong winds, introduce safety hazards and reduce airspace capacity – an issue that causes congestion and delays which are often compounded by airspace congestion and the widespread nature of certain types of adverse weather. With schedules set well in advance of any operational season, it is not possible for airlines or air navigation service providers to anticipate whether or when disruptive weather events may occur. It should also be noted that weather can change during a flight, particularly on longer routes. Dispensations enable operators to recover schedules, protecting the interests of consumers. In Summer 2019, at London Stansted Airport, MAG issued a total of 98 dispensations due to foreign weather disruption (including en-route and at foreign airports). Collectively, these prevented hardship to up to 37,000 passengers.

In our view, Government should ensure that night flight dispensations are available to aircraft disrupted by adverse en-route weather. In coming to its decision, we encourage Government to consider weather-related dispensations as a tool which could support the aviation industry's response to climate change and climate-related extreme weather events.

Our response to this question should be read alongside our answer to other night flight dispensation-related questions.

[Question 10. Should disruption due to foreign airport weather qualify for dispensations?](#)

YES

See our response to question 9.

[Delays caused by industrial action \(referred to as strikes in dispensation guidance\)](#)

[Question 11. Should disruption caused by ATC industrial action qualify for dispensations?](#)

YES

The successful operation of every flight is dependent upon the delivery of services by a wide range of partners. The operating airline is dependent upon partners such as airports, ground handling companies and air traffic control organisations. In the UK, the aviation industry has a good track record and strikes are a relatively uncommon occurrence. However, history shows that air traffic control employees in some parts of Europe have a higher propensity to strike and that this action can lead to wide-spread and long-lasting disruption. UK airports and the airlines operating to them are unable to anticipate whether or when industrial action will occur. UK airports are also unable to significantly influence the relationships between foreign air traffic control organisations and their employees. In Summer 2019, at London Stansted Airport, MAG issued a total of 24 dispensations due to industrial action by air traffic control workers and air traffic information technology system failures. Collectively, these prevented hardship to up to 9,000 passengers.

MAG does not believe that night flight dispensations should be issued due to industrial action by workers in the UK or those directly employed by the airline operating affected flights. This is because we believe that the emphasis should be on maintaining a high degree of worker engagement which should prevent strikes occurring. However, it is our view that night flight dispensations are an appropriate mechanism to protect the interests of UK consumers from the impacts of industrial action by foreign air traffic control workers (which is outside UK control), enabling airlines to minimise disruption and return to planned schedules. We encourage Government to engage with their international counterparts and take steps to reduce the impact of such strike action.

Our response to this question should be read alongside our answer to other night flight dispensation-related questions.

[Question 12. Should disruption caused by industrial action by airport staff qualify for dispensations?](#)

YES

The successful operation of every flight is dependent upon the delivery of services by a wide range of partners. The operating airline is dependent upon partners such as airports, ground handling companies and air traffic control organisations. In the UK, the aviation industry has a good track record and strikes are a relatively uncommon occurrence. However, airport staff in some parts of Europe have a higher propensity to strike and that this action can lead to wide-spread and long-lasting disruption. UK airports and the airlines operating to them are unable to anticipate whether or when industrial action will occur or significantly influence the relationships between foreign airports and their employees.

MAG does not believe that night flight dispensations should be issued due to industrial action by workers in the UK or those directly employed by the airline operating affected flights. This is because we believe that the emphasis should be on maintaining a high degree of worker engagement which should prevent strikes occurring. However, it is our view that night flight dispensations are an appropriate mechanism to protect the interests of UK consumers from the impacts of industrial action by workers at foreign airports, enabling airlines to minimise disruption and return to planned schedules. We encourage Government to engage with their international counterparts and take steps to reduce the impact of such strike action.

Our response to this question should be read alongside our answer to other night flight dispensation-related questions.

[Question 13. Should disruption caused by industrial action by airline staff qualify for dispensations?](#)

NO

In the UK, the aviation industry has a good track record and strikes are a relatively uncommon occurrence. However, aviation is a global industry and employment practices vary internationally. As such, industrial action is a more common occurrence for foreign airlines. Whilst it is true that UK airports are unable to anticipate whether or when industrial action will occur or significantly influence the relationships between airlines and their employees, airlines themselves have direct control over employee relations.

MAG does not believe that night flight dispensations should be issued due to industrial action by workers in the UK or those directly employed by the airline operating affected flights. This is because we believe that the emphasis should be on maintaining a high degree of worker engagement which should prevent strikes occurring. We believe that it is essential for Government to treat airlines fairly and to develop an approach which is applied consistently to all airlines – whether registered in the UK or overseas. As such, we do not believe that night flight dispensations should be permitted for flights impacted by industrial action by people directly employed by the operating airline.

Our response to this question should be read alongside our answer to other night flight dispensation-related questions.

[Network capacity delays](#)

[Question 14. Should network capacity delays qualify for dispensations?](#)

YES

Dispensations are an essential tool, enabling airlines to respond to unplanned events which affect their operations. Operations at London Stansted Airport are significantly disrupted by long-standing inefficiencies resulting from the outdated design of London's congested airspace where, historically, air traffic control resources have focussed disproportionately on other London airports. Network delays also arise due to issues elsewhere in the world, including in Europe's particularly congested airspace. In Summer 2019, at Stansted Airport, MAG issued a total of 61 dispensations due to network capacity delays. Collectively, those dispensations prevented hardship to up to 23,000 passengers.

With schedules well in advance, it is not possible for airports or airlines to anticipate whether network capacity will delay individual flights, or by how much they may be delayed. As such, dispensations enable operators to recover schedules, protecting the interests of consumers.

We encourage Government to work in partnership with its UK and global partners, taking steps to accelerate airspace modernisation, which is expected to reduce network delays. However, whilst current airspace continues to cause network delays, we believe night flight dispensations remain an appropriate solution to protect the interests of consumers and enable the airlines to respond to delays which they are unable to anticipate.

Our response to this question should be read alongside our answer to other night flight dispensation-related questions.

Delays caused by serious criminal or terrorist activity affecting multiple flights

Question 15. Should delays caused by serious criminal or terrorist activity that affect multiple flights qualify for dispensations?

YES

With safety our overarching concern, the aviation industry always aims to maintain safe and secure operations. As such, serious criminal or terrorist activity is highly likely to result in disruption which sometimes may be widespread due to the impact of activity itself, the threat of further activity and/or the necessary time required for the authorities to investigate. Criminal or terrorist activity is not an everyday occurrence. It is difficult, if not impossible, to predict but can be high impact when it occurs.

We believe that night flight dispensations are essential to enable airports and airlines to recover schedules which have been disrupted due to serious criminal or terrorist activity and to protect the interests of consumers.

Our response to this question should be read alongside our answer to other night flight dispensation-related questions.

Cumulative delays

Question 16. Should cumulative delays qualify for dispensations?

YES

Airline business models have developed to provide extensive air travel at prices which are accessible to consumers. To achieve this, it is necessary for airlines to maximise the use of their expensive aircraft assets. Whilst airline schedules accommodate normal operations, they cannot reasonably accommodate every eventuality. The range of occurrences covered by night flight dispensations are both uncommon and unplanned. With schedules set well in advance, it is not possible for airports or airlines to reasonably anticipate whether or when uncommon events will take place, the duration of these events, or how long it will take to recover normal service.

Due to their nature, cumulative delays are beyond the influence of airlines and have the potential to disrupt significant numbers of passengers. As a result, and without sufficient notice, it is often not possible for airlines to accommodate disrupted passengers on alternative services. Cumulative delays can therefore result in terminal capacity, passenger welfare and public safety issues at airports.

We believe that night flight dispensations are essential to enable airports and airlines to recover schedules which have been disrupted cumulative delays from earlier events.

Our response to this question should be read alongside our answer to other night flight dispensation-related questions.

Emergencies

Question 17. Should dispensations be permitted for flights delayed to the NQP due to a medical emergency that has passed?

YES

With safety our overarching concern, the aviation industry always aims to maintain safe and secure operations. Medical emergencies are time-critical safety events which require an immediate response from airline crew, airport operators, and emergency services. The timely response to a medical emergency may require an aircraft to make an unplanned landing at another airport, spending time on the ground whilst the situation is resolved. Airlines are unable to predict whether or when a medical emergency will take place, what the emergency will be, or the response it will require. Consequently, delays may affect subsequent flights.

We believe that night flight dispensations are essential to enable airports and airlines to recover schedules which have been disrupted by an earlier medical emergency.

Our response to this question should be read alongside our answer to other night flight dispensation-related questions.

Question 18. Should dispensations be permitted for flights delayed to the NQP due to a police emergency (for example a disruptive passenger) that has passed?

YES

With safety our overarching concern, the aviation industry always aims to maintain safe and secure operations. Police emergencies are difficult, if not impossible, to predict. To maintain safe and secure operations, it is essential that airlines and airports allow police sufficient time to respond to emergency incidents. Although rare, such incidents can result in significant delays.

We believe that night flight dispensations are essential to enable airports and airlines to recover schedules which have been disrupted by a police emergency.

Our response to this question should be read alongside our answer to other night flight dispensation-related questions.

Question 19. Should dispensations be permitted for the repositioning of emergency service (including medical transplant) aircraft?

YES

Emergency service aircraft are often specially equipped for the service they provide. To ensure availability of aircraft and crew, it is essential that night flight dispensations are available for the positioning and repositioning of emergency service aircraft. Without dispensations, it may not be possible for aircraft to meet demand placed on them from other locations, including those subject to different night flight restrictions. Further complications may arise due to crew running 'out of hours' if unable to position or reposition from a designated airport.

We encourage the Government to provide dispensations for emergency service aircraft, whether operating or positioning, and note that these aircraft are typically smaller, quieter aircraft in the lowest QC categories. We believe that it could be possible for the Government to offer a simplified dispensation for the aircraft that operate emergency service flights, for example providing a dispensation to the operator or aircraft themselves. Such an approach would reduce the administrative burden placed on the operator and airports and provide scheduling flexibility to operators.

Our response to this question should be read alongside our answer to other night flight dispensation-related questions.

Reducing carbon emissions

Question 20. Should dispensations on the basis of reducing carbon emissions be permitted?

YES

Recent developments are improving coordination between different aviation stakeholders, considering flight plans and assessing the impact of en route weather on arrival times. To date, MAG has invested over £10 million introducing Airport-Collaborative Decision Making which increases resilience for our airports. Other initiatives include Arrivals Management (A-MAN) and Extended Arrivals Management (X-MAN). Collectively, these initiatives are expected to improve the predictability of when an aircraft will arrive in the UK and reduce aircraft holding. However, it is not always possible to accurately assess the impact of en route weather, such as variability in transatlantic wind conditions. Due to stand availability and airline schedules at their own end, origin airports are also not always able to accommodate extended ground holding to avoid the early arrival of an aircraft in the UK. As such, dispensations provide an option to allow arriving aircraft to land rather than burn fuel air holding in the UK until night restrictions end.

We believe that Government should consider night flight restriction dispensations as one option to reduce air holding and cut unnecessary carbon emissions. We believe that government should come to its view balancing local and wider environmental impacts, especially given that air holding is itself known to generate noise for communities near to hold locations.

Our response to this question should be read alongside our answer to other night flight dispensation-related questions.

Question 21. Should pre-emptive dispensations be permitted?

YES

Pre-emptive dispensations are not currently applied by MAG at London Stansted Airport, however we are of the view that they can be an important mechanism to minimise widespread disruption. In particular, we believe that pre-emptive dispensations can be helpful at congested airports to minimise the impact of adverse weather. Such situations are impossible for airlines to plan for when setting schedules ahead of an operational season. We are aware that they are currently utilised on an infrequent basis for this purpose at other airports.

Our response to this question should be read alongside our answer to other night flight dispensation-related questions.

Other airport operator granted dispensations

Question 22. Should dispensations be granted for information technology failures?

YES

The operation of every flight is dependent upon a wide range of different information technology systems all serving different purposes and often operated by many organisations. Systems including airline booking systems, baggage systems, security systems, interfaces with government agencies and air traffic systems are all essential to the safe, secure and compliant operation of any flight. Although information technology systems include redundancy, they are occasionally subject to failure. It is impossible to predict whether or when failures will occur, but when they do occur, their impact can be very significant at individual airports, for individual airlines, or more widely across entire aviation networks.

It is our view that night flight dispensations should be available to flights which are delayed by information technology failures. Without dispensations, airlines will be forced to cancel flights – potentially because of failures which are outside their own control. We believe that dispensations provide a suitable mechanism to allow airlines to minimise disruption and return to normal service following information technology failures.

Our response to this question should be read alongside our answer to other night flight dispensation-related questions.

[Question 23. Supply any further views or evidence on the guidance allowing airport operators to grant dispensations you may have?](#)

Our airports have long-standing relationships with the communities near to them. We have a thorough understanding of the issues which matter most to our neighbours and have developed our Corporate Social Responsibility Strategy to respond to these issues, including noise. Our overarching goal is to minimise the number of people impacted by night noise. As such, our approach has always been to minimise the number of dispensations applied, ensuring that disrupted flights are not dispensed unless necessary. We are also careful to ensure dispensations are only applied in accordance with government guidance and that where they are applied they are transparently reported.

Clear unambiguous guidance is essential to both the aviation industry and communities near to airports. We believe that the current guidance is a good starting point, but agree that clarity could be improved to ensure dispensations are applied only in the circumstances for which they are intended. We encourage government to engage with the industry and other stakeholders to collaborate on guidance that is easily understood and straightforward to implement. We believe that the Industry Resilience Group could provide a suitable platform for the development of guidance on night flight dispensations.

In developing future guidance we encourage government to:

- Publish a document that can be understood by the full range of stakeholders, including the industry, regulators, and local communities.
- Include an overview of the reasons why it considers dispensations to be necessary. We believe that doing this will support community engagement and improve trust in dispensations.
- Ensure that guidance is clear that the assessment of wide-spread disruption takes full account of the origin and nature of the disruption. By way of example, disruption at a third country airport may be widespread even if only a small number of UK flights are impacted. In these circumstances those UK operations affected by the widespread disruption should remain eligible for dispensation. The current guidance has not made this point sufficiently clear for some stakeholders.
- Consider whether airlines can accurately predict whether (and when) disruptive events will occur. We firmly believe that it would be unreasonable to expect airlines to build schedules that accommodate disruption which is unlikely to materialise and cannot be accurately predicted. Doing so would significantly reduce productivity, increase costs, and reduce the competitiveness of the UK in a global market.
- Include details of the circumstances in which the Government could issue night flight dispensations itself, and the process it would follow in deciding to do so.

MAG looks forward to engaging with government to support the development of future guidance.

Our response to this question should be read alongside our answer to other night flight dispensation-related questions.

[Government dispensations](#)

[Question 24. What are your views on government dispensations overall \(provide evidence to support your view\)?](#)

We believe that government dispensations are an important component of night flight restrictions at designated airports, enabling the Government to facilitate high-profile visits and events of national significance. We support the Government in issuing dispensations and encourage government to update future guidance so that it sets out the circumstances in which the Government would expect to provide dispensation, the criteria that will be applied and how the dispensation will be publicly reported.

Our experience at London Stansted Airport demonstrates that the majority of dispensations issued by Government are anticipated some time in advance, with sufficient notice, and support operations of national significance. These include VIP and head of state visits, humanitarian aid flights and those repatriating passengers following the collapse of airlines.

We encourage government to provide greater clarity and flexibility to provide night flight dispensations in support of other significant events, such as major sporting fixtures. In our experience, European football fixtures involving the major London teams and international teams at this year's European Championships have been problematic. This is because the knock-out nature of tournaments mean that travel is often scheduled with little notice, and because the timing of individual fixtures means that night flights are necessary, in particular to prevent public disorder. Without dispensations – which we would encourage the Government to issue for such events – it is not possible to accommodate these flights.

As outlined in response to earlier questions, we would encourage the Government to review the dispensations that are provided for emergency service flights and the positioning of aircraft involved in these services. In our view, these services, which are often lifesaving, are critical, and the specialist operators or aircraft involved should be granted a permanent dispensation by Government.

Our response to this question should be read alongside our answer to other night flight dispensation-related questions.

[The structure of the night flight restrictions at the designated airports beyond 2024](#)

[Length of the regime](#)

[Question 25. What length should the night flight regime beyond 2024 be?](#)

4-5 years

We welcome the wide-ranging nature of the current consultation and believe that, having considered evidence from all stakeholders, the Government should review the requirements and powers set out in the Civil Aviation Act 1982, the Environmental Noise (England) Regulations 2006 and Regulation EU598/2014, which implements the Balanced Approach. This review should ensure that the regulatory framework which manages aviation noise is targeted and proportionate, and that different pieces of regulation work together to provide a coherent and consistent regulatory framework.

Regulations which implement and retain the European Environmental Noise Directive, such as the Environmental Noise (England) Regulations 2006, require operators of major airports to assess the impact of aircraft noise, to propose and consult on noise controls and to submit, for Government to approve, a noise action plan. This process takes place every five years, with the next iteration of the noise action plan due in 2023 for the period 2024–28.

We believe that the Government should align the night noise regime with the noise action planning process, to provide a single consolidated evidence base. This would support the Government's long-standing practice, which has been to review and update the noise regime at designated airports every five years and improve the efficiency of the regulatory process. We believe that five years is the minimum period necessary to give confidence to community stakeholders and to allow airports and airlines a degree of certainty when making decisions on future investments. We believe that five years is a sufficient period of time to pass before reflecting on changes when considering future regulatory periods.

[Question 26. How do you think the length of regime will affect you \(provide evidence to support your view\)?](#)

As set out in our answer to question 25, a five-year regime, aligned with the noise action plan, would help to integrate disparate regulatory requirements bring greater consistency and simplify both regulation and engagement processes for most stakeholders, including local community representatives.

We would be concerned that any regime that was less than five years might lead to increased uncertainty for all stakeholders. For airports and airlines this uncertainty might, in some instances, result in lower levels of investment with real implications for the levels of the UK's global connectivity for both people and freight. We believe that regulatory periods of less than five years would increase costs and reduce efficiency.

Whilst we would appreciate the greater certainty associated with a longer regime, we believe that, on balance, a five-year regime is optimal as it aligns regulatory requirements, provides airports and airlines with a degree of certainty whilst providing reassurance to local communities.

The quota count (QC) system

Question 27. Do you think that QC is the best system for limiting noise at the designated airports?

YES.

The quota count (QC) system is one of many potential approaches to managing aircraft noise. Whilst each approach bears its own strengths and weaknesses, on balance we are happy with the QC system. The system enables an objective noise-based limit to be set, and performance against that objective/limit to be measured. In isolation, the system provides a useful mechanism to encourage the use of quieter aircraft in a way that is relatively easy for stakeholders to understand. It is likely that it is this transparent and objective approach that has led to the system becoming well established at non-designated airports in the UK and abroad.

Whilst MAG supports the QC system as a tool to limit aircraft noise, we recognise that, over time, aircraft have become quieter. The QC of some modern aircraft is exceptionally low. In some cases, this requires QC values to three decimal places. We believe that the system should be simplified and modernised, with all QC values expressed as whole numbers. We also believe that government should take this opportunity to ensure the QC system aligns with the latest understanding of noise impacts and redefine which aircraft should be considered 'QC0'. Further information is provided in response to Questions 33-35.

To achieve its full potential, it is important that the QC system should operate in isolation. Under the current system, Government establishes limits which constrain night operations at designated airports by either the number of movements or the total QC of aircraft operating during the night quota period. Operations are constrained by the first limit to be met. Whilst the QC system is noise-based and relates to the Government's noise objective, the movement limit is (by definition) activity related. Movement limits do not relate to the Government's stated noise objective and have not been demonstrated to comply with the Government's obligations under the ICAO's Balanced Approach (implemented in UK law through Regulation EU598/2014). In practical terms, unlike the QC system (which rewards airlines for investment in quieter aircraft), movement limits offer no incentive for airlines to invest in new technology for reasons of noise abatement. Our views on this matter are discussed further in Questions 47-50.

Question 28a. What do you think are the advantages of changing to a new system?

MAG supports the continued use of a QC system in isolation. We do not believe that a new system is required, rather that minor modifications could be made to simplify and 'future-proof' the QC system. Our thoughts on how this could be achieved are discussed in response to Questions 27, 30-35 and 48.

We note that the Government has not published proposals for an alternative system, or set out the anticipated benefits of such a system. We would be pleased to provide feedback on any such proposals, which should be proportionate and offer clear benefit. We would expect to be provided with this opportunity before Government made any decisions regarding the adoption of a new system.

Question 28b. What do you think are the disadvantages of changing to a new system?

The QC system has been in operation for many years. As such, the objective, noise-based approach it offers to manage noise at designated airports is well understood by the industry and stakeholders alike. It is

our view that simple modifications to the existing system offer a suitable means to simplify and modernise the QC system.

Changing to an alternative system would be time consuming and would need to be supported by a clear evidence based rationale. Government would need to undertake widespread engagement to ensure all stakeholders fully understand the new approach. For the industry, clear guidance would be required on the implementation of any new system and sufficient time provided to enable necessary training and system changes. Specific support would also be needed for community groups who may be less familiar with noise management and would need to understand any new system, transition arrangements and what benefits the system offers to them.

Before significantly changing the QC system, Government should consider the implication of such changes at non-designated airports which depend upon the system and consult fully on these proposals. Within MAG, the QC system is a key component of our noise management at both the designated London Stansted Airport and Manchester Airport, which is not designated. We are aware that the system is also adopted by a number of other airports in the UK and overseas.

[Noise management regimes evidence](#)

[Question 29. Do you have evidence of other noise management regimes being used elsewhere and how they compare with the current system?](#)

YES

We believe there are a range of approaches to noise management. As an operator of three airports, only one of which is designated, MAG has first-hand experience of some of these. Our three airports are all different: they serve different markets; see different airline and fleet mixes; and have neighbouring communities with different needs and expectations. As such, they require individual approaches to noise management. The approach we take to noise management at each of our airports is published in their respective noise action plans.

At London Stansted, we have significantly less flexibility in how we manage noise. This is because, through designation, the government has imposed controls over which the airport has no flexibility. Our experience shows that centrally imposed controls take longer to agree and can be seen to prioritise national rather than local concerns. Additionally, such controls make it more difficult for MAG to respond to the issues raised by local communities and slow the realisation of our ambition. For example, the designation framework has acted to delay the introduction of the lower noise fining limits MAG introduced following consultation on our 2019 Noise Action Plan. By comparison, we were able to reduce noise fining limits at East Midlands Airport within 12 months. As such, we would like to make use of the Government's preferred process for agreeing controls where controls are developed by airports in partnership with local stakeholders who are directly affected by noise.

[A new QC category](#)

[Question 30. Should we introduce an additional QC category for quieter aircraft in the longer-term?](#)

YES.

Through noise reduction, over time, the QC values of aircraft have reduced. In response, government have created increasingly small QC categories which now require three decimal places. Such low numbers not only make the system more difficult for stakeholders to understand, but also require changes to the systems which are used to monitor and report the QC of aircraft.

Based on peer reviewed science, the evidence base shows that aircraft noise can lead to disturbance and have some impact on health. There is a growing research base which explores the relationship between

noise events and disturbance. This evidence base, reviewed by Muller (2019)¹, suggests that the onset of the risk of additional noise-induced awakenings is 30dB(A) Lmax indoors. Accounting for the sound attenuation provided by a typical home, this suggests that aircraft events below 58dB(A) Lmax outside the home do not lead to sleep disturbance. As such, we believe the QC system should be informed by this research and that the definition of 'QCO' aircraft should be modified to reflect the latest science, with those aircraft unlikely to expose local communities to noise above the threshold of impact being rated as zero. We believe that such modifications would provide reassurance to stakeholders that the QC system is capable of operating in isolation of movement limits to provide an effective noise-based management system and achieve the Government's objective.

In addition, we believe that the QC system should be recast to return to whole number QC values for all aircraft types. Such a recast would provide an opportunity to introduce vacant categories for quieter aircraft of the future.

[Reintroduce an exempt category](#)

[Question 31. Should the Government reintroduce an exempt category?](#)

No.

[Question 32. Please provide evidence to support your position.](#)

Through our widespread engagement with local communities, MAG firmly believes that constructive relationships are founded on the principles of transparency and trust. As such, MAG does not support the introduction of an exempt category. We believe that the exclusion of exempt aircraft from reporting would undermine noise control measures and reduce trust. It is our view that, combined, a 'QCO' category and robust dispensation system would remove the need for an exempt category.

[Re-baseline the noise quota system](#)

[Question 33. Do you think we should re-baseline the night quota system in the longer-term?](#)

Yes.

Through noise reduction, over time, the QC values of aircraft have reduced. In response, government have created increasingly small QC categories which now require three decimal places. Such low numbers not only make the system more difficult for stakeholders to understand, but also require changes to the systems which are used to monitor and report the QC of aircraft. We believe that the QC system should be recast to return to whole number QC values for all aircraft types. Such a recast would provide an opportunity to introduce vacant categories for quieter aircraft in the future and to switch to regulation using only noise-based limits implemented through the QC system.

We believe that this review should happen quickly. Delaying the review will result in uncertainty for both the industry and communities living near to airports. It would also delay the incentive such a review may offer airlines to reduce noise.

In re-baselining the QC system, government would need to recalculate QC limits at designated airports. It should also provide guidance on how any non-designated airports which also use the QC system should adjust their QC limits to transition to the new system.

¹ Müller, U. (2019) Development of indicators for night noise protection zones. ANIMA Deliverable D3.2

Re-baseline the noise quota system

Question 34. What factors should we consider when anticipating how to best future proof a re-baselined QC system?

To be successful and trusted by stakeholders a re-baselined QC system must be founded in robust science and fully transparent. It should also be relatively simple to understand and accompanied by explanatory material which makes it accessible to everybody. To increase the accessibility of the QC system, it is our view that a re-baselined QC system should comprise whole number QC values.

Ensuring transparency, we believe that all aircraft should be included within the QC system. That is, there should not be an exempt category. Instead, and reflecting the latest scientific understanding, aircraft which generate insufficient noise to result in significant disturbance should be counted as QC0. Such an approach would ensure flights operated by quiet aircraft are fully disclosed and incentivise the introduction of quieter aircraft. Other QC values should be provided to accommodate both aircraft which are already operating and those which are expected to enter service in the short to medium term.

In re-baselining the QC system, government should consider its implementation at a range of airports, including those which are not designated. As such, QC categories should be provided for aircraft which are prohibited from operating at designated airports during the night quota period. Including a range of (higher) QC values for these aircraft will support noise management at a wider range of non-designated airports and provide an adequate framework which could support the designation of new airports should a future balanced approach assessment demonstrate that Government intervention is necessary.

Question 35. What costs, if any, would you anticipate in re-baselining the QC system?

Designated airports already have systems in place to accommodate the QC system. Such systems were modified to accommodate QC values to three decimal places. As such, whilst we believe a system of whole number QC values would be easier for stakeholders to understand, a rescaled system using numbers to three decimal places could be accommodated by existing systems.

However, changes to the QC system will require significant administrative work to update systems with the new QC value of all aircraft operating at an airport. We believe that government should provide support to the industry through the introduction of a central database of noise (and potentially also other environmental) information about aircraft operating in the UK. Such a database has been developed by the European Union but, it is not available to airports in the UK following the UK's departure from the EU. It is our view that a consolidated database, offered by Government, would not only be more cost-effective than individual airports each having to develop their own databases independently but could also enhance the transparency offered to community stakeholders.

Night quota period

Question 36. Would you be impacted if the NQP was extended to 23:00 to 07:00?

Yes

Business impact evidence

Question 37. Provide evidence to support your view.

Many of the movements during the night quota period are aircraft returning to their base airport. This activity is consistent at most airports and results from the need for airlines to maximise the utilisation of aircraft, which are expensive capital assets. As such, airlines aim to schedule three to four return flights per day, increasing connectivity, enabling round-trip same-day European business travel and providing services at an accessible price. Reflecting the routes flown and accommodating airport capacity constraints, airlines generally schedule aircraft to return to base between 2200 and 0030. Extending the night quota period (NQP) to begin at 2300 would markedly increase the number returning aircraft subject to regulation at designated airports.

For similar reasons, airlines schedule their based aircraft to depart as early in the morning as possible. Recognising that passengers prefer flights at more social times and providing time for them to travel to and pass through the airport, airlines generally typically prefer based aircraft to depart between 0600 and 0800. Extending the NQP to end at 0700 would significantly increase the number of departing aircraft subject to regulation at designated airports.

To quantify the impact of extending the NQP, during the 2019 calendar year at London Stansted Airport there were 12,862 movements during the 2330–0600 NQP. In the same year, there were 27,200 aircraft between 2300–0700. As such, extending the NQP would more than double the number of regulated movements.

Extending the night quota period would:

- Require government to significantly increase the level of the limits it imposes on flights at designated airports during the NQP, accommodating existing activity which is outside the NQP.
- Need to be accompanied by careful messaging by government to ensure the context of change is understood clearly by all stakeholders, including those that are less familiar with noise management.
- Remove any distinction between aircraft operating at the start or end of the night period, commonly referred to as the ‘shoulder period’ and those operating in the current night quota period. This would remove the incentive for airlines to schedule aircraft to return to their base airport before 23:30 and would be likely to lead to later aircraft arrival times, with more operations deeper into the night time period. We discuss some of the associated process management and community impacts in our response to question 39).
- Very significantly increase the management burden associated with the system, requiring additional resource and increased noise management costs for airports, airlines and regulators.

In considering whether the NQP should be extended, we would remind government of its obligations under Regulation EU598/2014, which implements the Balanced Approach. If Government were minded to expand the regulated period, extending operating restrictions to many more aircraft, it would be required to set out and consult on a full balanced approach assessment. The assessment would need to set out the Government’s objective and why an extension to the NQP was the most cost effective way to achieve it.

Night quota period

[Question 38. Do you think night flights in certain hours of the NQP have a greater impact on local communities than other times of the NQP?](#)

No answer

[Certain hours of NQP impact](#)

[Question 39. Provide evidence to support your view.](#)

This is a complex issue and Government would need clear and robust evidence to support the development of policy in this area. No evidence on these issues has been identified by Government to date. We are not aware of any such evidence and therefore, we encourage Government to consult widely on any proposals that target certain hours within the NQP, sharing the evidence base, policy objectives and proposals.

Night quota period

Question 40. Would a mechanism that disincentivises aircraft movements in periods of the night that are more sensitive for communities impact you (provide evidence to support your view)?

Yes

Disincentivising aircraft movements evidence

Question 41. Provide evidence to support your position.

This consultation is intended to inform the development of a national night flights policy, which could lead to changes to all airports including those that are not designated. As such, it is essential that Government considers the implications of its noise controls at a wider range of airports than those that are currently designated. Government should also consider whether it is appropriate to impose the same controls at all airports, or whether controls should be tailored to reflect the different situation at individual airports. In any event, we remind Government of its obligations under Regulation EU598/2014, which implements the Balanced Approach. As such, we encourage Government to publish full details of its assessment of whether measures to disincentivise aircraft movements at certain times are necessary to achieve its noise objective and demonstrate that any action that is proposed can be expected to achieve the objective in the most cost-effective way.

It is difficult to assess the impact of such controls without specific proposals. In proposing any such measures, we encourage the Government to ensure compliance with its obligations under the Balanced Approach and to publish evidence to demonstrate the need for and impact of controls. However, such controls are likely to impact differently on different parts of the industry depending upon their different types of operation:

- Depending on the time of such controls, the impact on scheduled passenger flights could be either very significant or minimal. This is because the majority of night flights by passenger airlines occur in the first part of the night quota period as based aircraft return to the UK., or at the end of the night as early morning flights depart. Recent economic impact assessments suggest that the operational impact of restrictions on night flights across all three MAG airports could be a loss of 6,360 jobs and £300 million in gross value added (GVA) from an NQP ban through to a loss of 16,520 jobs and £860 million in GVA from a total night ban. This in turn will have wider economic impacts, which could reach over 70,000 jobs and £5.5 billion in GVA.²
- Operations by express freight operators are time critical and the ability to operate throughout the night period is essential. This is driven by the need for them to meet consumer demand for a premium overnight delivery service. As such flights operate throughout the night period, as part of a highly structured and integrated network, comprising a range of direct and connecting flights.
- As a subdivision of express freight, a number of night flights are operated on behalf of Royal Mail. These services operate throughout the night period, including through a national hub at East Midlands Airport, enabling Royal Mail to deliver their statutory Universal Postal Service for businesses and individuals across the UK.

² Forecasts from an independent economic assessment undertaken for MAG by York Aviation (2021) *The Economic Impact of Night Flying at the MAG Airports*, Table 4.1 & 4.3.

Banning the noisiest aircraft

Question 42. What would be the impact on you if QC4 rated aircraft movements were banned between 23:00 and 07:00 after October 2024?

This consultation is intended to inform the development of a national night flights policy, which could lead to changes to the airports which are not currently designated, as well as those that are designated and at which the Government directly imposes controls. As such, it is essential that Government considers the implications of its noise controls at a wider range of airports than those that are currently designated. Government should also consider whether it is appropriate to impose the same controls at all airports, or whether controls should be tailored to reflect the different situation at individual airports, as would be identified through the noise action planning process. In any event, we remind Government of its obligations under Regulation EU598/2014, which implements the Balanced Approach. As such, we encourage Government to publish full details of its assessment of a whether a ban on QC4 operations between 2300–0700 is necessary to achieve its noise objective and whether the objective could be met more cost effectively in another way.

Considering MAG's airports, whilst the absolute number of QC4 movements between 2300–0700 is low, the flexibility for these aircraft to operate remains important. This is particularly the case at East Midlands Airport, where express freight and cargo operators use a small but important number of Boeing 747-400s to provide high-capacity long-haul services to meet customer demands and support global trade to and from the UK. We encourage Government to consider the entire aviation industry and to recognise that, whilst the COVID-19 pandemic has accelerated the retirement of QC4 aircraft from passenger airline fleets, these aircraft still play an important role elsewhere in the industry. Indeed, during the pandemic, QC4 Boeing 747-400s have provided valuable capacity responding to lost belly-hold capacity. It is important that Government consider the way in which operators secure additional capacity and reflect on the medium-term commercial agreements which mean that QC4 aircraft will continue to operate in the future, meeting the needs of UK consumers and contributing to the economic impact of East Midlands Airport on the wider UK economy of nearly 40,000 jobs and over £3 billion in gross value added (GVA).³

Question 43. What would be the impact on you if a scheduling ban was placed on QC2 rated aircraft movements between 23:30 and 06:00 after October 2024?

This consultation is intended to inform the development of a national night flights policy, which could lead to changes to the airports which are not currently designated, as well as those that are designated and at which the Government directly imposes controls. As such, it is essential that Government considers the implications of its noise controls at a wider range of airports than those that are currently designated. Government should also consider whether it is appropriate to impose the same controls at all airports, or whether controls should be tailored to reflect the different situation at individual airports, as would be identified through the noise action planning process. In any event, we remind Government of its obligations under Regulation EU598/2014, which implements the Balanced Approach. As such, if the Government were minded to introduce operating restrictions on QC2 aircraft, it would be required to consult widely on its proposals setting out its noise objective and explaining why its proposals were likely to achieve this objective in the most cost effective way. Consistent with the requirements of the balanced approach any phase out of aircraft would also need to be phased over an appropriate period.

Whilst there may be specific circumstances at specific airports, as a matter of national policy, MAG does not believe that a scheduling ban on QC2 aircraft would strike the right balance between the critical role these aircraft types play and the noise impacts that result from their operation.

QC2 aircraft play a critical role serving both passenger and cargo markets. Whilst new technology is reducing noise, and aircraft such as the Boeing 787 and Airbus A350 make up an increasing proportion of long-haul passenger fleets, there is no alternative aircraft type with a QC rating of less than 2 for some operations. For cargo operators, who are particularly important to operations at East Midlands and

³ Pre-pandemic figures (2019) for wider economic impact at the UK level from EMA, estimated in York Aviation (2021) *The Economic Impact of Night Flying at the MAG Airports*, Table 3.2.

Stansted Airport, there are currently no alternatives to wide body long-haul aircraft such as the Boeing 777 and Boeing 747-800. These aircraft represent the best available technology and are the quietest of their type. By serving the high-volume hub to hub operations in a highly interdependent hub and spoke network, operations by these aircraft are a critical part of the freight network. Should operating restrictions be applied, we think it is highly likely that aircraft operators would be forced to relocate hub operations to other countries, reducing connectivity to the UK. We believe it is important for Government to consider the extended lead times involved in the development, certification and widespread introduction of quieter aircraft, not to mention the additional costs at a time the aviation industry is least able to afford this. As such, we believe it would be premature to consider restricting operations by aircraft which play an important role in airline fleets, represent best available technology, and are still being produced by manufacturers.

Independent research by York Aviation assesses that the operational impact of MAG's airports during the night quota period totals £0.6 billion of gross value added (GVA) and 12,000 jobs. Considering wider impacts, these figures increase to £4.5 billion GVA and 57,250 jobs. York estimate that banning flights during the NQP across MAG's airports could cost the wider UK economy over £3 billion in GVA and over 40,000 jobs.⁴

[Question 44. What would be the impact on you or your business if a scheduling ban was placed on QC2 rated aircraft movements between 23:00 and 07:00 after October 2024?](#)

This consultation is intended to inform the development of a national night flights policy, which could lead to changes to the airports which are not currently designated, as well as those that are designated and at which the Government directly imposes controls. As such, it is essential that Government considers the implications of its noise controls at a wider range of airports than those that are currently designated. Government should also consider whether it is appropriate to impose the same controls at all airports, or whether controls should be tailored to reflect the different situation at individual airports, as would be identified through the noise action planning process. In any event, we remind Government of its obligations under Regulation EU598/2014, which implements the Balanced Approach. As such, if the Government were minded to introduce operating restrictions on QC2 aircraft, it would be required to consult widely on its proposals setting out its noise objective and explaining why its proposals were likely to achieve this objective in the most cost effective way. Consistent with the requirements of the balanced approach any phase out of aircraft would also need to be phased over an appropriate period. Whilst there may be specific circumstances at specific airports, as a matter of national policy, MAG does not believe that a scheduling ban on QC2 aircraft would strike the right balance between the critical role these aircraft types play and the noise impacts that result from their operation.

Through express freight and cargo airlines, QC2 aircraft play an important role in meeting the requirements of UK consumers. In that regard, they represent best available technology. Put simply, manufacturers do not produce quieter alternatives. Building on our response to Question 43, it is important to note that wider-ranging QC2 restrictions, also including operations between 2300 and 2330 and 0600 and 0700, would introduce significantly more impact upon passenger operations. QC2 aircraft, such as the Airbus A330 and Boeing 777, also play an important role in the fleets of some passenger airlines. Whilst some operators have already introduced quieter aircraft, their introduction requires very significant investment, at a time when the aviation industry can least afford it, which takes time to implement, manufacturers have long waiting lists for new build aircraft and QC2 aircraft will continue to play an important role in passenger fleets as well as those of cargo operators.

Independent research by York Aviation assesses that the operational impact of MAG's airports during the 8-hour night period from 2300 and 0700 totals £1.1 billion gross value added (GVA) and nearly 21,000 jobs. Considering wider impacts, these figures rise to over £6 billion GVA and over 81,000 jobs. York estimate that banning flights during the 8-hour night period across MAG's airports would cost over £5.5bn. in lost GVA and 70,000 jobs.⁵

⁴ York Aviation (2021) *The Economic Impact of Night Flying at the MAG Airports*, Tables 3.1, 3.3 & Table 4.3.

⁵ York Aviation (2021) *The Economic Impact of Night Flying at the MAG Airports*, Tables 3.1, 3.3 & Table 4.3.

Question 45. If bans are introduced should the implementation be staged?

Yes

Ban evidence

Question 46. Please provide evidence to support your position.

This consultation is intended to inform the development of a national night flights policy, which could lead to changes to the airports which are not currently designated, as well as those that are designated and at which the Government directly imposes controls. As such, it is essential that Government considers the implications of its noise controls at a wider range of airports than those that are currently designated. Government should also consider whether it is appropriate to impose the same controls at all airports, or whether controls should be tailored to reflect the different situation at individual airports, as would be identified through the noise action planning process. In any event, we remind Government of its obligations under Regulation EU598/2014, which implements the Balanced Approach. As such, if the Government were minded to introduce operating restrictions on QC2 aircraft, it would be required to consult widely on its proposals setting out its noise objective and explaining why its proposals were likely to achieve this objective in the most cost effective way. Consistent with the requirements of the balanced approach any phase out of aircraft would also need to be phased over an appropriate period.

The UK economy and its consumers are dependent upon international connectivity. Night flights are an essential part of this connectivity, meeting the demands of both passengers and cargo and generating economic benefit in doing so. An independent economic assessment by York Aviation for Airlines UK found that night flying directly supported over 24,000 jobs across UK airports, with wider impacts for the UK economic reaching over 200,000 jobs and £16.5 billion in gross value added (GVA). To maintain and grow these economic benefits, it is essential that any new controls, including bans, are introduced over a period which is sufficient to allow the aviation industry to adjust the way in which it meets consumer needs. Such notice periods should consider the availability of alternative aircraft, the delivery time of such aircraft and the time required to amend supply agreements for services which are sub-contracted.

If the Government's balanced approach assessment demonstrates that it is necessary to introduce additional operating restrictions, then any phase out of aircraft would need to be consistent with the requirements of the balanced approach. This requires that an annual rate of phase out be established that takes account of the age of the aircraft, the composition of the aircraft fleet and is not more than 25% of the number of movements of marginally compliant aircraft for each operator serving the specific airport.

Future movement and noise quotas

Question 47. In a future regime how should we manage the number of aircraft movements (detailing the airport or airports relevant to your view)?

This consultation is intended to inform the development of a national night flights policy, which could lead to changes to the airports which are not currently designated, as well as those that are designated and at which the Government directly imposes controls. As such, it is essential that Government considers the implications of its noise controls at a wider range of airports than those that are currently designated. Government should also consider whether it is appropriate to impose the same controls at all airports, or whether controls should be tailored to reflect the different situation at individual airports, as would be identified through the noise action planning process. In any event, we remind Government of its obligations under Regulation EU598/2014, which implements the Balanced Approach. As such, if the Government were minded to introduce additional operating restrictions, it would be required to consult widely on its proposals setting out its noise objective and explaining why its proposals were likely to achieve this objective in the most cost effective way. Consistent with the requirements of the balanced approach any phase out of aircraft would also need to be phased over an appropriate period.

Consistent with the requirements of sections 78-82 of the Civil Aviation Act 1982, at designated airports, the Government imposes two limits during the night quota period. These include an activity-based limit on the number of aircraft movements permitted and a separate noise-based QC limit. In application, an airport is highly unlikely to be constrained by both limits at the same time. As such, the constraining factor is the first of the two limits to be met. At Stansted Airport, due to investment in quieter aircraft, it is the movement limit that acts to constrain activity. In practice this risks undermining the incentive for aircraft operators to continue to invest in quieter aircraft types.

However, the regulatory framework has materially changed since the Civil Aviation Act was introduced. As a result, Government must fulfil obligations originating from the International Civil Aviation Organisation's (ICAO) 'Balanced Approach'. The Balanced Approach, implemented through Regulation EU598/2014 prescribes an approach to noise controls. It requires Government to manage noise by implementing the most cost-effective measure or combination of measures taking account of: the potential of reduction of noise at source; land use planning and management; noise abatement procedures; and operational controls. Importantly, the approach stipulates that noise controls *"shall not be more restrictive than is necessary in order to achieve the environmental noise abatement objectives set for that airport"*. Further, it states that operational controls should only be applied *"...where a noise problem has been identified"* and should not be used *"...as a first resort, but only after consideration of the other measures of the Balanced Approach"*.

The Government's current practice, which is to impose limits on aircraft activity in addition to noise quota limits appears to be more restrictive than is necessary to achieve the noise abatement objectives. Should this be the case, the Government would have failed to meet the requirements of the Balanced Approach. More generally, in all instances where new operating restrictions are proposed, the Government is required to publish a full Balanced Approach assessment, with any phase out of marginally compliant aircraft types (as defined in EU598/2014) taking account of aircraft age, the aircraft fleet in operation and introduced at an annual rate of no more than 25% of the number of movements of marginally compliant aircraft for each operator serving the specific airport. The Government has not previously provided this assessment, and indeed the proposal in Part 1 of this consultation to phase out noisier (QC4) aircraft types does not appear to provide any such assessment.

Further, it is important to note that currently imposed activity controls appear anticompetitive and act to distort the London market. This is principally due to the fact that the Government imposes different activity limits on Stansted and Gatwick airports, which are in direct competition and serving many of the same market segments. Government will be aware of the decision by the Competition and Markets Authority to break up the monopoly of the former British Airports Authority and that the current regime could be seen to act counter to this decision.

The figures in Annex D of the consultation provide a clear measure in terms of an average QC per movement. At each of the designated airports, the average QC per movement has reduced between 2015 and 2019, which is a result of the introduction of newer aircraft and a clear demonstration of the positive benefits from the multibillion pound investment in modern aircraft fleets operating at these airports. Government has not yet provided any evidence to support the need for an activity-based movement limit, nor evidence or criteria to justify the proportionality and consistency of the different limits at different airports.

MAG would continue to support the introduction of noise-based controls by Government in circumstances where Government cannot be confident that alternative measures will meet its noise objectives. However, we encourage Government to ensure that all such controls are objective, focus on addressing measurable noise and are implemented in full compliance with obligations under the Balanced Approach. In developing controls we encourage Government to consider the latest evidence, both on the impacts of night flights and the benefits associated with them. In that regard we highlight that, whilst research⁶ shows that noise events

⁶ Müller, U. (2019) Development of indicators for night noise protection zones. ANIMA Deliverable D3.2

below 58dB(A) Lmax are unlikely to result in disturbance, movement limits seek to constrain activity by all aircraft – irrespective of their impact.

[Question 48. In a future regime how should we manage an airports' noise allowances \(detailing the airport or airports relevant to your view\)?](#)

This consultation is intended to inform the development of a national night flights policy, which could lead to changes to the airports which are not currently designated, as well as those that are designated and at which the Government directly imposes controls. As such, it is essential that Government considers the implications of its noise controls at a wider range of airports than those that are currently designated. Government should also consider whether it is appropriate to impose the same controls at all airports, or whether controls should be tailored to reflect the different situation at individual airports, as would be identified through the noise action planning process. In any event, we remind Government of its obligations under Regulation EU598/2014, which implements the Balanced Approach. As such, if the Government were minded to introduce additional operating restrictions, it would be required to consult widely on its proposals setting out its noise objective and explaining why its proposals were likely to achieve this objective in the most cost effective way. Consistent with the requirements of the balanced approach any phase out of aircraft would also need to be phased over an appropriate period. The current consultation provides an opportunity for the Government to reconcile conflicting legal requirements. As outlined in our response to Question 47, Government must address the conflicting requirements of the Civil Aviation Act 1982 and the more recent Regulation EU598/2014, which implements the Balanced Approach. Put simply, without change to primary legislation, it is impossible for the Government to fulfil all of its obligations whilst continuing to impose both QC and movement limits on designated airports.

As discussed in our responses to Questions 27-35 and 47, MAG believes that the Government's QC system provides the correct framework for the management of noise at designated airports. It is our view that, with minor modification to reflect developments in aircraft technology and scientific understanding, the system remains appropriate. In arriving at numeric allowances, we believe Government must carefully balance noise impacts on local communities with the significant economic benefits and employment enabled by night flights and the potential for noise allowances to distort competitive markets. It is our view that noise allowances should provide both assurance to local communities and reward to the industry for investment in quieter aircraft.

Managing night noise through QC limits only

[Question 49. Should we remove the movement limit and manage night flights through a QC limit only?](#)

YES

[Question 50. Provide evidence to support your view.](#)

The principles of good regulation are long standing, have enjoyed cross-party support, and have been codified by the Better Regulation Taskforce as long ago as 1997. It is widely accepted that any regulatory intervention should meet five principles: proportionality; accountability; consistency; transparency; and, targeting.

To date, when Government have intervened to designate an airport and limit its operations, both aircraft movement and quota count limits have been applied.

The noise quota count scale is designed to act as a proxy for noise impacts. By applying a limit on the maximum quota count associated with any single operation and a separate limit on the total quota count permitted in any season, the Government seeks to limit noise impacts. Whilst the quota count scale is not the only proxy for noise impacts, and its merits are considered elsewhere in this consultation, we consider the application of a system of this nature is a legitimate noise control and consistent with the principles of good regulation, as it directly targets the impacts.

With noise impacts kept to an acceptable level by the imposition of quota limits, it is not clear why Government should need to impose an additional limit on aircraft activity. No evidence is provided in this consultation to evidence the requirement for additional aircraft activity limits. The purpose of the designation powers in the Civil Aviation Act 1982 is *“avoiding, limiting or mitigating the effect of noise and vibration connected with the taking-off or landing of aircraft at a designated aerodrome.”* The activity limit does not contribute to these objectives and therefore appears unnecessary and disproportionate. By failing to act in a targeted way to address the identified problem, the imposition of an activity limit also appears inconsistent with the principles of good regulation.

The Government has previously taken the view that noise limits based on quota points alone can provide an appropriate control. Indeed, such controls were proposed by Government in 1994. This decision was subject to judicial review and was found to be unlawful, as it was deemed inconsistent with the Civil Aviation Act 1982, specifically Section 78(3)b. Since 1994, the regulatory landscape has materially changed, including the introduction of the ICAO Balanced Approach in 2008, which was brought into law in 2014 with EU Regulation 598/2014 (as amended).

The Balanced Approach requires that noise controls consider the most cost-effective measure or combination of measures taking account of the potential of: reduction of noise at source; land use planning and management; noise abatement procedures; and operational controls. Importantly, noise controls *“shall not be more restrictive than is necessary in order to achieve the environmental noise abatement objectives set for that airport”* (Article 5, Paragraph 6). With regard to operational controls, they should only be applied *“...where a noise problem has been identified”* (Article 1, Paragraph 1) and should not be used *“...as a first resort, but only after consideration of the other measures of the Balanced Approach”* (Article 5 Paragraph 6).

The Government’s decision to impose limits on aircraft activity in addition to quota limits appears to be more restrictive than is necessary to achieve their noise abatement objectives. Should this be the case, the Government would have failed to meet the requirements of the Balanced Approach.

Whilst the previous judicial review remains a relevant precedent, circumstances are so changed by the introduction of the Environmental Noise Directive and Regulation EU598/2014, which implements the Balanced Approach that any future interpretation of Section 78(3)b would need to reflect the materially changed context.

We welcome the wide-ranging nature of the current consultation and believe that, having considered evidence from all stakeholders, the Government should review the requirements and powers set out in the Civil Aviation Act 1982 and the Environmental Noise Directive and Regulation EU598/2014, which implements the Balanced Approach to ensure that they work together to provide a coherent and consistent regulatory framework, making amendments as necessary. Government should be guided in this review by the principles of good regulation to ensure that any Government intervention is proportional and targets measurable noise impact. Our airline partners continue to invest in more modern and quieter aircraft types. We believe that the regulatory framework should support and incentivise this investment and we are concerned that continuing to regulate activity rather than aircraft noise might undermine rather than support future investment in quieter aircraft types.

Ring-fencing

[Question 51a. Should we introduce a ring-fencing mechanism to ensure night slots are available for commercial passengers?](#)

NO

[Question 51b. Should we introduce a ring-fencing mechanism to ensure night slots are available for dedicated freight?](#)

NO

[Question 51c. Should we introduce a ring-fencing mechanism to ensure night slots are available for business general aviation?](#)

NO

[Question 52. Provide evidence to support your view.](#)

Slot allocation rules are already in place. They are designed to make the best economic use of available slots by any operator and at any airport to ensure the maintenance of competitive market conditions. The controls imposed on night flights at designated airports do not currently ring-fence slots for individual types of operator and we do not believe there is a case to justify the introduction of different approaches to slot allocation at night to during the day. It is our view that such controls would be unnecessary, anticompetitive and that regulation is not required.

Unused allocation during seasons

[Question 53. Should an airline be able to use unused allowances later in the season?](#)

YES

[Question 54a. If the Government decided that unused allowances should be returned to the airport's pool, what would be the impacts on communities?](#)

On the basis that a QC limit, imposed on an airport by Government, has been designed to achieve Government's noise objective, there would be no additional impact on local communities from unused allowances returning to the airport's pool. This is because the total number of QC points available would be unchanged, and that QC availability will have been demonstrated by Government to be consistent with its noise objective.

[Question 54b. If the Government decided that unused allowances should be returned to the airport's pool, what would be the impacts on airports?](#)

Without the availability of unused allowances from earlier in the season, airlines are likely to face disruption later in the season. This is because airlines would be unable to utilise unused allowances for delayed flights which cannot be dispensed. Instead, airlines would need to seek allowances from the airport's pool, which may no longer be available. Ultimately, such a position is likely to result in flight cancellations, potentially at short notice.

With allowances instead allocated from a wait list on a first-come first-served basis, airports are likely to be economically and reputationally damaged. This is because, rather than facilitating more economically valuable passenger flights, airports might be compelled to accept different types of air traffic movements. Such changes would use airport infrastructure and human resources less efficiently, impacting airport profitability and reducing overall economic benefit. They would also act to damage relationships between airports and their customers airlines. They may also redistribute flights within the night quota period and, potentially, operate a louder aircraft than the one which had been previously scheduled, leading to impacts for local communities.

[Question 54c. If the Government decided that unused allowances should be returned to the airport's pool, what would be the impacts on airport users?](#)

Without the availability of unused allowances from earlier in the season, airlines are likely to face disruption later in the season. This is because airlines would be unable to utilise unused allowances for delayed flights which cannot be dispensed. Instead, airlines would need to seek allowances from the airport's pool, which may no longer be available. Ultimately, such a position is likely to result in flight cancellations, potentially at short notice. As a result of these cancellations, consumers are likely to be disadvantaged by changes to well established travel plans.

Question 54d. If the Government decided that unused allowances should be returned to the airport's pool, what would be the impacts on airlines?

Without the availability of unused allowances from earlier in the season, airlines are likely to face disruption later in the season. This is because airlines would be unable to utilise unused allowances for delayed flights which cannot be dispensed. Instead, airlines would need to seek allowances from the airport's pool, which may no longer be available. Ultimately, such a position is likely to result in last minute cancellations or diversions, both of which are likely to have significant financial and reputational impacts for airlines and airports.

Question 54e. If the Government decided that unused allowances should be returned to the airport's pool, what would be the impacts on business in and around airports?

Without the availability of unused allowances from earlier in the season, airlines are likely to face disruption later in the season. This is because airlines would be unable to utilise unused allowances for delayed flights which cannot be dispensed. Instead, airlines would need to seek allowances from the airport's pool, which may no longer be available. Ultimately, such a position is likely to reduce the number of passenger flights. As a result, businesses which support passenger operations are likely to suffer. Impacts could include over-resourcing due to last minute cancellations and impacts on bus, coach and rail service providers who have anticipated passengers that do not travel, a lack of return on significant infrastructure investment or additional food waste due to reduced sales.

Carry-over of limits between seasons

Question 55. Do you agree or disagree that the current carry-over process benefits you?

NEITHER AGREE NOR DISAGREE

Question 56. Provide evidence to support your view.

At London Stansted Airport the current carry-over process enables MAG to respond to fluctuations in demand between seasons. In doing so we are, within specified limits, able to better respond to the needs of our customers allowing them in turn to respond to demand for travel. This flexibility maximises the economic and connectivity benefits of night flying.

Question 57. What changes, if any, would you like to see to the carry-over process and how would this impact you?

As we set out in our answer to question 56, the system of carry-over provides a degree of flexibility that ensures that the services offered by airlines better match the needs of their customers. This acts to increase the connectivity and economic benefits without additional noise. A logical extension of this process would be to impose a single annual limit. This would have the benefit of reducing complexity.

Our national night flight policy

Health impacts and economic value of night flights

Question 58. How fair a balance between health and economic objectives do you think our current night flight approach is?

UNFAIR

To strike a fair balance between economic and health objectives, it is necessary to establish a reasonable estimate of the costs and benefits associated with night flying. We do not believe the Government's current assessment methods take full account of the economic benefits of night flying.

Previously, the Government has relied on analysis from Systra. The Systra approach to assessing the economic benefits of night flying was commissioned by the Department for Transport and is its default approach to considering the economic effects of night flying. The approach considers economic welfare effects, examining the costs and benefits of night flying to different actors in the economy. Essentially, it considers airports, airlines, passengers, public accounts and the public accounts. This approach is taken in order to maximise compatibility with WebTAG, the Department's broader approach to appraising transport interventions. Whilst this is a reasonable starting point, by its own admission, the Systra approach does not cover several effects that are potentially significant. These include:

- Cargo users – the impacts on passengers as the users of passenger services are considered, but there is no similar consideration of the impact on cargo users in terms of the costs of retiming or lost connectivity. Given the importance of night flying in the cargo market, particularly for express freight, this is a significant omission.
- Wider economic benefits – it does not consider the broader impacts on the UK economy in terms of trade, FDI, productivity or tourism from changes to the night flying regime. This applies to both passenger and cargo services. Again, this is a potentially significant omission.
- Knock-on effects through the day – the Systra approach does not consider how changes to operations in the night affects daytime operations. It does not consider the potential impact on aircraft utilisation for short-haul airlines, which is an essential tenet of the low-cost airline model. This could significantly impact fares and connectivity, which will ultimately knock-on to demand and ability to support economic benefits. It does not consider how transfer traffic might be affected through the remainder of the day by squeezing connection options. The same applies to transferring cargo traffic. In terms of express services, squeezing the night will potentially reduce daytime operations as well, with the overnight business model significantly impaired, the general business case for flying overall is reduced, with some daytime flights likely to move to road freight.

Overall, this means that at present the Systra approach, while broadly robust in what it does cover, cannot be considered as a complete view of the economic costs and benefits of night flying. Hence, by extension, any attempt at a Balanced Approach assessment using it is at present is flawed.

In considering its assessment of the impacts of night flying on disturbance and consequential impacts on health, it will be important for Government to maintain a thorough understanding of the developing science. As we set out in our answer to question 30, we believe that the evidence base shows that aircraft noise events below 58dB(A) Lmax are unlikely to result in significant harm. We encourage Government to consider how its regulation responds to this evidence.

[Question 59. What are your views on the health impacts of aviation noise at night, including potential impacts on different groups in society \(provide evidence to support your view\)?](#)

We encourage the Government to consider the impacts of night flights on the communities near to airports. It is important that Government obtains a full and independent view of the latest scientific understanding to support decisions on whether it should intervene in noise management at an airport. This will also support Government in assessing what intervention may be necessary and making assessments that comply with its obligations under the Balanced Approach.

As part of this review, we encourage Government to consider how its regulation considers aircraft that generate relatively low levels of noise, which are demonstrated to be below the disturbance threshold. Taken to its conclusion, it is difficult to make a case for regulation of aircraft activity that does not lead to significant harm.

[Question 60. What are your views on the economic value of night flights, including the potential value on different businesses and aviation sectors \(provide evidence to support your view\)?](#)

York Aviation (2021) undertook an independent economic assessment of night flying on behalf of Airlines UK and industry partners. In support of this work, York also undertook a more detailed assessment of MAG's airports on behalf of MAG.

The research provided a profile of and assessed the pre-COVID economic impact of night flying in the UK in 2019. This was a deliberate choice, as it provides the best basis for considering the role of night flying in the medium to long term. The research provides additional evidence on the economic benefits of night flying, including the benefits in the wider economy away from airports and from the immediate operators and users of services. In part, this focus on the economic benefits of night flying is designed to address an evidential gap within the Department for Transport's existing framework for considering the economic impacts of night flights. The existing approach used by the Department, and developed by Systra, currently does not consider a range of key economic benefits from night flying, namely those accruing to cargo users, economic effects in the wider economy or the knock-on effects from night flying across operations over the day. Hence, the Department for Transport's approach, while broadly robust in what it covers, cannot be considered as a complete view of the economic costs and benefits of night flying. By extension, any attempt at a Balanced Approach assessment using it is at present is flawed, as significant potential benefits to society are not being taken into account.

The direct impact of night flying in 2019 was estimated to be around £1.4 billion in GVA and 24,200 jobs – MAG airports comprise around a third of this at £0.5 billion and 8,050 jobs. These direct impacts, in turn, generate around £2.0 billion in gross value added (GVA) through indirect and induced effects and 38,700 jobs. If wider impacts are included, night flying in the UK in 2019 was estimated to generate a total of £16.5 billion of GVA and approximately 213,200 jobs across the UK – within this, MAG's airports account for £6.4 billion of GVA and 81,600 jobs, somewhat higher than the direct impacts because of the national importance of East Midlands Airport as the UK's largest dedicated air cargo facility.

The research demonstrates the vital role that night flying plays in the wider UK economy. York's assessment suggests that, while direct, indirect and induced impacts are vitally important, particularly to the communities around airports, there are also wider economic benefits associated with night flying that support overall economic benefit for the UK.

The total impact associated with night flying in the UK is spread across many airports. The operations at the designated UK airports (Heathrow, Gatwick and Stansted – the three largest London airports) support around £7.6 billion of total GVA and 98,000 jobs, while operations during the night periods at the non-designated UK airports support around £8.8 billion of GVA and 115,000 jobs.

Of the total impact in the UK, cargo and passenger operations during the night contribute a similar total of just over £8 billion in GVA each. In terms of total employment, cargo and passenger operations support approximately 101,000 and 112,100 jobs respectively across the entire economy.

As such, restrictions to night flying would have significant economic impacts on the UK economy. The research assessed a range of scenarios, from a 50% reduction in night flying through to a total night flying ban.

A night flying ban (i.e. of aircraft movements during the hours of 2300 and 0659) would have the most significant impact on the aviation industry and the wider UK economy, with 20.7 million passengers and 480,000 tonnes of cargo per annum lost. This would result in around £1.0 billion in direct GVA foregone and put 16,000 jobs directly at risk, with indirect and induced impacts increasing this impact by around £1.3 billion in GVA and 26,000 jobs. If wider impacts are then included as well, a total of approximately £12.4 billion of GVA would be forgone and up to 158,000 jobs put at risk. Furthermore, consumers would face increased generalised costs as they would be compelled to travel at less optimal times and as airlines increase air fares for short-haul services by an estimated 0.8%. The total economic cost to passengers is estimated to be over £0.5 billion at 2019 demand levels.

Question 61. What are your views on changes to aircraft noise at night as result of the COVID-19 pandemic (provide evidence to support your view)?

Whilst it is too soon to confidently assess the full impact of the global pandemic, MAG does not see any evidence to suggest any fundamental change to the business model of its key customer airlines. By way of example, the scheduled services offered by 'low cost' carriers will continue to make intensive use of modern aircraft types and express freight services will continue to rely on a premium overnight delivery service for business to business customers.

Publicly available market forecasts suggest that passenger services will experience incremental recovery returning to pre-pandemic levels within 2-5 years. The demand for air freight services has increased during the pandemic, in part due to the marked reduction in belly hold capacity on passenger aircraft, due to the collapse in the passenger long haul market. Some of this increased demand may prove temporary and some may become permanent as the market adjusts to a different way of operating.

Overall, in the medium to long term, we see no reduction in demand for night flying and anticipate a full recovery.

Future technology

Question 62. In your opinion what are the advantages or disadvantages that the emergence of new technology will have in relation to night noise from aircraft within the next 10 years (provide evidence to support your view)?

We are not aware of any new aircraft designs which will enter service during the next ten years. However, note the recent announcement that Airbus are looking to develop an A350 aircraft for freight operators and recognise that further deliveries are expected of aircraft such as the Boeing 787, Airbus A350, 737-MAX and Airbus 'NEOs'. At London Stansted Airport, where a single airline operates the majority of flights, we expect that the Boeing 737-MAX will become the dominant aircraft type. In terms of QC alone, the introduction of the 737-MAX aircraft represents a reduction of arrival QC band to 0.25 from the previous QC 0.5 of the 737-800NG series aircraft. The departure QC band is also reduced from 1 or 0.5 for this aircraft type to 0.25 or 0.125, depending on MTOW.

Proposal to include a night noise reference in our noise objective

Question 63. Should we include a reference to night noise when we publish a revised aviation noise objective?

No

Night noise reference

Question 64. What factors relating to night noise should we include if we do introduce a noise reference in our revised aviation noise objective?

Whilst we would not necessarily oppose a specific reference to noise at night, the current noise objective, which seeks to minimise the "...number of people significantly affected by aircraft noise", applies equally to both daytime and night-time noise. If the Government's objective remains to minimise impact on people, it is likely that a single statement can be defined which maintains the simplicity of the current objective, without the need for a specific night noise reference.

By focussing on the impact on people, the current objective, does not preclude different noise thresholds applying to daytime and night-time noise, to reflect the greater sensitivity of noise at night, nor does it suggest that noise during the day and night are the same.

We accept that noise at night is associated with impacts at lower thresholds, reflecting a greater community sensitivity to noise at night and would assume that any specific reference would seek to make this clear.

Airport designation

[Question 65. Should the Government set criteria for airport designation?](#)

Yes

[Question 66a. What do you think are the advantages to the Government setting criteria for airport designation?](#)

Questions 65-70 of this consultation consider the designation powers in the Civil Aviation Act 1982 (Paragraph 78(3)), the circumstances in which the powers should be used and the consequences of designation or de-designation of airports from the perspective of different stakeholders. Given the complexity of this topic, we have provided a full answer in a letter accompanying our response. This should be read in conjunction with our detailed answer to this question.

We believe that the current powers which allow the Government to intervene and regulate operations at any airport “if the Secretary of State considers it appropriate...” are too broadly drawn and risk regulatory decisions being arbitrary and inconsistent. Further, we believe that with the adoption of the Environmental Noise Directive and Regulation EU598/2014, which implements the Balanced Approach the regulatory position has evolved considerably in recent years and this requires the designation powers in the Civil Aviation Act to be amended to ensure they form part of a consistent and coherent regulatory framework, founded on the principles of good regulation.

We believe that it is necessary for the Government to set objective criteria which will create consistency and provide clarity on the circumstances in which regulation is required. Such clarity will support Government decision making, align disparate regulatory requirements which apply to the management of noise at night, and recognise the significance of the type of regulation imposed. It is important for all stakeholders that the Government imposes a coherent and consistent regulatory framework and in the absence of guiding criteria it is unclear when the Government would choose to directly intervene in the control of an airport’s operations.

The direct intervention of the Government in limiting the operations of an airport prevents the application of normal market practices and alters the competitive dynamic between airports. Establishing clear criteria would ensure stakeholders understand why this intervention is necessary and ensure consideration is given to fair competition.

Government’s decision-making criteria should consider firstly whether there is a problem and, if so, what that problem is. It should consider whether the desired outcome could be achieved another way and assess the costs, inefficiencies and unintended consequences of regulation. In this regard one of the key considerations should be the presence of controls imposed either through the local planning system or agreed voluntarily between an airport and local community stakeholders. The Government should form a view as to the effectiveness of these controls and the degree to which they can manage night noise impacts. If legally binding controls have been agreed through the local planning system, taking account of local circumstances, it is difficult to see why the Government would seek to override local decision making by directly intervening.

[Question 66b. What do you think are the disadvantages to the Government setting criteria for airport designation?](#)

Questions 65-70 of this consultation consider the designation powers in the Civil Aviation Act 1982 (Paragraph 78(3)), the circumstances in which the powers should be used and the consequences of designation or de-designation of airports from the perspective of different stakeholders. Given the complexity of this topic, we have provided a full answer in a letter accompanying our response. This should be read in conjunction with our detailed answer to this question.

Any criteria adopted by the Government would need to reflect the complexity of noise regulation and therefore would be best drafted as guiding principles, rather than overly prescriptive rules. Defining criteria too narrowly or too prescriptively risks the regime failing to act when it would be reasonable to do so.

[Question 67. What factors, if any, do you think we should consider when setting criteria for designation?](#)

Questions 65-70 of this consultation consider the designation powers in the Civil Aviation Act 1982 (Paragraph 78(3)), the circumstances in which the powers should be used and the consequences of designation or de-designation of airports from the perspective of different stakeholders. Given the complexity of this topic, we have provided a full answer in a letter accompanying our response. This should be read in conjunction with our detailed answer to this question.

We believe that, with the adoption of the Environmental Noise Directive and Regulation EU598/2014, which implements the Balanced Approach the regulatory position has evolved considerably in recent years and that the adoption of criteria would help to ensure that the designation powers in the Civil Aviation Act work alongside other regulatory controls to provide a coherent and consistent regulatory framework, informed by the principles of good regulation.

The principles of good regulation are long standing, have enjoyed cross-party support and have been codified by the Better Regulation Taskforce as long ago as 1997. It is widely accepted that any regulatory intervention should meet five principles: proportionality; accountability; consistency; transparency; and, targeting.

Criteria that the Government may wish to consider include:

Compliance with the balanced approach

The balanced approach requires that additional noise abatement measures are only imposed *“if the current combination of noise mitigating measures does not achieve the noise abatement objectives”* and that the measures taken *shall not be more restrictive than is necessary in order to achieve the environmental noise abatement objectives set for that airport”*. The criteria could make clear that, should the Government intervene in the operation of an airport using powers of designation that, consistent with the Balanced Approach, this will only be to the extent that it is necessary to address an identified noise problem.

The role of noise action plans

The Environmental Noise Regulations require all operators of a major airport to prepare a noise action plan. This requires an assessment of the noise impacts, including night noise, arising from operations at an airport, against a suite of standardised metrics and the documentation of noise controls in a noise action plan. These noise controls are tested with stakeholders through consultation, subject to amendment and presented to the Government for approval. In the event that this programme of noise controls is approved by the Government, designation criteria should clarify why the Government would elect to directly intervene and what outcome the intervention sought to deliver that was otherwise not possible. By way of example, the Government may wish to use the powers of designation to secure the delivery of a noise action plan if an airport operator failed to meet the commitments it had made.

A reduction in the impact of night noise

Criteria could make clear that as (consistent with the Balanced Approach) the Government can only introduce operating restrictions to resolve a noise problem, the Government would only intervene where there was an identified noise problem and where the intervention would address this problem and objectively reduce the impact of noise at night.

[Question 68. How should any criteria for designation be agreed?](#)

Consistent with the normal processes of good government, any criteria should be informed by stakeholders and agreed following consultation.

Question 69a. What impact, if any, do you think the designation of an airport have on communities?

Questions 65-70 of this consultation consider the designation powers, in the Civil Aviation Act 1982 (Paragraph 78(3)), the circumstances in which the powers should be used and the consequences of designation or de-designation of airports from the perspective of different stakeholders. Given the complexity of this topic, we have provided a full answer in a letter accompanying our response. This should be read in conjunction with our detailed answer to this question.

It has been the policy of successive governments that, where it is possible to do so, noise is best managed locally. The rationale for locally determined arrangements is that they foster strong relationships between airport operators and local stakeholders, ensure that noise controls best match local circumstances and allows them to be more responsive to feedback. The most recent Government consultation⁷ on this point records government's view that *"for decisions to be effective, they must be informed by engagement at the local level, and we expect decisions to be taken locally or informed by local circumstances wherever possible"*. The consultation goes on to record government's view that *"due to the regulatory nature of these controls and the associated processes any changes need to go through, the noise operating procedures set by Government at the designated airports have not changed for many years and now represent minimum industry practice. Therefore, they do not necessarily reflect the latest developments in noise management or the measures that an airport could put in place if they were not bound by the Government's controls"*. It is likely therefore that those airports directly regulated by the Secretary of State using powers of designation will adopt more uniform noise controls, that ensure a consistent standard but are less responsive to local circumstances and less agile in response to feedback. This is of concern to a wide range of stakeholders.

In practice, the application of the powers of designation has led to a five-yearly review cycle. This has provided all stakeholders with a degree of certainty, providing communities with reassurance and allowing airlines and airports to plan future operations, though, given the long-term nature of airport investments, five years is a relatively short period. The result is that in addition to night-noise limits, noise abatement procedures are 'frozen' for a period of at least five years. At airports where noise abatement procedures are determined locally, experience shows that they are more likely to be amended in response to feedback. We have recent evidence of this disparity at London Stansted Airport which is designated and where MAG has so far been unable to introduce lower noise limits consulted on in its Noise Action Plan for 2019–23, whereas at East Midlands Airport, lower noise limits have already been introduced and recognised by the airport's consultative committee.

If the designation of an airport acts to limit or reduce night flights, local communities are likely to be adversely impacted by loss of employment. Research undertaken for MAG by York Aviation demonstrates that pre-pandemic (2019), flights during the night quota period (2330–0600) generated direct and largely local employment for 4,650 people at MAG airports. Taking the extended 8-hour night period (2300–0700), night flights at MAG airports generated direct employment for 8,050 people.⁸ Nationally, flights during the night quota period and 8-hour night generate direct employment for over 11,000 and 24,000 people respectively, with wider impacts for the UK economy rising to over 200,000 jobs and £16.5 billion of gross value added (GVA).⁹ Our analysis of staff security passes of workers from MAG and third party companies based at our airports demonstrates that the vast majority of airport workers live in the communities adjacent to our airports, with separate reports during the COVID-19 pandemic demonstrating that the downturn of aviation has serious profound impacts on communities close to major airports.

Question 69b. What impact, if any, do you think the designation of an airport have on airports?

Questions 65-70 of this consultation consider the designation powers in the Civil Aviation Act 1982 (Paragraph 78(3)), the circumstances in which the powers should be used and the consequences of

⁷ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/588186/uk-airspace-policy-a-framework-for-balanced-decisions-on-the-design-and-use-of-airspace-web-version.pdf

⁸ York Aviation (2021) *The Economic Impact of Night Flying at the MAG Airports*, Table 3.1.

⁹ York Aviation (2021) *The Economic Impact of Night Flying in the UK*, Airlines UK.

designation or de-designation of airports from the perspective of different stakeholders. Given the complexity of this topic, we have provided a full answer in a letter accompanying our response. This should be read in conjunction with our detailed answer to this question.

As an operator of three airports, of which only Stansted Airport is designated, MAG is aware that the designation of an airport places significant administrative burden on the airport operator. The designation of an airport similar in scale to Stansted Airport is likely to require additional resource to implement the necessary management, monitoring and reporting functions. Additionally, a designated airport is likely to lose the flexibility it has to agree local approaches to noise management, monitoring, and measurement.

At airports where airlines currently benefit from greater degrees of operational flexibility, including in response to unexpected delays, the designation of an airport is likely to distort a competitive market and impact adversely on the relationship between an airport and its airline customers. This is likely to be the case even with the provision of night flight dispensations, particularly for non-UK airlines who will be less familiar with designated airports. Ultimately, these impacts could limit the ability of a designated airport to attract new or additional business, even if flights are scheduled during the daytime.

If the designation of an airport leads to a reduction in the number of flights, there will be a consequential loss of employment. Research undertaken for MAG by York Aviation demonstrates that pre-pandemic (2019), flights during the night quota period (2330–0600) generated direct and largely local employment for 4,650 people at MAG airports. Taking the extended 8-hour night period (2300–0700), night flights at MAG airports generated direct employment for 8,050 people.¹⁰ Nationally, flights during the night quota period and 8-hour night generate direct employment for over 11,000 and 24,000 people respectively, with wider impacts for the UK economy rising to over 200,000 jobs and £16.5 billion of gross value added (GVA).¹¹ Our analysis of staff security passes of workers from MAG and third party companies based at our airports demonstrates that the vast majority of airport workers live in the communities adjacent to our airports, with separate reports during the COVID-19 pandemic demonstrating that the downturn of aviation has serious profound impacts on communities close to major airports.

[Question 69c. What impact, if any, do you think the designation of an airport have on airport users?](#)

Questions 65-70 of this consultation consider the designation powers in the Civil Aviation Act 1982 (Paragraph 78(3)), the circumstances in which the powers should be used and the consequences of designation or de-designation of airports from the perspective of different stakeholders. Given the complexity of this topic, we have provided a full answer in a letter accompanying our response. This should be read in conjunction with our detailed answer to this question.

The reduction in operational flexibility and competitive market distortion which are likely to result from the designation of an airport will impact upon airport users. Although night flight dispensation rules provide a helpful tool to minimise disruption, they add a regulatory cost to operators and there are cases when they do not apply. As such, and with reduced operational flexibility, it is highly likely that passengers will suffer additional disruption. Taking account of the cost of this disruption and limited availability, fares are also likely to increase.

[Question 69d. What impact, if any, do you think the designation of an airport have on airlines?](#)

Questions 65-70 of this consultation consider the designation powers in the Civil Aviation Act 1982 (Paragraph 78(3)), the circumstances in which the powers should be used and the consequences of designation or de-designation of airports from the perspective of different stakeholders. Given the complexity of this topic, we have provided a full answer in a letter accompanying our response. This should be read in conjunction with our detailed answer to this question.

¹⁰ York Aviation (2021) *The Economic Impact of Night Flying at the MAG Airports*, Table 3.1.

¹¹ York Aviation (2021) *The Economic Impact of Night Flying in the UK*, Airlines UK.

The reduction in operational flexibility and competitive market distortion which are likely to result from the designation of an airport will impact upon airlines. Although night flight dispensation rules provide a helpful tool to minimise disruption, they add a regulatory cost to operators and there are cases when they do not apply. As such, and with reduced operational flexibility, it is highly likely that airlines will suffer additional disruption and be less able to respond to it in the ways in which they would most like. Such disruption, combined with more limited operational freedoms, will increase airline costs and make designated airports less attractive relative to others which are not.

Question 69e. What impact, if any, do you think the designation of an airport have on business in and around airports?

Questions 65-70 of this consultation consider the designation powers in the Civil Aviation Act 1982 (Paragraph 78(3)), the circumstances in which the powers should be used and the consequences of designation or de-designation of airports from the perspective of different stakeholders. Given the complexity of this topic, we have provided a full answer in a letter accompanying our response. This should be read in conjunction with our detailed answer to this question.

With the designation of an airport likely to limit or reduce activity, businesses at and around the airport will be adversely impacted. Research by York Aviation (2021) into night flying highlights that the wider economic and employment impacts of night flying can be around ten times greater than the direct onsite impacts.¹²

Question 70a. What impact, if any, do you think the de-designation of an already designated airport (Heathrow, Gatwick, Stansted) will have on communities?

Questions 65-70 of this consultation consider the designation powers in the Civil Aviation Act 1982 (Paragraph 78(3)), the circumstances in which the powers should be used and the consequences of designation or de-designation of airports from the perspective of different stakeholders. Given the complexity of this topic, we have provided a full answer in a letter accompanying our response. This should be read in conjunction to our detailed answer to this question.

At those airports that are subject to designation, night noise has been directly regulated by Government for decades. We do not believe that, once designated, any airport has ever been de-designated. It is inevitable therefore that any de-designation would change longstanding arrangements.

Some stakeholders, including some airlines, some local community representatives and some local authorities have welcomed the intervention of Government. They see government as an independent and competent body with sufficient resources to carefully assess noise impacts, undertake consultation and impose a balanced programme of night noise controls. It is likely that they would be concerned to ensure that any proposal for de-designation would not result in lower standards.

Given the longstanding arrangements at designated airports, any de-designation would need to be carefully managed and ensure that locally determined arrangements were likely to result in an acceptable noise regime, informed by local stakeholders and consistent with regulatory requirements, including the Environmental Noise Regulations and the Balanced Approach. By way of example, Stansted has recently received planning permission to increase operations to 43 million passengers per annum. The permission is accompanied by several, legally binding, conditions to limit the impact of aircraft noise. This includes a limit on the size of the night noise contour, which would continue to apply whether the airports was designated or not.

As a result of the Government's consultation in 2017¹³, the competent body for approving all operating restrictions imposed outside of the planning system is the Secretary of State for Transport. By retaining the approval of any operating restrictions with the Secretary of State, and potentially extending this role to broader noise controls, it is likely that concerned local stakeholders could be reassured that even if an

¹² York Aviation (2021) *The Economic Impact of Night Flying in the UK*, Airlines UK.

¹³ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/918784/consultation-response-on-uk-airspace-policy-web.pdf (p 2.112)

airport was de-designated the Secretary of State would retain supervision and oversight, and ultimately that changes to noise controls would require Government's approval. A regime where noise controls are informed by local engagement but subject to approval from the Secretary of State would address the Government's concern that decisions "*must be informed by engagement at the local level...*", whilst still providing local stakeholders with reassurance of independent oversight and scrutiny.

The regime imposed by the Environmental Noise Regulations could provide, and arguably already provides, a mechanism to deliver this approach. All major airports are required to assess noise impacts and to prepare a noise action plan informed by local consultation. The draft plan is presented to the Secretary of State (for Environment, Food and Rural Affairs) for approval. Providing it meets regulatory requirements, Government has discretion to adapt the scope of the noise action planning process to ensure that it addresses all relevant aspects, including, as necessary, the control of noise at night.

[Question 70b. What impact, if any, do you think the de-designation of an already designated airport \(Heathrow, Gatwick, Stansted\) will have on airports?](#)

Questions 65-70 of this consultation consider the designation powers in the Civil Aviation Act 1982 (Paragraph 78(3)), the circumstances in which the powers should be used and the consequences of designation or de-designation of airports from the perspective of different stakeholders. Given the complexity of this topic, we have provided a full answer in a letter accompanying our response. This should be read in conjunction to our detailed answer to this question.

The removal of Government-imposed operating restrictions, de-designation would require careful stakeholder management by airports. However, airports have considerable experience in identifying and engaging local stakeholders. Such engagement is demonstrated through the noise action planning process, which includes public consultation and could be strengthened to provide greater consideration of night noise. As they undertake airspace change, airports are engaging very widely – providing the opportunity to adopt existing platforms more permanently. For example, we have worked with The Consultation Institute and introduced Stakeholder Reference Groups at each of our airports – these groups help inform our approach to consultation, ensuring we engage fully with relevant stakeholders.

De-designation, through local planning and noise action planning processes, would be likely to require airports to agree whether it is necessary to introduce night noise limits and, if so, what they should be. However, many airports have already agreed such limits through the planning process. For example, all three MAG airports have agreed night noise limits – for example, the area of a specified noise contour. Such limits are also now in place at Stansted Airport, which is currently designated by Government, but where our recent planning permission introduced a limit on noise at night.

[Question 70c. What impact, if any, do you think the de-designation of an already designated airport \(Heathrow, Gatwick, Stansted\) will have on airport users?](#)

Questions 65-70 of this consultation consider the designation powers in the Civil Aviation Act 1982 (Paragraph 78(3)), the circumstances in which the powers should be used and the consequences of designation or de-designation of airports from the perspective of different stakeholders. Given the complexity of this topic, we have provided a full answer in a letter accompanying our response. This should be read in conjunction to our detailed answer to this question.

The de-designation of an airport is unlikely to have an immediate impact on airport users. However, the additional flexibility an airport would gain from the removal of complex operational restrictions is likely to reduce the impact of operational disruption which results from events that are not covered by night flight dispensations.

[Question 70d. What impact, if any, do you think the de-designation of an already designated airport \(Heathrow, Gatwick, Stansted\) will have on airlines?](#)

Questions 65-70 of this consultation consider the designation powers in the Civil Aviation Act 1982 (Paragraph 78(3)), the circumstances in which the powers should be used and the consequences of designation or de-designation of airports from the perspective of different stakeholders. Given the

complexity of this topic, we have provided a full answer in a letter accompanying our response. This should be read in conjunction to our detailed answer to this question.

It is difficult to assess the impact of de-designation on an airline without a view of what locally agreed noise controls would be implemented by an airport in its place. However, it is important to note that airlines are important stakeholders in the development of noise management controls. As such, MAG has a long history of engaging with its airlines in the development of its noise action plans.

Subject to the local agreement of alternative controls, de-designation and the resulting removal of complex operational restrictions, could offer benefits to airlines. Firstly, through the ability to respond more flexibly to operational disruption that is not covered by night flight dispensations. Secondly, because locally agreed noise controls would comply with the internationally agreed Balanced Approach which airlines support. As such, airports would not simply resort to arbitrary operating restrictions such as movement limits that are not demonstrated to relate to noise objectives. Rather, airports would develop controls which focus on managing noise holistically and with the full engagement of airlines.

We anticipate that, in some circumstances, existing operators might prefer to maintain night flight restrictions at busy airports which are already designated. Whilst such restrictions might be beneficial to airlines who already hold significant market share, they also serve to restrict access for other operators. Slot rules provide the framework to equitably manage available airport capacity, and can therefore manage noise capacity, and this should be explicitly built into future Government slots policy.

[Question 70e. What impact, if any, do you think the de-designation of an already designated airport \(Heathrow, Gatwick, Stansted\) will have on business in and around airports?](#)

Questions 65-70 of this consultation consider the designation powers in the Civil Aviation Act 1982 (Paragraph 78(3)), the circumstances in which the powers should be used and the consequences of designation or de-designation of airports from the perspective of different stakeholders. Given the complexity of this topic, we have provided a full answer in a letter accompanying our response.

Final comments

[Question 71. Any other comments?](#)

Through the local planning system, Stansted Airport has entered into an obligation not to seek any relaxation of the current night flight restrictions. We are happy to support the Government with its consideration of the night noise control regime and any broader night noise policy, and our views and evidence are intended to ensure that Government is able to form its view on the basis of the best available and most up-to-date information. However, consistent with our undertaking, we wish to draw the Government's attention to our commitment, and our views should not be interpreted as seeking any relaxation of current controls.



The Economic Impact of Night Flying at the MAG Airports

		DEPARTURES		
		SCHEDULED	ESTIMATED	GATE
OU	364	DUBROVNIK	2100	02
JA	366	DUBROVNIK	2100	03
OU	707	SKOPJE	2100	04
OU	342	SARAJEVO	2100	13
OU	8660	SARAJEVO	2100	15
OU	660	DUBROVNIK	2105	03
AZ	543	DUBROVNIK	2105	15
AF	2055	MILAN-MALPENSA	0550	03
LH	2485	PARIS	0635	02
OU	410	FRANKFURT	0650	16
SK	9300	FRANKFURT	0655	12
OS	7052	FRANKFURT	0655	12
		VIENNA	0655	



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Executive Summary

Introduction

1. In early 2021 Manchester Airports Group (MAG) commissioned York Aviation to undertake an assessment of the economic value of night flying at its three airports, Manchester, Stansted and East Midlands. The research has been undertaken alongside a broader national study being undertaken by York Aviation on behalf of Airlines UK, of which MAG is a sponsor. In this regard, this analysis builds upon the models and thinking that have been developed as part of this broader work but considers the specifics around each of the MAG airports, building on previous general economic impact work undertaken by York Aviation on each airport.
2. We note that the Government published its response to Part One of the consultation that it launched on 2 December 2020, which sought views on the night flights regime at the designated airports (Heathrow, Gatwick and Stansted) beyond 2022, and night flights in the national context. Part Two of the consultation, seeking early views and evidence on policy options for the government's future night flight policy at the designated airports beyond 2024, and nationally, remains open until 3 September 2021.
3. The research uses 2019 as a base year, given the current dislocation of the air transport market as a result of the COVID-19 pandemic. It examines both the economic value of night flying that took place in 2019 and also the potential economic effects of introducing increased restrictions on night flying at UK airports. The research takes into account the international approach to aircraft noise management which is based on the ICAO 'Balanced Approach'. The Balanced Approach consists of identifying noise problems that exist at an airport and then assessing the cost-effectiveness of the various measures available to reduce noise. The Balanced Approach has been incorporated into UK law and the government has a duty to undertake an assessment of any proposals it brings forward in the context of the Balanced Approach.
4. The study has collected primary data on night flying activity at each of the MAG airports, which has provided a basis for estimating the number of workload units accounted for by night activities. This has then been used as a basis for estimating the economic impacts associated with night flying at each airport, based on existing economic impact research in 2019 in terms of GVA and employment supported. This has included using existing research undertaken by York Aviation for MAG to identify national and regional economic multipliers. The modelled impact that restricting night flying would have has been based on an assessment of the loss of traffic (passenger or cargo) that would come with fewer movements in the night-time period.

Profile of Night Flying at MAG

5. The three MAG Airports, Manchester Airport, London Stansted Airport and East Midlands Airport, together, play a significant role in the UK economy. Manchester is the busiest UK airport outside of London (and the UK's third busiest airport) with passenger and freight services, connecting the north of England to the rest of the world. London Stansted Airport, the third largest London airport, is the largest base for Europe's largest airline, Ryanair. London Stansted is also one of the busiest freight airports in the UK. East Midlands Airport is the largest UK Hub for DHL and UPS, with significant freight activity and is a hub for Royal Mail. The airport is the second busiest airport for freight traffic in the UK, behind Heathrow, and the largest airport for freighter movements. It also offers a range of low fares passenger services. Together, the MAG airports handled around 62 million passengers in 2019 (around 21% of the UK total) and around 670,000 tonnes of freight (26% of freight tonnage handled at UK airports).
6. Night flying at the MAG airports represents a significant minority of total flying activity. In 2019, around 4.1 million passengers flew to or from Manchester Airport during the night period (around 14% of total traffic), compared with around 3.3 million at Stansted (around 12% of total traffic) and 0.8 million via East Midlands (around 17% of the total). In total, passengers flying in the night period account for nearly 15% of the total passenger traffic across MAG Airports.

7. Cargo activity at the MAG airports shows a different picture. In 2019, a significant proportion of cargo was flown during the night period, driven primarily by East Midlands Airport, which handled over 60% of its cargo tonnage at night. MAG, as a whole, handled over 310,000 tonnes during the night period. The majority of this night activity was undertaken during the Night Quota Period¹ at East Midlands Airport. In comparison, Stansted Airport handled around 90,000 tonnes of freight at night in the same year. Manchester Airport handled the lowest amount of cargo at night, with 15,000 tonnes, with the great majority of its tonnage handled during the day. Overall, nearly half of all freight tonnage (46%) was transported during the night at MAG Airports.
8. Cargo valued at around £32 billion was handled at East Midlands Airport. The value of freight flown through Stansted also reached close to £30 billion, suggesting that the average value of cargo per movement was greater at Stansted Airport than at East Midlands. The MAG Airports combined, handled cargo valued at over £62 billion in 2019, which represented nearly 60% of the value of cargo flown at night from UK airports, which suggests that cargo flying through MAG airports is higher than the UK average.

The Current Economic Impact of Night Flying

9. The economic impact generated by night flying at MAG airports has been assessed using a commonly used and widely accepted economic impact framework which assesses employment and Gross Value Added (GVA) in terms of direct, indirect and induced effects, and also considers the wider impacts supported in the economy by the quality of air connectivity supporting productivity across a wide range of sectors. The direct, indirect and induced impacts reflect the GVA and employment generated by operating flights at night.
10. Wider impacts are different as they accrue to the economy through the benefits that users of passenger and cargo services gain from night flying. These impacts cannot be directly observed in the same way as direct, indirect and induced impacts, and estimates are based on economic modelling. These effects are embedded in the broader UK economy.
11. In 2019, across the UK, the MAG airports supported significant GVA and employment through night flying. These impacts are driven particularly by cargo activities. MAG's night flying accounts for 8,050 direct jobs and £455 million of direct GVA, and 12,900 indirect and induced jobs and £635 million of indirect and induced GVA. Wider impacts are felt across the UK but form a significant proportion of overall impact, accounting for £5.3 billion of GVA and 60,650 jobs.
12. In terms of total impact, including the wider impact, East Midlands Airport stands out. The airport accounts for £3.3 billion in GVA and 41,300 jobs. This is heavily driven by activity in the NQP and reflects East Midlands Airport's unique status as an express freight hub for the UK. Night flying at Stansted had the next largest impact, at around £1.8 billion in GVA in 2019 and 22,500 jobs. This, again, reflects Stansted's particular role as an important express freight airport serving London. Night flying at Manchester Airport has the smallest total economic impact but this remains significant at around £1.3 billion in GVA and 17,800 jobs.

The Impact of Restricting Night Flying

13. We evaluated the economic impacts that would occur under four hypothetical scenarios that would further constrain the levels of night flying that occurs at UK airports:
 - Night Ban – a total ban on all aircraft movements between 23:00 and 06:59;
 - NQP Ban – a total ban on all aircraft movements during the NQP (23:30 to 05:59);
 - NQP Ban, 50% Night Reduction – a total ban on all aircraft movements during the NQP (23:30 to 05:59), and a 50% reduction in aircraft movements between 23:00 to 23:29 and 06:00 to 06:59;

¹ The 'Night Period' is defined as the time period between 23:00 and 06:59. The 'Night Quota Period' (NQP) is a term used by government and is defined as 23:30 to 05:59. 'Other Night' includes the parts of the standard 'night period' that are not within the NQP – i.e. 23:00 to 06:59. 'Day' is the daytime period, defined as 07:00 to 22:59.

→ 50% Night Reduction – a 50% reduction of aircraft movements between 23:00 and 06:59.

14. These scenarios are, of course, simplified and illustrative. In particular, they assume that increased restrictions are applied across the UK and, hence, there is no shifting of demand between UK airports. It should also be recognised that while the approach does consider 'knock-on' effects to daytime operations, it does not necessarily identify the full range of less quantifiable 'shadow effects' that might come with night curfews or similar tight restrictions.
15. A complete ban on night flying (Scenario 1) would result in a loss of £360 million of direct GVA and put 6,400 direct jobs at risk across the MAG airports. The impact under the other scenarios is less but still significant, with even a 50% reduction in night flying resulting in a loss of £70 million of GVA and a threat to 1,400 jobs. In terms of indirect & induced impact, a complete ban on night flying would result in a loss of around £500 million of GVA and put 10,150 jobs at risk. The impact under the other scenarios is less but still significant, with even a 50% reduction in night flying (Scenario 4) resulting in a loss of £100 million of GVA and a threat to 2,300 jobs.
16. The wider impacts are significant. A complete ban on night flying (Scenario 1) would result in a loss of £4.7 billion of GVA and put 53,510 jobs at risk. Again, the impact under the other scenarios is less but still significant, with even a 50% reduction in night flying (Scenario 4) resulting in a loss of £2 billion of GVA and a threat to 23,400 jobs.
17. Under a complete night flying ban (Scenario 1), it is estimated that the total loss to the UK economy is around £5.5 billion, putting around 70,000 jobs at risk. The greatest contributor to this loss is the freight activity at East Midlands Airport, estimated to be around £3 billion in GVA, putting around 38,000 jobs at risk. Losses at Manchester and Stansted are less extreme, but still in excess of £1 billion at each airport.
18. Under a NQP Ban and 50% Reduction in Other Night (Scenario 2), it is estimated that the total loss to the UK economy is around £4.3 billion in GVA and 53,250 jobs. Here too, the greatest contributor to this loss is cargo activity at East Midlands Airport, estimated to be around £2.9 billion in GVA and 35,750 jobs. Stansted Airport would be severely affected by an NQP ban and 50% Reduction in Other Night with impacts reduced by over £1 billion in GVA and over 12,000 jobs.
19. In contrast to East Midlands and London Stansted, the impact at Manchester Airport is smaller. It is estimated that under a NQP ban and 50% Reduction in Other Night scenario, the UK could lose up to £225 million in GVA and around 3,000 jobs. However, as the airport has limited activity in the NQP, the potential loss in GVA and employment is smaller under a NQP ban. Under a 50% Reduction in Night Activity (Scenario 4), it is estimated that the loss to the economy is around £70 million in GVA and around 920 jobs.
20. If night flying is restricted at the MAG airports, this will ultimately result in reduced passenger numbers and cargo tonnage. From the perspective of wider economic impacts, this will include business passengers who rely on direct air services at convenient times of day to minimise the duration of business trips and time sensitive cargo that needs to be transported overnight to enable next day delivery. It is estimated that a complete night ban would lead to a loss of around 6.3 million passengers and around 273,000 tonnes in cargo activity across MAG Airports. Manchester Airport would lose the largest number of passengers, whilst East Midlands would lose the most cargo tonnage.
21. The analysis also considers the overall welfare costs to users as a result of increased night restrictions. The total night curfew also impacts passengers in the form of increases in airfares, estimated to be close to £42 million across the MAG airports. The importance of the NQP period is also highlighted in Scenarios 2 and 3, where the increase in airfares is estimated to be close to £38 million under a NQP Ban and 50% reduction in other night, and close to £11 million with a NQP ban. The impact varies depending on the extent of the constraint on night flying, with the impact of a 50% reduction in night flying notably lower. The overall impact of the resultant increase in airfares across the MAG airports totals to around £1.3 million.
22. We estimate that a complete ban on night flying is likely to cost passengers around £46 million extra in monetised time across MAG airports to reschedule their flights to daytime. The majority of these impacts are likely to affect short haul passengers, with around £33 million in additional cost (over 70% of the total retime costs). These figures slightly drop under Scenario 2 (NQP Ban with 50% Reduction in Other Night), where the total cost of

retiming flights is estimated to be around £30 million. Under a NQP Ban in Scenario 3, it is estimated that there is an additional £6 million cost to passengers. However, under Scenario 4, a 50% reduction in night flying, it is estimated that this curfew is likely to cost a further £27 million.

1. Introduction

Background

- 1.1. In March 2021, Manchester Airports Group (MAG) commissioned York Aviation to undertake an assessment of the economic value of night flying at its three airports, Manchester, Stansted and East Midlands. The research has been undertaken alongside a broader national study being undertaken by York Aviation on behalf of Airlines UK, of which MAG is a sponsor. In this regard, this analysis builds upon the models and thinking that have been developed as part of this broader work but considers the specifics around each of the MAG airports, building on previous general economic impact work undertaken by York Aviation on each airport.
- 1.2. We note that the Government published its response to Part One of the consultation that it launched on 2 December 2020, which sought views on the night flights regime at the designated airports (Heathrow, Gatwick and Stansted) beyond 2022, and night flights in the national context. The decision was that:
 - the existing night noise objective and night flight restrictions will be rolled over for a period of 3 years;
 - the next night flight regime will run from October 2022 to October 2025;
 - the government will implement a ban on QC4 rated aircraft movements at the designated airports during the night quota period from October 2022.
- 1.3. Part Two of the consultation, seeking early views and evidence on policy options for the government's future night flight policy at the designated airports beyond 2024, and nationally, remains open until 3 September 2021.

Research Scope

- 1.4. The scope for the research is as follows:
 - **Profile of Night Flying** – establishes a profile of night flying at the MAG airports based on data provided by MAG. It considers passenger and cargo volumes, and movements, identifying key geographic markets, key time periods and directionality. It also distinguishes between integrator flown and general air freight to provide a broad view on the balance between express freight activities and general air freight;
 - **Operational Gross Value Added (GVA) and Employment Impacts** – this analysis establishes the direct, indirect and induced impacts associated with the operation of night flights at the MAG airports;
 - **Wider GVA and Employment Impacts** – this analysis also provides an assessment of the wider economic impacts of night flying at each airport, productivity impacts associated with business travel and cargo operations in the wider economy;
 - **Passenger Impacts** – this analysis provides an assessment of the potential impact on passenger air fares and potential journey times at MAG airports;
 - **Connectivity Impacts** – this analysis provides some guidance on the extent of the impact on connectivity, but this is relatively limited given the evidence base identified.
- 1.5. The research uses 2019 as a base year, given the current dislocation of the air transport market as a result of the COVID-19 pandemic. It examines both the economic value of night flying that took place in 2019 and also the potential economic effects of introducing increased restrictions on night flying at UK airports.

Relationship with the Balanced Approach

- 1.6. Prior to considering the results of this analysis, it is important to consider how it sits within the international approach to aircraft noise management which is based on the ICAO 'Balanced Approach'. The Balanced Approach

consists of identifying noise problems that exist at an airport and then assessing the cost-effectiveness of the various measures available to reduce noise through the exploration of four principal elements, which are:

- reduction of noise at source (quieter aircraft);
- land-use planning and management;
- noise abatement operational procedures (optimising how aircraft are flown and the routes they follow to limit the noise impacts);
- operating restrictions (including night flight restrictions brought about via this process).

- 1.7. At its core, the Balanced Approach is based on the principle of sustainable development, allowing development of air travel while balancing the impact on the acoustic environment. The Balanced Approach has been incorporated into UK law and the government has a duty to undertake an assessment of any proposals it brings forward in the context of the Balanced Approach.
- 1.8. It should be made clear at the outset that this work does not represent a cost effectiveness analysis or a cost benefit analysis. It does not seek to consider the scale of costs associated with night flying or to address the balance between costs and benefits. We would accept that there are potentially significant costs associated with night flying in some circumstances, but it is not within the scope of what we are seeking to analyse here to identify or estimate these. This analysis is solely focussed on providing evidence in relation to the economic benefits of night flying at MAG airports and, particularly, the wider economic benefits. In part, this focus on the economic benefits of night flying is designed to address an evidential gap within the Department for Transport's existing framework for considering the economic impacts of night flights.
- 1.9. The Systra approach for assessing the economic benefits of night flying was commissioned by the Department for Transport (DfT) and is its default approach to considering the economic effects of night flying. The approach considers economic welfare effects, examining the costs and benefits of night flying to different actors in the economy. Essentially, it considers airports, airlines, passengers, and the public accounts. This approach is taken in order to maximise compatibility with WebTAG, the Department's broader approach to appraising transport interventions. It should be noted that this is not an issue. It is a perfectly reasonable and sensible starting point. However, by its own admission, the Systra approach does not cover a number of effects that are potentially significant in the context of a taking a balanced approach to considering the costs and benefits of night flying. Specifically, it does not consider:
- Cargo users – the impacts on passengers as the users of passenger services are considered but there is no similar consideration of the impact on cargo users in terms of the costs of retiming or lost connectivity. Given the importance of night flying in the cargo market, particularly for express freight, this is a significant omission;
 - Wider Economic Benefits – it does not consider the broader impacts on the UK economy in terms of trade, foreign direct investment (FDI), productivity, or tourism from changes to the night flying regime. This applies to both passenger and cargo services. Again, this is potentially a significant omission;
 - Knock-on Effects through the day – the Systra approach does not consider how changes to operations in the night would affect daytime operations. It does not consider the potential impact on aircraft utilisation for short haul airlines, which is an essential tenet of the low-cost airline model. This could significantly impact fares and connectivity, which will ultimately have severe implications for overall demand and in turn significantly reduce economic benefits. It does not consider how transfer traffic might be affected through the remainder of the day by squeezing connection options, the same applies to transferring cargo traffic. In terms of express services, squeezing the night will potentially reduce daytime operations, with the overnight business model significantly impaired, the general business case for flying overall is reduced, with some daytime flights likely to move to trucking as well.
- 1.10. At present, the Systra approach, while broadly robust in what it covers, cannot be considered as a complete view of the economic costs and benefits of night flying. By extension, any attempt at a 'balanced approach' assessment
-

using it is at present not actually balanced. Significant potential benefits to society are not being considered. This research seeks to address a number of these concerns and to enable a better understanding of the benefits side of the equation.

Approach

- 1.11. The study has collected primary data on night flying activity at each of the MAG airports, which has provided a basis for estimating the number of workload units accounted for by night activities. This has then been used as a basis for estimating the economic impacts associated with night flying at each airport based on existing economic impact research in 2019 in terms of GVA and employment supported. This has included using existing research undertaken by York Aviation for MAG to identify national and regional economic multipliers.
- 1.12. The modelled impact that restricting night flying would have has been based on an assessment of the loss of traffic (passenger or cargo) that would come with fewer movements in the night-time period. The model takes into account a number of factors:
 - it reflects the extent and nature of movements in the night period and the potential for these to be retimed based on the business model of the airlines in question;
 - it considers the availability of capacity in alternate time periods for airlines to move activities into, particularly in terms of the availability of slots in the morning peak just after the night period;
 - it examines the implications for long haul and short haul passenger movements and the interaction between the two;
 - for short haul flying, it estimates the potential impact on numbers of based aircraft and the impact on aircraft utilisation across the day, alongside an assessment of the extent to which lost based flying might be backfilled by non-based aircraft;
 - for express cargo flying, it assumes there is very little opportunity to re-time night flights or volume carried but also that losing night flights will impact on corresponding departures or arrivals during the day;
 - for general air freight there is assumed to be considerably greater ability to retime, either at the airport in question or to another UK airport;
 - the model also considers passenger reactions in terms of lost demand relating to increased fares as the efficiency or short haul operations is impaired or relating to re-timing that increases overall journey times and means that passengers are forced to travel at times that are sub-optimal;
- 1.13. The overall effect of these changes is reflected in:
 - the loss of passenger and cargo volumes associated with either cancelled capacity that cannot be re-timed;
 - higher generalised costs of travel associated with reduced efficiency and impaired timings.
- 1.14. The overall associated change in workload units is then reflected in the GVA and employment supported by each airport. In other words, the GVA and employment impacts reflect the economic loss relating to increased night flying restrictions after airlines have sought to mitigate the impact of the changes on their operations.

Structure of the Report

- 1.15. This report is structured as follows:
 - in Section 2, we set out a profile of night flying at each of the MAG airports;
 - in Section 3, we present our estimates of the economic impact of night flying at the MAG airports in 2019;

- in Section 4, we outline the potential economic impact of increased night flying restrictions at the MAG airports under different scenarios;
- in Section 5, we present our conclusions from this analysis.

2. Profile of Night Flying at MAG Airports

Introduction

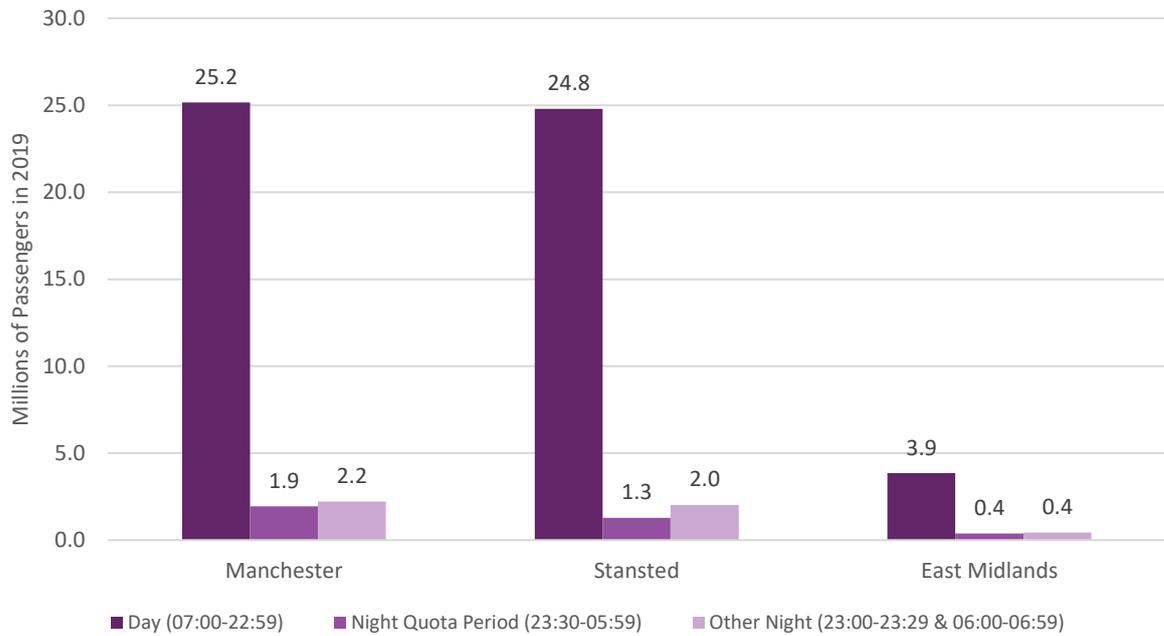
- 2.1. The three MAG Airports, Manchester Airport, London Stansted Airport and East Midlands Airport, together, play a significant role in the UK economy. Manchester is the busiest UK airport outside of London (and the UK's third busiest airport) with passenger and freight services, connecting the north of England to the rest of the world. London Stansted Airport, the third largest London airport, is the largest base for Europe's largest airline, Ryanair. London Stansted is also one of the busiest freight airports in the UK. East Midlands Airport is the largest UK Hub for DHL and UPS, with significant freight activity and is a hub for Royal Mail. The airport is the second busiest airport for freight traffic in the UK, behind Heathrow, and the largest airport for freighter movements. It also offers a range of low fares passenger services.
- 2.2. Together, the MAG airports handled around 62 million passengers in 2019 (around 21% of the UK total) and around 670,000 tonnes of freight (26% of freight tonnage handled at UK airports).
- 2.3. In this section, we set out a profile of night flying at each of the MAG airports to provide a basis for considering the economic impact of night flying at each airport.

Overview of Night Activity at the MAG Airports

- 2.4. Night flying at the MAG airports represents a significant minority of total flying activity. In 2019, around 4.1 million passengers flew to or from Manchester Airport during the night period² (around 14% of total traffic), compared with around 3.3 million at Stansted (around 12% of total traffic) and 0.8 million via East Midlands (around 17% of the total). In total, passengers flying in the night period account for nearly 15% of the total passenger traffic across MAG Airports.
- 2.5. At Manchester and Stansted, the balance of night passenger traffic is towards the periods outside of the Night Quota Period (NQP). At East Midlands, the position is relatively balanced between the NQP and the rest of the night.

² The 'Night Period' is defined as the time period between 23:00 and 06:59. The 'Night Quota Period' (NQP) is a term used by government and is defined as 23:30 to 05:59. 'Other Night' includes the parts of the standard 'night period' that are not within the NQP – i.e. 23:00 to 06:59. 'Day' is the daytime period, defined as 07:00 to 22:59.

Figure 2.1: Profile of Passenger Traffic at the MAG Airports During Day and Night Periods in 2019



Source: York Aviation analysis of MAG data.

2.6. Cargo activity at the MAG airports shows a different picture (see Figure 2.2). In 2019, a significant proportion of cargo was flown during the night period, driven primarily by East Midlands Airport, which handled over 60% of its cargo tonnage at night. MAG, as a whole, handled over 310,000 tonnes during the night period. The majority of this night activity was undertaken during the NQP at East Midlands Airport. In comparison, Stansted Airport handled around 90,000 tonnes of freight at night in the same year. Manchester Airport handled the lowest amount of cargo at night, with 15,000 tonnes, with the great majority of its tonnage handled during the day. Overall, nearly half of all freight tonnage (46%) was transported during the night at MAG Airports.

Figure 2.2: Profile of Cargo Tonnage at MAG Airports During Day and Night Periods in 2019



Source: York Aviation analysis of MAG data.

- 2.7. Figure 2.3 below shows the overall customs value of cargo flown to/from MAG airports. This demonstrates the significant value of what is being flown at night. Cargo valued at around £32 billion was handled at East Midlands Airport. The value of freight flown through Stansted also reached close to £30 billion, suggesting that the average value of cargo per movement was greater at Stansted Airport than at East Midlands. The MAG Airports combined, handled cargo valued at over £62 billion in 2019, which represented nearly 60% of the value of cargo flown at night from UK airports, which suggests that cargo flying through MAG airports is higher than the UK average. It should also be recognised that the customs value of cargo is far from a perfect measure. It frequently does not represent the full economic value of what is being shipped. For instance, a manufacturing component may not cost much but it may be vital to a production line for something that is either more expensive, time sensitive or for which interruption of production may be very expensive.

Figure 2.3: Customs Value of Cargo Flown at MAG Airports at Night (£ billions) in 2019



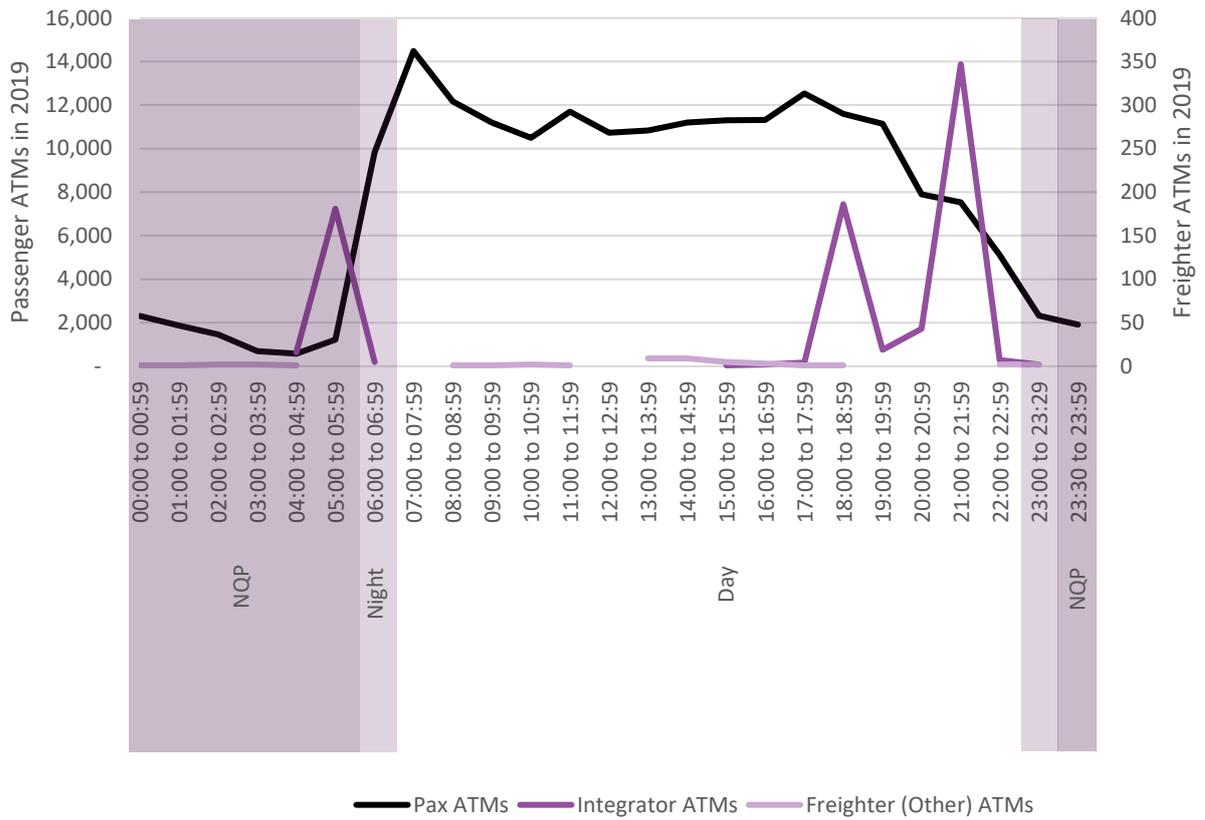
Source: York Aviation analysis of HMRC Regional Trade Statistics.

Manchester Airport

Air Transport Movements (ATMs) by Hour

- 2.8. Figure 2.4 shows air transport movements by hour at Manchester Airport in 2019 for passengers and freight.
- 2.9. For passenger air transport movements, the great majority of night activity was undertaken in the 06:00 to 06:59 period. This period accounted for nearly 10,000 movements at MAG airports in 2019. More generally, passenger ATMs then peaked in the following hour, before remaining relatively steady through to around 20:00, when ATMs start to fall away. Some passenger movements continue through the night, but these are in comparison relatively limited.
- 2.10. In respect of freight movements, the busiest time period at night was the Night Quota Period in the early morning, with around 180 movements in the period, driven by integrator aircraft.

Figure 2.4: Air Transport Movements (ATMs) at Manchester Airport per Hour by Aircraft Type in 2019



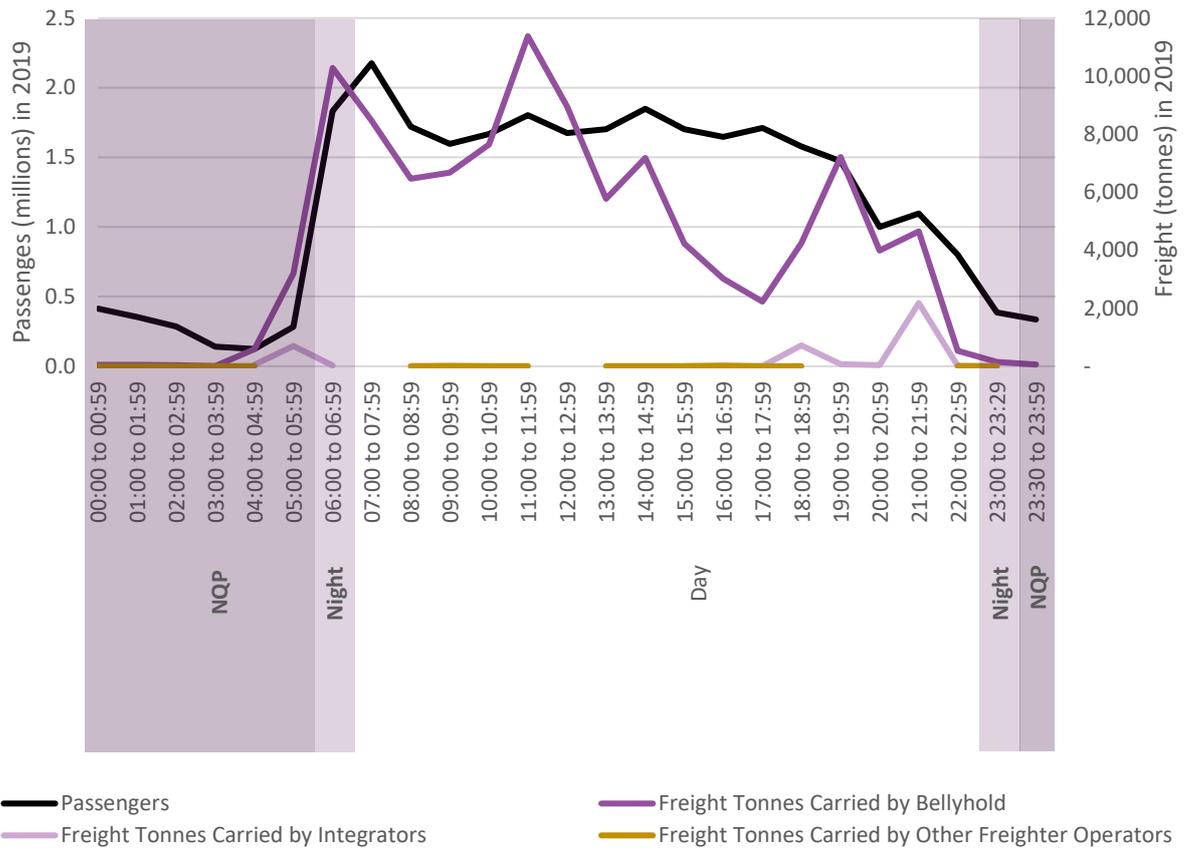
Source: York Aviation analysis of MAG data.

Passenger and Cargo Volumes

2.11. Figure 2.5 shows the hour-by-hour throughput for passengers and cargo tonnage in 2019 at Manchester Airport. For passengers, this essentially follows the same pattern as ATMs, with around 1.8 million passengers handled in the 06:00 to 06:59 period, with other parts of the night seeing substantially lower throughput on an hour-by-hour basis. Cargo tonnage moved at night on freight carriers is focussed on the early morning part of the NQP, driven mainly by bellyhold³ activity.

³ 'Bellyhold' cargo refers to cargo carried in the holds of passenger carrying aircraft.

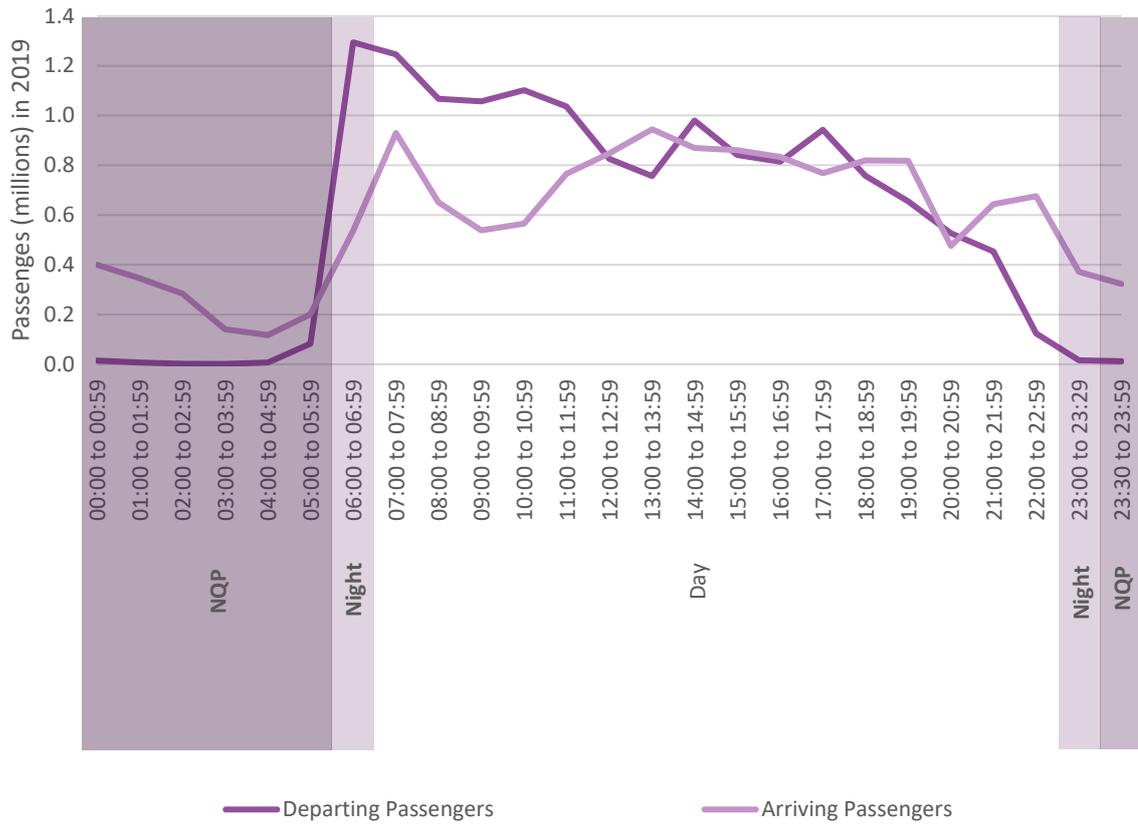
Figure 2.5: Passengers and Freight Handled at Manchester Airport per Hour in 2019



Source: York Aviation analysis of MAG data.

2.12. Figure 2.6 illustrates the arriving and departing passenger volumes at Manchester by hour in 2019. This demonstrates the important role that the 06:00 to 06:59 period plays in ‘getting operations started’ through the day to enable low-cost airlines in particular to complete their required rotations per aircraft. Conversely, at the other end of the day, it is possible to see arriving passengers outstripping departures, as aircraft complete their flying programmes into the night and early hours of the morning.

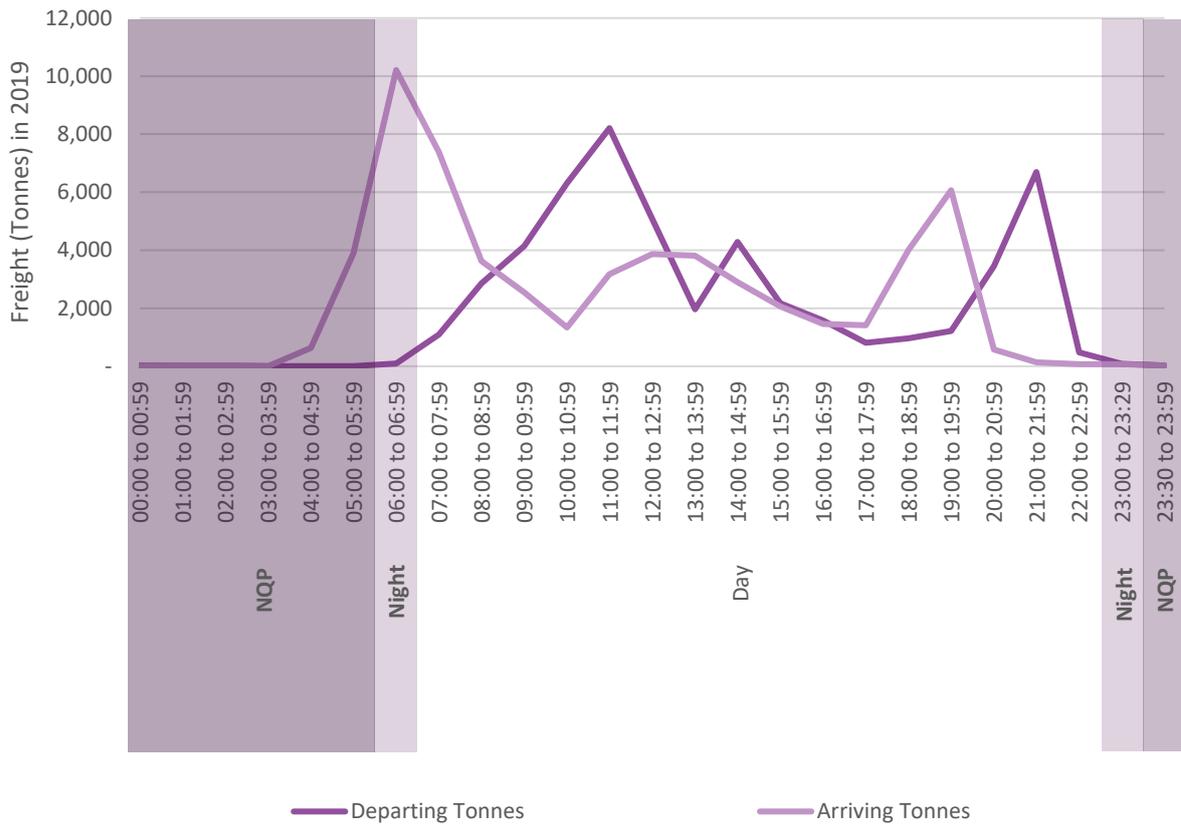
Figure 2.6: Passengers Handled at Manchester Airport per Hour by Arriving and Departing Passengers in 2019



Source: York Aviation analysis of MAG data.

2.13. Figure 2.7 below outlines the arriving and departing night activity in relation to the freight tonnage handled at Manchester Airport. As can be seen, the majority of the night cargo was carried in the early hours of the morning, as arrivals into the UK brought cargo ready for early morning deliveries.

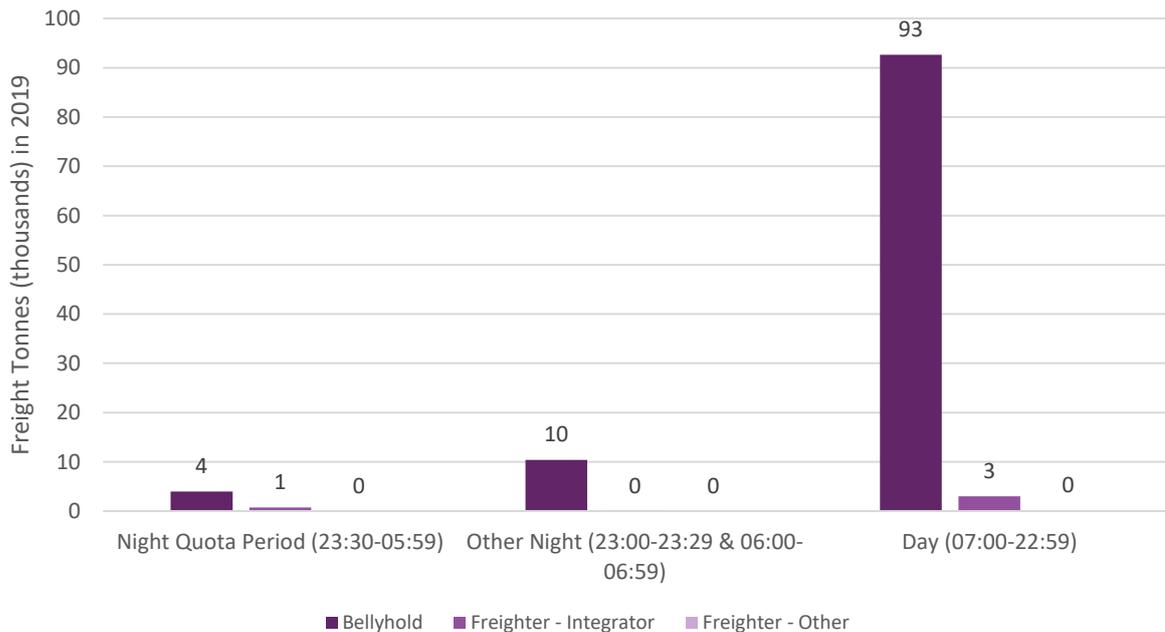
Figure 2.7: Air Freight Tonnes Arriving and Departing at Manchester Airport per Hour in 2019



Source: York Aviation analysis of MAG data.

2.14. In 2019, freight at Manchester Airport was transported primarily via bellyhold cargo. As can be seen in Figure 2.8, around 15,000 tonnes of freight were transported in the night period, the majority in hours outside the Night Quota Period. Overall, a relatively limited amount of cargo was moved during the night period.

Figure 2.8: Freight Tonnage at Manchester Airport by Broad Time Period in 2019

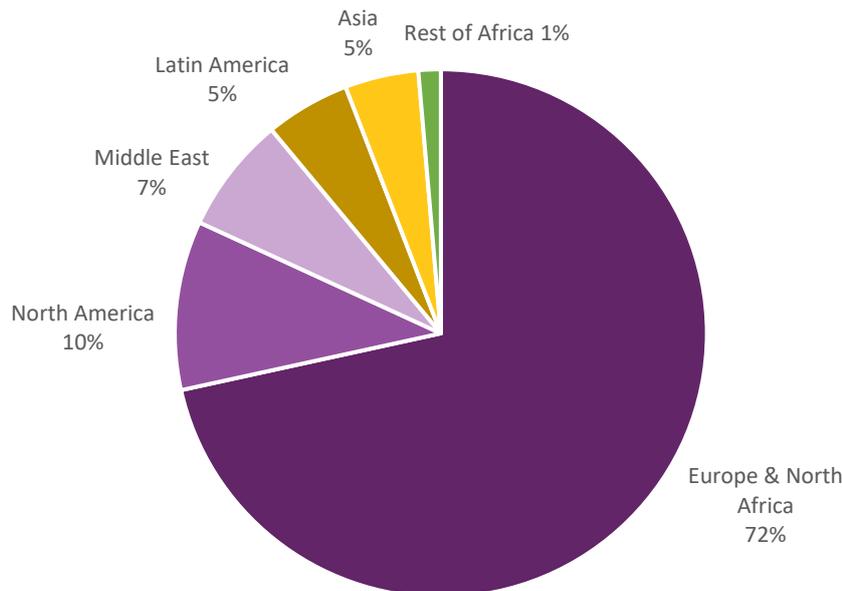


Source: York Aviation analysis of MAG data.

Geography of Night Flying

- 2.15. The majority of the passenger arrivals during the night period are from short haul destinations in Europe and North Africa (around 72%). This can be seen in Figure 2.9 below. Otherwise, around 10% of night arrivals came from North America and a further 18% came from other regions, including the Middle East, Latin America, Asia, and the Rest of Africa. Night passenger departures from Manchester Airport were primarily to Europe and North Africa (around 99%).
- 2.16. In contrast to passenger arrivals, night cargo arrivals primarily originated from Asia, Middle East and North America. This highlights the importance of long-haul connectivity at Manchester Airport not just in terms of passenger movements but also the freight arrivals.

Figure 2.9: Passengers Arriving at Manchester Airport During Night Period by World Region in 2019



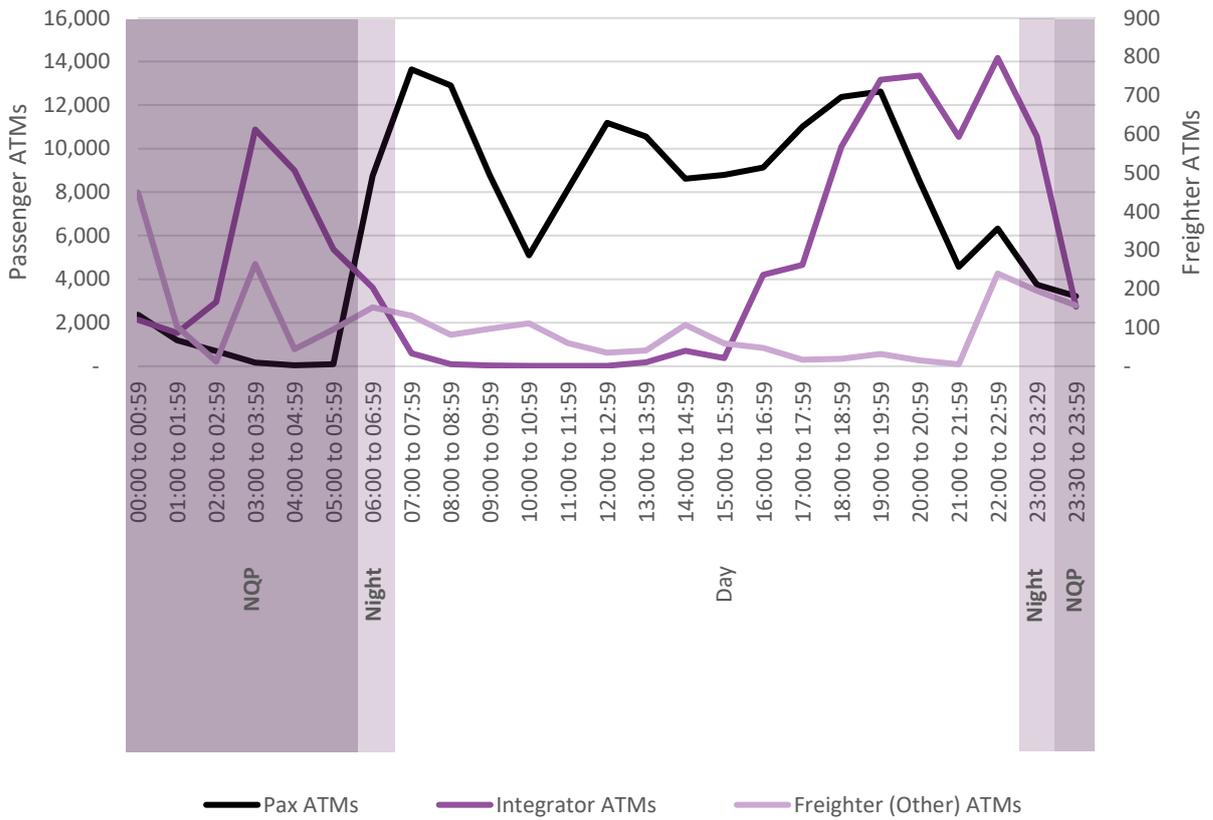
Source: York Aviation analysis of MAG data.

London Stansted

ATMs by Hour

- 2.17. Air Transport Movements at London Stansted Airport follow a more complex pattern. The airport shows various peaks in passenger ATMs throughout the day, with the biggest being in the 07:00 to 07:59 hour, just following the night period. The largest number of passenger movements in the night period is in the 06:00 to 06:59 hour, again reflecting the importance of this period to low-cost airlines. However, there is a level of activity throughout a large part of the night.
- 2.18. There are also a large number of integrator ATMs, with a significant peak in the early hours of the morning, as volume is brought into London for early morning delivery. There are also a notable number of movements in the 23:00 to 23:29 period and some activity through the night. General air freight movements are also generally more prevalent in the night period than the day.

Figure 2.10: Air Transport Movements (ATMs) at London Stansted Airport per Hour by Aircraft Type in 2019

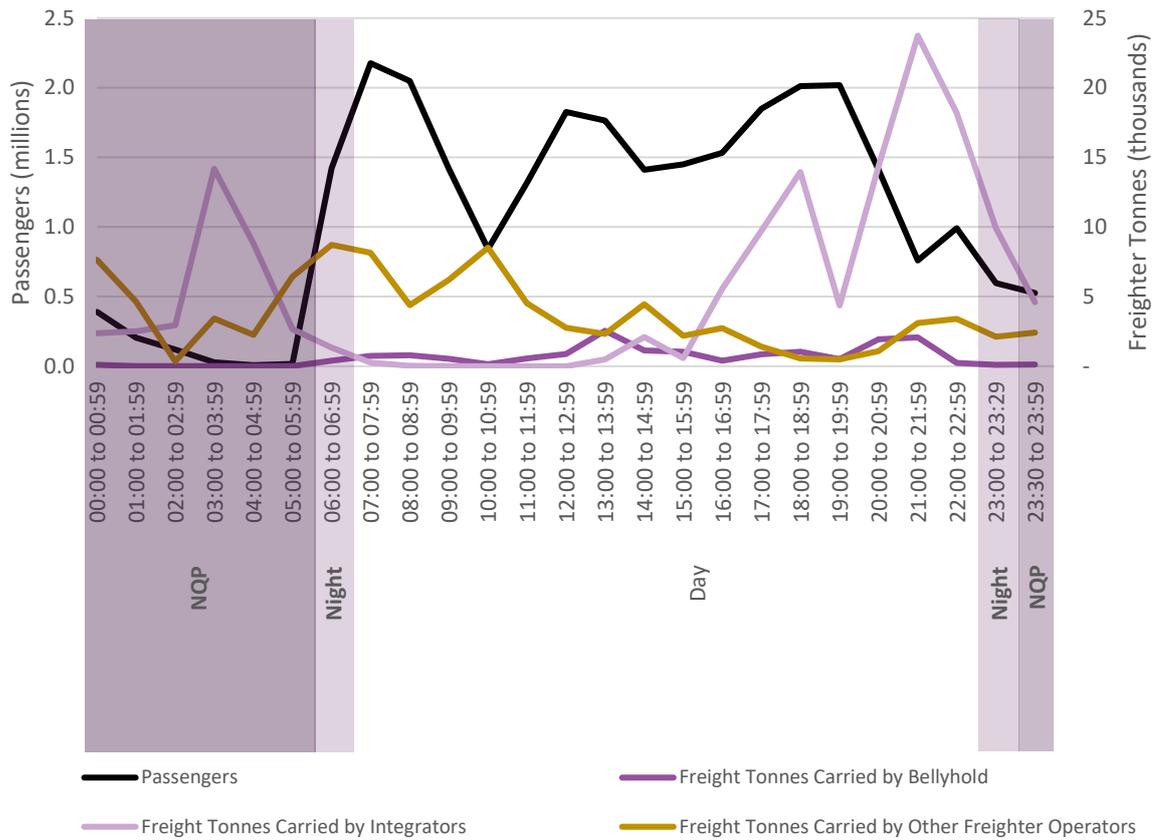


Source: York Aviation analysis of MAG data.

Passenger and Cargo Volumes

2.19. Figure 2.11 shows passenger volume movements by hour, alongside cargo tonnage movements. These, ultimately, very closely follow the patterns of movements described above.

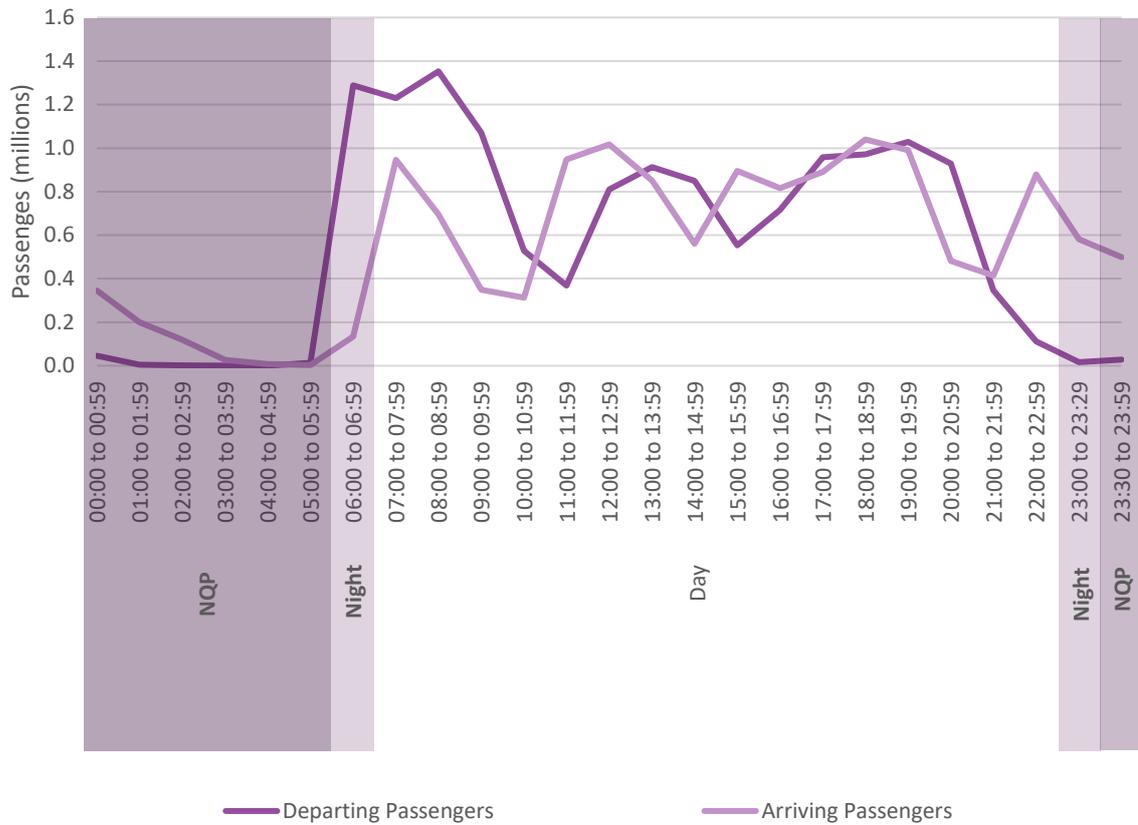
Figure 2.11: Passengers and Freight Handled at London Stansted Airport per Hour in 2019



Source: York Aviation analysis of MAG data.

2.20. Figure 2.12 confirms the importance of the 06:00 to 06:59 period for departures from the airport described above, reflecting the central importance to the low-cost business model. Arrivals do not begin in earnest until the 07:00 to 07:59 period. Again, at the other end of the day the opposite is true, with the volume of passenger arrivals significantly exceeding the departure volumes, as based aircraft return to the airport to complete the necessary rotations within their flying schedule.

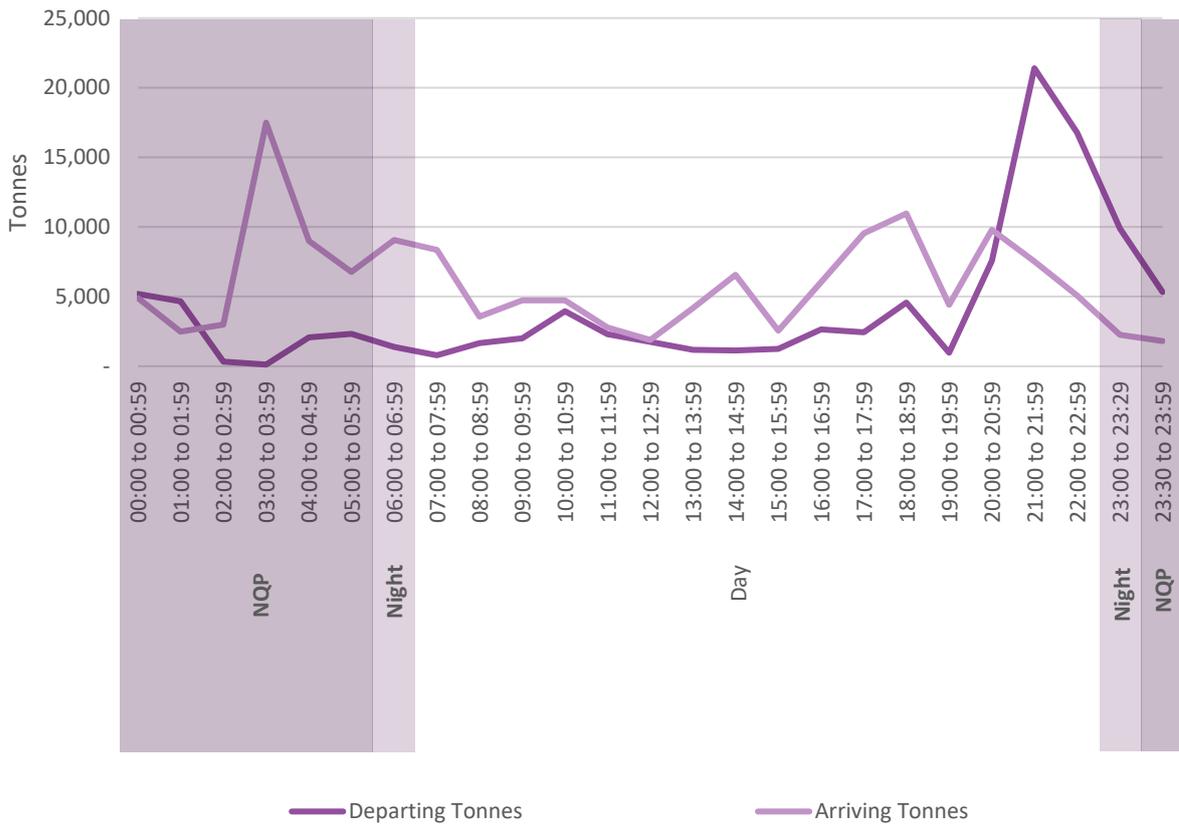
Figure 2.12: Passengers Handled at London Stansted Airport per Hour by Arriving and Departing Passengers in 2019



Source: York Aviation analysis of MAG data.

2.21. Freight volumes at Stansted Airport peaked primarily in and close to night periods (see Figure 2.13). Arrivals are focussed on the early hours of the morning, in the NQP, as the integrators bring volume into London for delivery. Departures peak at the end of the day, just before the night period, as these airlines are moving volume out of the UK for next day delivery elsewhere in the world.

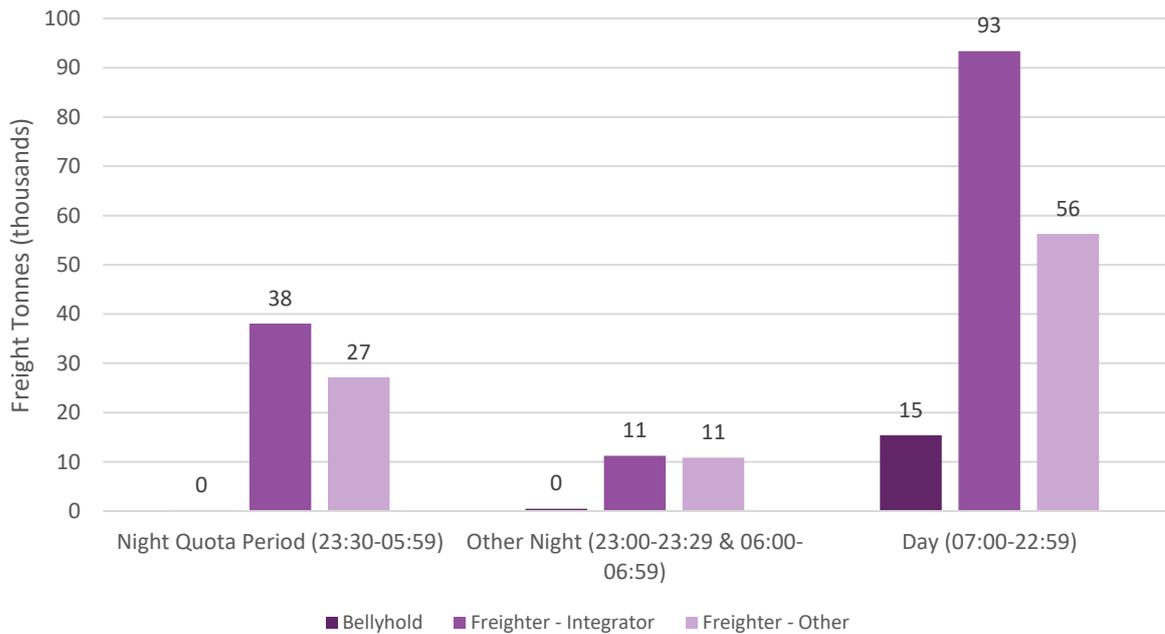
Figure 2.13: Air Freight Tonnes Arriving and Departing at London Stansted Airport per Hour in 2019



Source: York Aviation analysis of MAG data.

2.22. As can be seen in Figure 2.14, integrators are the largest cargo carriers at Stansted Airport at night, carrying nearly 50,000 tonnes, followed by general air freighters with around 38,000 tonnes. Cargo transported via bellyhold was limited generally and limited to daytime, reflecting the operating pattern of the Dubai service in particular.

Figure 2.14: Freight Tonnage at London Stansted Airport by Broad Time Period in 2019



Source: York Aviation analysis of MAG data.

Geography of Night Flying

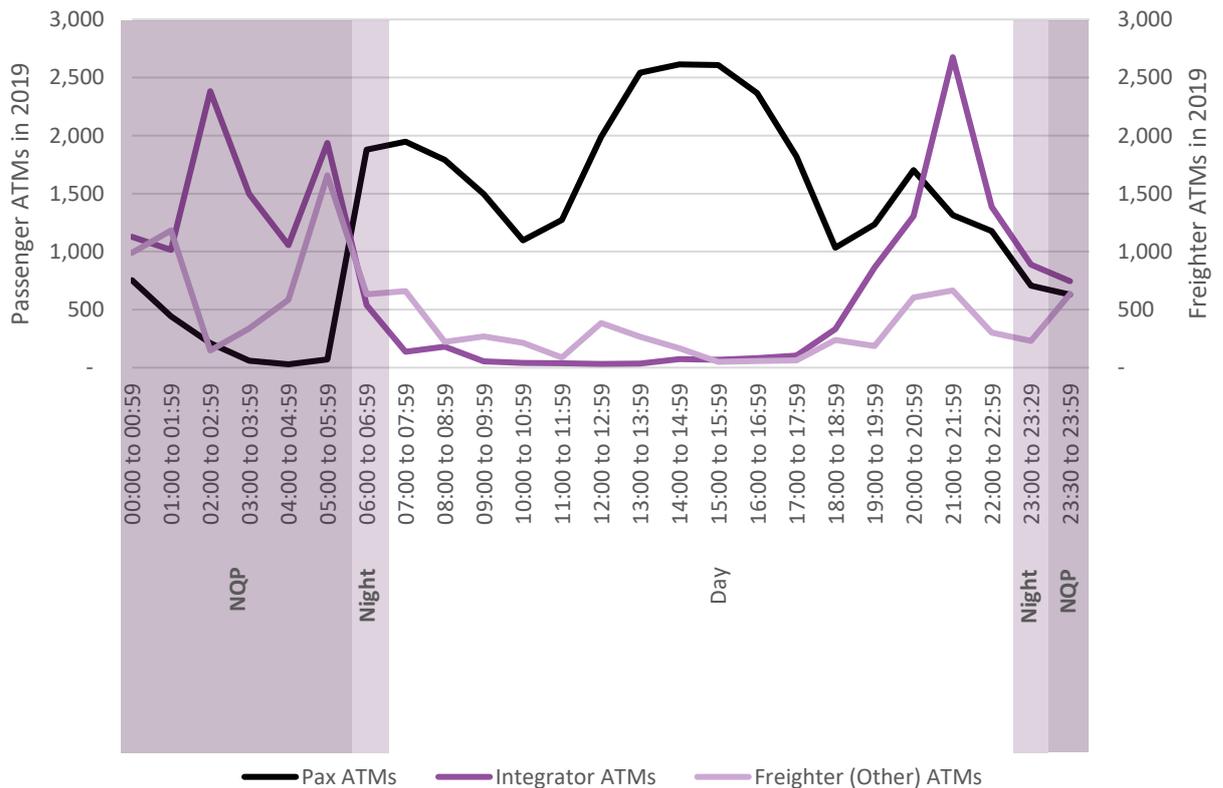
- 2.23. The great majority (99.7%) of passenger movements during the night period were to/from Europe and North Africa, which ultimately reflects the nature of traffic at the airport.
- 2.24. Cargo flown at night also originates primarily from Europe and North Africa (around two-thirds of total night freight volume). However, this is likely to reflect the location of regional integrator hubs and may not be the ultimate origin or destination. A considerable proportion of night inbound cargo also originated from Asia (around 18% of night arrivals by volume) and the Middle East (around a third of the night arrivals by volume). North America was the second biggest destination for outbound cargo in the night period (around 22% of night departures by volume).
- 2.25. Overall, the night period is an essential part of the operating environment for both passenger and cargo airlines at Stansted Airport.

East Midlands

ATMs by Hour

- 2.26. Figure 2.15 shows the annual hourly profile of ATMs at East Midlands in 2019. These follow a similar trend to Stansted Airport, but clearly with a smaller number of passenger ATMs. There is a very significant amount of cargo movements in the night period, and particularly within the NQP.

Figure 2.15: Annual Air Transport Movements at East Midlands Airport per Hour by Aircraft Type in 2019

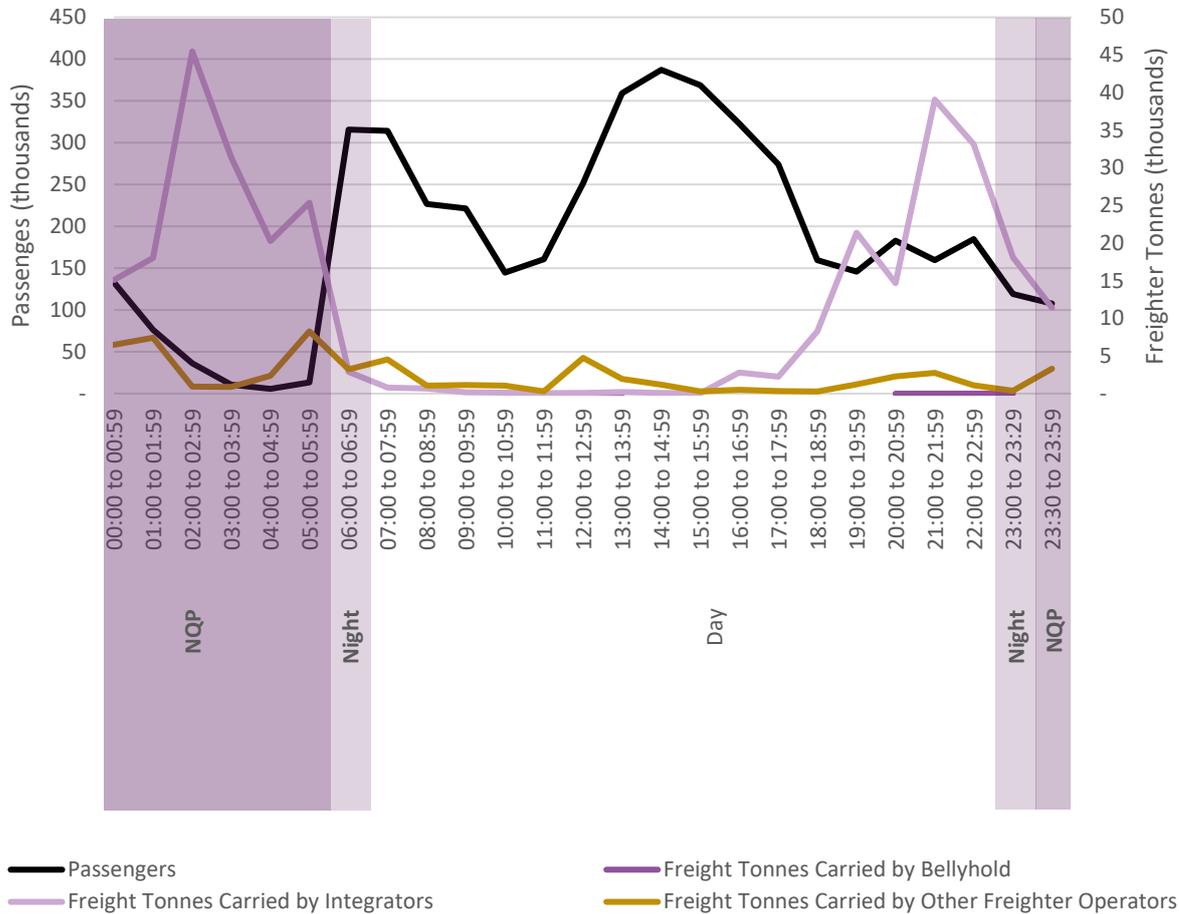


Source: York Aviation analysis of MAG data.

Passenger and Cargo Volumes

2.27. Figure 2.17 shows the passenger and cargo volumes by hour at East Midlands Airport in 2019. These essentially follow the same patterns as for movements, with a passenger peak at the end of the night period between 06:00 and 06:59, and significant integrator activity in the NQP period, reflecting the East Midlands Airport’s hub role for integrator activities in particular.

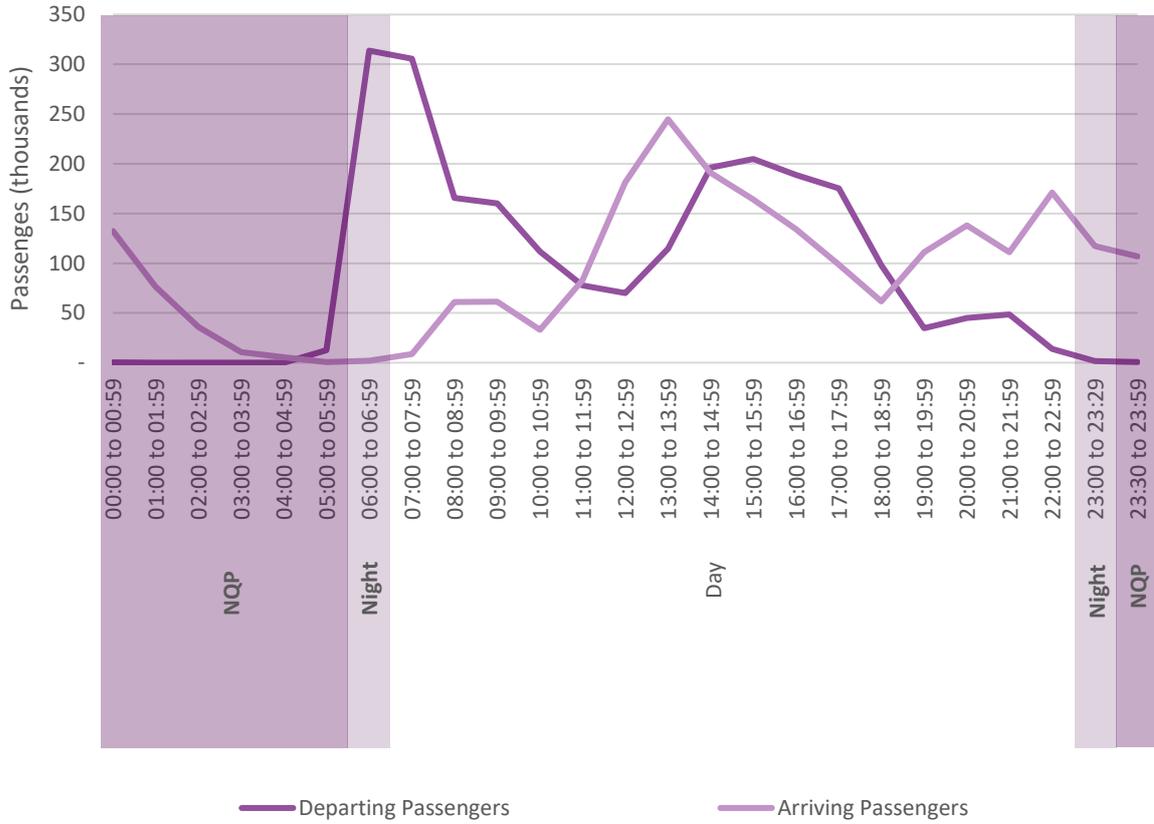
Figure 2.16: Passengers and Freight Handled at East Midlands Airport per Hour in 2019



Source: York Aviation analysis of MAG data.

2.28. As with Manchester and Stansted Airport, passenger demand at East Midlands also peaked in the 06:00 to 06:59 period, driven by departing passengers. A similar pattern of passengers arriving back to the airport into the night period can also be seen at the end of the day.

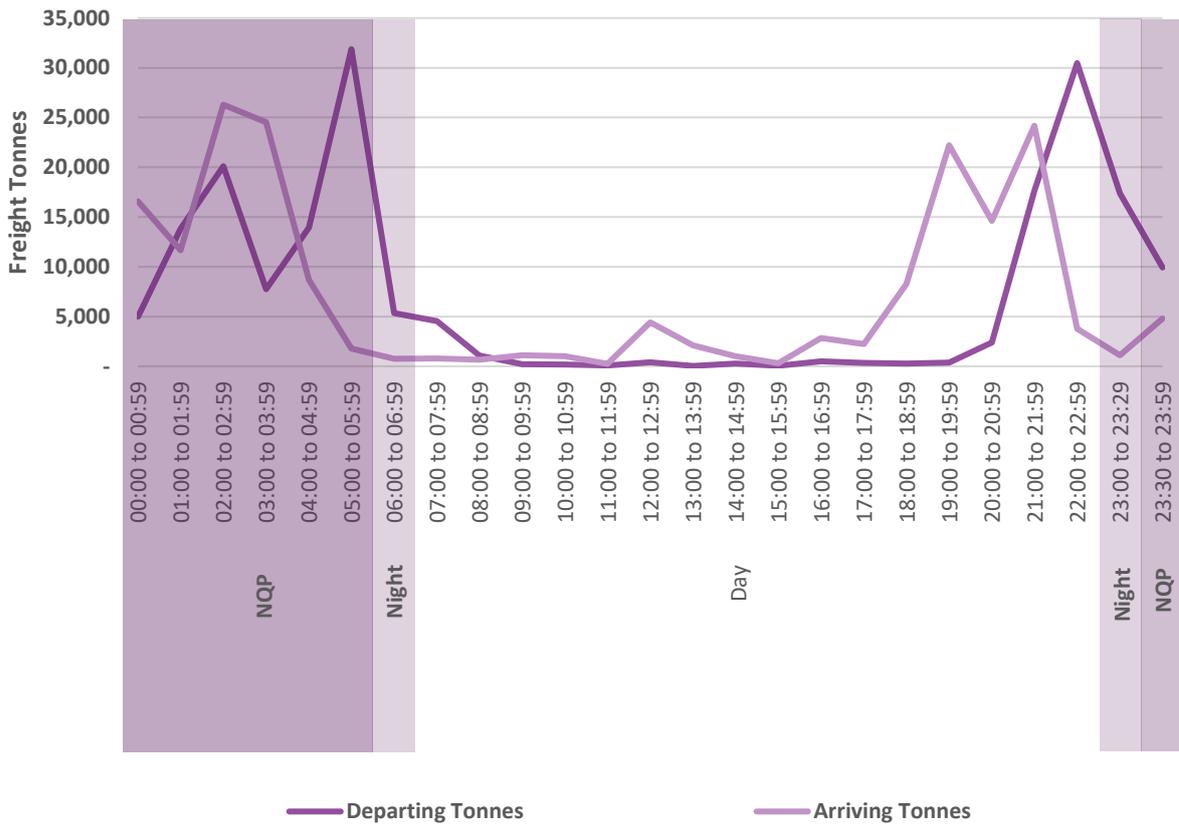
Figure 2.17: Passengers Handled at East Midlands Airport per Hour by Arriving and Departing Passengers in 2019



Source: York Aviation analysis of MAG data.

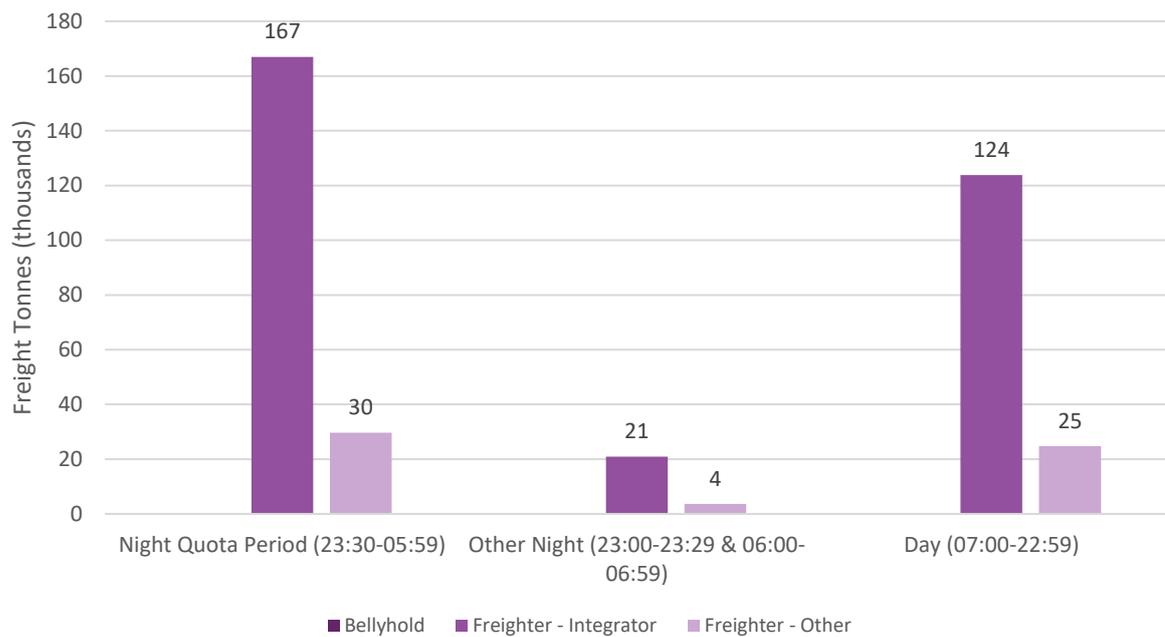
2.29. Figure 2.18 shows the profile of arriving and departing tonnage at East Midlands Airport by hour. The pattern reflects East Midlands status as an integrator hub, with relatively high volumes of arrivals and departures throughout the night. It is possible to see the arrivals peaks slightly preceding the departures peaks throughout the day and night.

Figure 2.18: Air Freight Tonnes Arriving and Departing at East Midlands Airport per Hour in 2019



Source: York Aviation analysis of MAG data.

2.30. Figure 2.19 highlights the freight tonnage handled at East Midlands in 2019 by broad time periods. Integrators accounted for the largest proportion of cargo at the airport, carrying around 290,000 tonnes throughout the day, with over half that volume transported during the Night Quota Period. Other freight carriers also carried more freight at night in comparison with daytime. This is likely to reflect Royal Mail activities to a significant degree. East Midlands Airport is an important hub for Royal Mail, enabling them to meet their universal postal service obligations by transporting first class mail considerably more quickly than by road.

Figure 2.19: Freight Tonnage at East Midland Airport by Broad Time Period in 2019

Source: York Aviation analysis of MAG data.

- 2.31. Nearly all the night passenger arrivals and departures at East Midlands Airport were to and from short haul destinations in Europe and North Africa. Night cargo also follows a similar flying pattern, reflecting the various integrator hubs in Europe, the exception being freight to and from North America, which amounted to around 10,000 tonnes or around 380 ATMs (equivalent to a single daily flight).

Conclusions

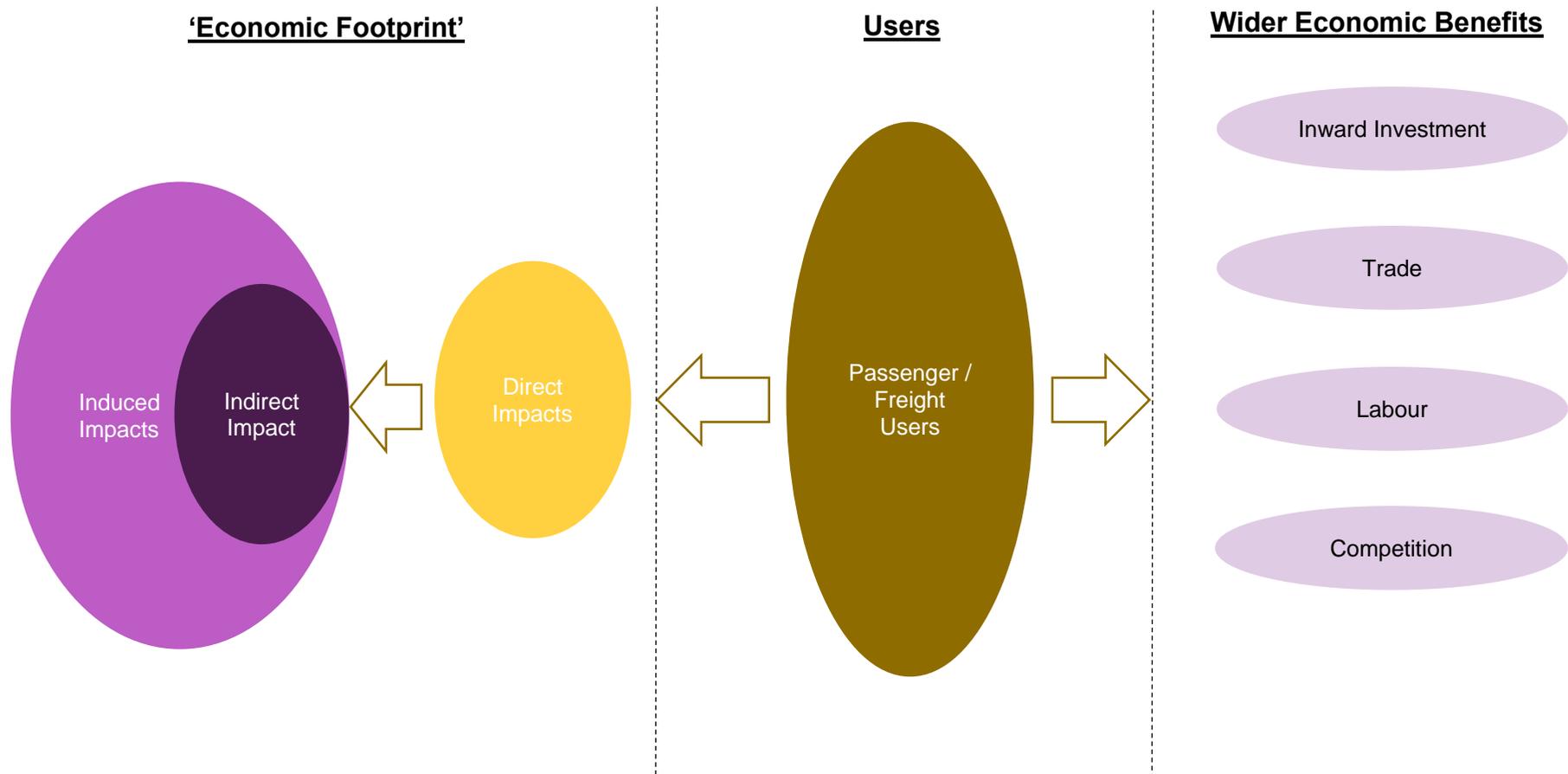
- 2.32. All of the MAG airports have a significant minority of passenger movements occurring in the night period. This is reflective of the business models of key airlines, which are reliant on high aircraft utilisation and the consequent need to start flying early in the morning and the ability to bring some aircraft back late at night. The proportion of movements at night at Stansted is lower than at Manchester or East Midlands, which probably reflects the existing controls that are in place through its status as a designated airport.
- 2.33. Cargo activities at East Midlands and Stansted are focussed on the night period, particularly at East Midlands. This is largely a reflection of the operating patterns of the integrators, a proxy for express freight activities, at these airports. There is substantially less cargo activity at Manchester Airport and no integrator activity.

3. The Current Economic Impact of Night Flying

Introduction

- 3.1. This section outlines the estimated economic impact of night flying at MAG airports and provides a breakdown by each airport, the type of impact (operational and wider), and the key driver of these impacts at each airport (passengers and cargo).
- 3.2. The economic impact of night flying at MAG airports has been analysed using a commonly used and widely accepted economic impact framework that is considered best practice in considering the economic impact of airports. This approach breaks down the way that the airport interacts with the economy into a series of effects.
- 3.3. Figure 3.1 sets out the economic impact framework used and explains the relationship between the different elements. The different effects can be defined as follows:
 - ‘Operational Impact’ effects reflect the role the airports play in supporting Gross Value Added (GVA) and employment purely through their night operations. There are three sub-effects within this classification:
 - **Direct** – employment and GVA supported by activities wholly or largely related to the operation of the airport or air services (passenger or cargo) and located at the airport or in the immediate vicinity. Essentially, this is the airport related economic activity that occurs at the site. It includes companies such as the airport company itself, airlines, handling agents, aircraft maintenance and engineering, cargo and logistics operators and freight forwarders based on or near the airport site;
 - **Indirect** – employment and GVA supported in the supply chain to the direct activities. The companies that generate the direct impacts need to buy goods and services from others to produce their output, who in turn have their own supply chains. These purchases in turn support jobs and GVA in a wide range of sectors, such as utilities and energy, advertising, manufacturing, professional services or construction. This effect is commonly measured using a multiplier.
 - **Induced** – employment and GVA supported in the economy by the expenditure of wages and salaries earned in relation to the direct and indirect activities. People working in the companies in the direct and indirect effects spend money in their local economies. This expenditure injection also supports GVA and jobs. Any sector involved with consumer spending such as general retailing, food and beverages, leisure activities, utilities, banking and finance costs and insurance may benefit from this increase in expenditure. This effect is, again, commonly measured using a multiplier.
 - **Wider** or catalytic impacts reflect the employment and GVA benefits that accrue to the UK and the region around the airports through the provision of connectivity to businesses. In this context, night flying is important in enabling business travel and the movement of air freight, which in turn supports increased trade, increased inward investment, greater competition and better access to supply chains and knowledge sources. This is ultimately reflected in higher productivity in the surrounding economy.

Figure 3.1: Economic Impact Framework and Relationships



Source: York Aviation

Economic Impacts

Direct Impact

3.4. Table 3.1 shows the direct economic impact of night flying at MAG airports.

Table 3.1: Direct Economic Impact of Night Flying in 2019

NQP	MAN		STN		EMA		MAG	
	GVA (£m)	Jobs						
Direct	£100	1,600	£50	800	£105	2,250	£255	4,650
Other Night								
Direct	£115	1,900	£60	900	£30	650	£205	3,450
Total Night								
Direct	£210	3,500	£110	1,700	£135	2,850	£455	8,050

Source: York Aviation.

3.5. As a Group, MAG's night flying accounts for 8,050 direct jobs and £455 million of direct GVA, with Manchester Airport making up the greatest single part of this impact with 3,500 direct jobs and £210 million of direct GVA.

3.6. Table 3.2 shows the indirect and induced economic impact of night flying at MAG airports.

Table 3.2: Indirect and Induced Economic Impact of Night Flying in 2019

NQP	MAN		STN		EMA		MAG	
	GVA (£m)	Jobs						
Indirect & Induced	£135	2,550	£70	1,250	£145	3,550	£350	7,350
Other Night								
Indirect & Induced	£160	3,000	£85	1,450	£40	1,000	£285	5,450
Total Night								
Indirect & Induced	£295	5,550	£155	2,750	£185	4,600	£635	12,900

3.7. As a Group, MAG's night flying accounts for 12,900 indirect and induced jobs and £635 million of indirect and induced GVA, with Manchester Airport making up the greatest single part of this impact with 5,550 indirect and induced jobs and £295 million of indirect and induced GVA.

Wider Impact

3.8. Table 3.3 sets out the wider impacts of night flying at MAG airports.

Table 3.3: Wider Impact of Night Flying in 2019

NQP	MAN		STN		EMA		MAG	
	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs
Wider Impact	£325	3,750	£1,020	11,700	£2,590	29,800	£3,935	45,250
Other Night								
Wider Impact	£440	5,050	£555	6,350	£350	4,050	£1,345	15,450
Total Night								
Wider Impact	£760	8,750	£1,570	18,050	£2,945	33,850	£5,275	60,650

Source: York Aviation.

- 3.9. Wider impacts are felt across the UK but form a significant proportion of overall impact, accounting for £5.3 billion of GVA and 60,650 jobs. This clearly demonstrates the importance of night flying to supporting business travel and enabling the efficient movement of air cargo.

Total Impact

- 3.10. Table 3.4 shows the total impact (direct, indirect and induced, and wider impact) of night flying at MAG airports in 2019.

Table 3.4: Total Impact of Night Flying in 2019

NQP	MAN		STN		EMA		MAG	
	GVA (£m)	Jobs						
Total Impact	£560	7,900	£1,145	13,750	£2,840	35,600	£4,545	57,250
Other Night								
Total Impact	£710	9,900	£695	8,750	£420	5,700	£1,825	24,350
Total Night								
Total Impact	£1,270	17,800	£1,840	22,500	£3,265	41,300	£6,375	81,600

- 3.11. In terms of total impact, including the wider impact, East Midlands Airport stands out. The airport accounts for £3.3 billion in GVA and 41,300 jobs. This is heavily driven by activity in the NQP and reflects East Midlands Airport’s unique status as an express freight and mail hub for the UK. Night flying at Stansted had the next largest impact, at £1.8 billion in GVA in 2019 and 22,500 jobs. This, again, reflects Stansted’s particular role as an important express freight airport serving London. Night flying at Manchester Airport has the smallest total economic impact but this remains significant at £1.3 billion in GVA and 17,800 jobs.
- 3.12. Table 3.5 provides a more detailed breakdown of the economic impact supported by passenger and cargo night flying at each of the MAG airports. This helps to further evidence the importance of cargo flying in driving the high levels of economic impact from night flying at East Midlands Airport and Stansted Airport. Around 96% of East Midlands Airport’s GVA impact is driven by cargo flying, reinforcing the value of the integrator driven national freight hub at the airport. The position at Stansted Airport is not quite as extreme, with around £1.2 billion in GVA impacts driven by cargo flying and £640 million by passenger flying. However, it does emphasise the importance of cargo night flying in driving economic impact.
- 3.13. The economic impact of night flying at Manchester Airport is driven by passenger flying. This is not surprising given the relatively small volumes of cargo moved at night at the airport. The airport supports around £1.1 billion in GVA and 15,250 jobs through passenger night flying and around £220 million and 2,600 jobs through cargo night flying.

Table 3.5: National Economic Impact of Night Flying by Cargo/Passenger Activity by Night Period by Airport in 2019

Airport	Passenger		Cargo		Total	
	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs
MAN						
NQP	£490	7,100	£70	800	£560	7,900
Other Night	£560	8,150	£150	1,800	£710	9,900
Total Night	£1,060	15,250	£220	2,600	£1,270	17,800
STN						
NQP	£250	3,300	£890	10,500	£1,140	13,750
Other Night	£390	5,100	£310	3,600	£700	8,750
Total Night	£640	8,400	£1,200	14,100	£1,840	22,500
EMA						
NQP	£70	1,250	£2,770	34,300	£2,840	35,550
Other Night	£80	1,450	£350	4,300	£420	5,700
Total Night	£150	2,700	£3,120	38,600	£3,260	41,300
MAG						
NQP	£810	11,650	£3,730	45,600	£4,540	57,250
Other Night	£1,030	14,700	£800	9,700	£1,830	24,350
Total Night	£1,840	26,350	£4,540	55,300	£6,380	81,600

Note: Figures may not sum due to rounding.

Source: York Aviation.

Conclusions

- 3.14. In 2019, across the UK, the MAG airports supported significant GVA and employment through night flying. These impacts are driven particularly strongly by cargo activities.
- 3.15. MAG's night flying accounts for 8,050 direct jobs and £455 million of direct GVA, and 12,900 indirect and induced jobs and £635 million of indirect and induced GVA.
- 3.16. Wider impacts are felt across the UK but form a significant proportion of overall impact, accounting for £5.3 billion of GVA and 60,650 jobs.
- 3.17. In terms of total impact, including the wider impact, East Midlands Airport stands out. The airport accounts for £3.3 billion in GVA and 41,300 jobs. This is heavily driven by activity in the NQP and reflects East Midlands Airport's unique status as an express freight hub for the UK. Night flying at Stansted had the next largest impact, at around £1.8 billion in GVA in 2019 and 22,500 jobs. This, again, reflects Stansted's particular role as an important express freight airport serving London. Night flying at Manchester Airport has the smallest total economic impact but this remains significant at around £1.3 billion in GVA and 17,800 jobs.

4. The Impact of Restricting Night Flying

Introduction

- 4.1. This section considers the impact of further restricting night flying at the MAG airports. It considers four scenarios in terms of increased restrictions and the resultant loss in economic activity and employment. The scenarios considered are:
- Scenario 1: Night Ban – a complete ban on night flying activity across the 23:00 to 07:00 period;
 - Scenario 2: NQP Ban and 50% Reduction in ‘Other Night’. A complete ban on activity in the NQP and a 50% in flying in the rest of the night period;
 - Scenario 3: NQP Ban – a complete ban on flying in the NQP period;
 - Scenario 4: 50% Reduction in Night Flying– a 50% reduction in night flying throughout the 23:00 to 07:00 period.
- 4.2. These impacts reflect the flying lost after airlines seek to mitigate the impact on their operations, as set out in Section 1. The resulting economic impacts are shown at a direct level, an operational level (direct, indirect, and induced effects combined) and separately at a wider level.

GVA and Employment Impacts

Direct Impact

- 4.3. The direct impacts are set out in Table 4.1 below.

Table 4.1: Direct Impact of Restricted Flying at Night in the UK in 2019

Scenario/Impacts	MAN		STN		EMA		MAG	
	GVA (£m)	Jobs						
Scenario 1: Night Ban	-£165	-2,700	-£85	-1,300	-£110	-2,400	-£360	-6,400
Scenario 2: NQP Ban, 50% Reduction in Other Night	-£65	-1,100	-£50	-700	-£100	-2,200	-£215	-4,000
Scenario 3: NQP Ban	-£20	-300	-£20	-300	-£85	-1,800	-£125	-2,400
Scenario 4: 50% Reduction	-£5	-100	-£10	-100	-£55	-1,200	-£70	-1,400

Note: Figures may not sum due to rounding.

Source: York Aviation.

- 4.4. In terms of direct impact, a complete ban on night flying (Scenario 1) would result in a loss of £360 million of GVA and put 6,400 jobs at risk across the MAG airports. The impact under the other scenarios is less but still significant, with even a 50% reduction in night flying (Scenario 4) resulting in a loss of £70 million of GVA and a threat to 1,400 jobs.

Indirect & Induced Impacts

- 4.5. The indirect & induced impacts are summarised in Table 4.2 below.

Table 4.2: Indirect & Induced Impact of Restricted Flying at Night in the UK in 2019

Scenario/Impacts	MAN		STN		EMA		MAG	
	GVA (£m)	Jobs						
Scenario 1: Night Ban	-£230	-4,300	-£120	-2,100	-£155	-3,750	-£505	-10,150
Scenario 2: NQP Ban, 50% Reduction in Other Night	-£90	-1,700	-£65	-1,200	-£140	-3,500	-£300	-6,300
Scenario 3: NQP Ban	-£30	-500	-£25	-500	-£120	-2,900	-£175	-3,900
Scenario 4: 50% Reduction	-£10	-200	-£15	-200	-£80	-1,900	-£100	-2,300

Note: Figures may not sum due to rounding.

Source: York Aviation.

- 4.6. In terms of indirect & induced impact, a complete ban on night flying (Scenario 1) would result in a loss of around £500 million of GVA and put 10,150 jobs at risk. The impact under the other scenarios is less but still significant, with even a 50% reduction in night flying (Scenario 4) resulting in a loss of £100 million of GVA and a threat to 2,300 jobs.

Wider Impacts

- 4.7. The wider impacts are summarised in Table 4.3 below.

Table 4.3: Wider Impact of Restricted Flying at Night in the UK

Scenario/Impacts	MAN		STN		EMA		MAG	
	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs
Scenario 1: Night Ban	-£730	-8,400	-£1,150	-13,250	-£2,775	-31,900	-£4,655	-53,500
Scenario 2: NQP Ban, 50% Reduction in Other Night	-£285	-3,300	-£830	-9,500	-£2,620	-30,100	-£3,735	-43,000
Scenario 3: NQP Ban	-£105	-1,200	-£575	-6,600	-£2,455	-28,200	-£3,140	-36,100
Scenario 4: 50% Reduction	-£55	-700	-£385	-4,400	-£1,595	-18,300	-£2,035	-23,400

Note: Figures may not sum due to rounding.

Source: York Aviation.

- 4.8. The wider impacts are significant. A complete ban on night flying (Scenario 1) would result in a loss of £4.7 billion of GVA and put 53,510 jobs at risk. Again, the impact under the other scenarios is less but still significant, with even a 50% reduction in night flying (Scenario 4) resulting in a loss of £2 billion of GVA and a threat to 23,400 jobs.

Total Impacts

- 4.9. The total impacts are set out in Table 4.4 below.

Table 4.4: Total Impact of Restricted Flying at Night in the UK

Scenario/Impacts	MAN		STN		EMA		MAG	
	GVA (£m)	Jobs						
Scenario 1: Night Ban	-£1,125	-15,400	-£1,355	-16,600	-£3,035	-38,000	-£5,515	-70,050
Scenario 2: NQP Ban, 50% Reduction in Other Night	-£440	-6,100	-£945	-11,400	-£2,865	-35,700	-£4,250	-53,200
Scenario 3: NQP Ban	-£155	-2,100	-£620	-7,400	-£2,660	-33,000	-£3,435	-42,400
Scenario 4: 50% Reduction	-£70	-900	-£405	-4,800	-£1,730	-21,400	-£2,205	-27,100

Note: Figures may not sum due to rounding.

Source: York Aviation.

- 4.10. Under a complete night flying ban (Scenario 1), it is estimated that the total loss to the UK economy is around £5.5 billion, putting around 70,000 jobs at risk. The greatest contributor to this loss is the freight activity at East Midlands Airport, estimated to be around £3 billion in GVA, putting around 38,000 jobs at risk. Losses at Manchester and Stansted are less extreme, but still in excess of £1 billion at each airport
- 4.11. Under a NQP Ban and 50% Reduction in Other Night (Scenario 2), it is estimated that the total loss to the UK economy is around £4.3 billion in GVA and 53,200 jobs. Here too, the greatest contributor to this loss is cargo activity at East Midlands Airport, estimated to be around £2.9 billion in GVA and 35,700 jobs. Stansted Airport would be severely affected by an NQP ban and 50% Reduction in Other Night with impacts reduced by over £1 billion in GVA and over 12,000 jobs.
- 4.12. In contrast to East Midlands and London Stansted, the impact at Manchester Airport is smaller. It is estimated that under a NQP ban and 50% Reduction in Other Night scenario, the UK could lose up to £225 million in GVA and around 3,000 jobs. However, as the airport has limited activity in the NQP, the potential loss in GVA and employment is smaller under a NQP ban. Under a 50% Reduction in Night Activity (Scenario 4), it is estimated that the loss to the economy is around £70 million in GVA and around 900 jobs.

Connectivity Effects

- 4.13. If night flying is restricted at the MAG airports, this will ultimately result in reduced passenger numbers and cargo tonnage. From the perspective of wider economic impacts, this will include business passengers who rely on direct air services at convenient times of day to minimise the duration of business trips and time sensitive cargo that needs to be transported overnight to enable next day delivery.
- 4.14. Table 4.5 highlights the loss at each of the MAG Airports in the form of passengers and cargo. It is estimated that a complete night ban would lead to a loss of around 6.3 million passengers and around 273,000 tonnes in cargo activity across MAG Airports. Manchester Airport would lose the largest number of passengers, whilst East Midlands would lose the most cargo tonnage.

Table 4.5: Impact on Passengers and Lost Cargo Tonnage by Airport by Scenario in 2019

	Passenger Lost (millions)				Cargo Lost (thousand tonnes)			
	MAN	STN	EMA	MAG	MAN	STN	EMA	MAG
Scenario 1: Night Ban	3.3	2.6	0.4	6.3	6	56	211	273
Scenario 2: NQP Ban, 50% Reduction in Other Night	1.3	1.3	0.3	2.9	4	48	200	252
Scenario 3: NQP Ban	0.4	0.3	0.0	0.7	3	41	188	232
Scenario 4: 50% Reduction	0.1	0.1	0.0	0.2	3	29	122	154

Source: York Aviation.

Welfare Effects

- 4.15. This analysis also considers the overall welfare costs to users as a result of increased night restrictions. The total night curfew also impacts passengers in the form of increases in airfares. Table 4.6 shows that the potential increase in airfares is estimated to be close to £42 million across the MAG airports. The importance of the NQP period is also highlighted in Scenario 2 and 3, where the increase in airfares is estimated to be close to £38 million under a NQP Ban and 50% reduction in other night, and close to £11 million with a NQP ban. The impact varies depending on the extent of the constraint on night flying, with the impact of a 50% reduction in night flying notably lower. The overall impact of the resultant increase in airfares across the MAG airports totals to around £1.3 million
- 4.16. We estimate that a complete ban on night flying is likely to cost passengers around £46 million extra in monetised time across MAG airports to reschedule their flights to daytime (see Table 4.6). The majority of these impacts are likely to affect short haul passengers, with around £33 million in additional cost (over 70% of the total retime costs). These figures slightly drop under Scenario 2: NQP Ban with 50% Reduction in Other Night, where the total cost of retiming flights is estimated to be around £30 million. Under a NQP Ban in Scenario 3, it is estimated that there is an additional £6 million cost to passengers. However, under Scenario 4, a 50% reduction in night flying, it is estimated that this curfew is likely to cost a further £27 million.

Table 4.6: Economic Welfare Impacts by Airport in 2019

Short Haul Fare Impacts (£m)				
Scenarios	MAN	STN	EMA	MAG
Scenario 1: Night Ban	£22.6	£14.0	£5.0	£41.6
Scenario 2: NQP Ban, 50% Reduction in Other Night	£20.9	£13.4	£4.0	£38.3
Scenario 3: NQP Ban	£6.5	£3.4	£0.8	£10.7
Scenario 4: 50% Reduction	£0.8	£0.0	£0.5	£1.3
Short Haul Retime Costs (£m)				
Scenarios	MAN	STN	EMA	MAG
Scenario 1: Night Ban	£14.0	£15.6	£3.0	£32.6
Scenario 2: NQP Ban, 50% Reduction in Other Night	£11.3	£10.6	£1.5	£23.3
Scenario 3: NQP Ban	£2.4	£0.3	£0.1	£2.8
Scenario 4: 50% Reduction	£10.1	£10.4	£1.4	£21.9
Long Haul Retime Impacts (£m)				
Scenarios	MAN	STN	EMA	MAG
Scenario 1: Night Ban	£13.3	£0.0	£0.0	£13.3
Scenario 2: NQP Ban, 50% Reduction in Other Night	£6.7	£0.0	£0.0	£6.7
Scenario 3: NQP Ban	£3.1	£0.0	£0.0	£3.1
Scenario 4: 50% Reduction	£5.1	£0.0	£0.0	£5.1

Source: York Aviation.

5. Conclusions

- 5.1. In 2019, around 4.1 million passengers flew to or from Manchester Airport during the night period (around 14% of total traffic), compared to around 3.3 million at Stansted (around 12% of total traffic) and 0.8 million via East Midlands (around 17% of the total). In total, passengers flying in the night period account for nearly 15% of the total passenger traffic across MAG Airports (of which, close to 45% of night passengers arrive/depart in the 06:00-06:59 hour)
- 5.2. A significant proportion of the cargo handled by MAG airports was flown during the night period, driven primarily by East Midlands Airport, which handled over 60% of its cargo tonnage at night. East Midlands Airport is the UK's primary dedicated air cargo hub and its loss (potentially to other European locations) through night flying restrictions would have national significance. Stansted Airport also handled significant volumes of cargo in the night period, at over 90,000 tonnes. Night freight movements are driven by the main integrators and their significant presences at both East Midlands and Stansted. MAG, as a whole, handled over 310,000 tonnes of cargo during the night period.
- 5.3. In 2019, across the UK, the MAG airports supported significant GVA and employment through night flying. As a Group, MAG's night flying accounts for 8,050 direct jobs and £455 million of direct GVA, with Manchester Airport making up the greatest single part of this impact with 3,500 direct jobs and £210 million of direct GVA. As a Group, MAG's night flying also accounts for 12,900 indirect and induced jobs and £635 million of indirect and induced GVA, with Manchester Airport making up the greatest single part of this impact with 5,550 indirect and induced jobs and £295 million of indirect and induced GVA
- 5.4. Wider impacts are felt across the UK but form a significant proportion of overall impact, accounting for £5.3 billion of GVA and 60,650 jobs. This clearly demonstrates the importance of night flying to supporting business travel and enabling the efficient movement of air cargo.
- 5.5. In terms of total impact, including the wider impact, East Midlands Airport stands out. The airport accounts for £3.3 billion in GVA and 41,300 jobs. This is heavily driven by activity in the NQP and reflects East Midlands Airport's unique status as an express freight hub for the UK. Night flying at Stansted had the next largest impact, at around £1.8 billion in GVA in 2019 and 22,500 jobs. This, again, reflects Stansted's particular role as an important express freight airport serving London. Night flying at Manchester Airport has the smallest total economic impact but this remains significant at around £1.3 billion in GVA and 17,800 jobs.
- 5.6. A complete ban on night flying would result in a loss of £360 million of direct GVA and put 6,400 direct jobs at risk across the MAG airports. The impact under the other scenarios is less but still significant, with even a 50% reduction in night flying resulting in a loss of £70 million of GVA and a threat to 1,400 jobs. In terms of indirect & induced impact, a complete ban on night flying would result in a loss of around £500 million of GVA and put 10,150 jobs at risk. The impact under the other scenarios is less but still significant, with even a 50% reduction in night flying resulting in a loss of £100 million of GVA and a threat to 2,300 jobs.
- 5.7. The wider impacts are significant. A complete ban on night flying would result in a loss of £4.7 billion of GVA and put 53,500 jobs at risk. Again, the impact under the other scenarios is less but still significant, with even a 50% reduction in night flying resulting in a loss of £2 billion of GVA and a threat to 23,400 jobs.
- 5.8. Under a complete night flying ban, it is estimated that the total loss to the UK economy is around £5.5 billion, putting around 70,000 jobs at risk. The greatest contributor to this loss is the freight activity at East Midlands Airport, estimated to be around £3 billion in GVA, putting around 38,000 jobs at risk. Losses at Manchester and Stansted are less extreme, but still in excess of £1 billion at each airport
- 5.9. Under a NQP Ban and 50% Reduction in Other Night, it is estimated that the total loss to the UK economy is around £4.3 billion in GVA and 53,250 jobs. Here too, the greatest contributor to this loss is cargo activity at East Midlands Airport, estimated to be around £2.9 billion in GVA and 35,750 jobs. Stansted Airport would be severely affected by an NQP ban and 50% Reduction in Other Night with impacts reduced by over £1 billion in GVA and over 12,000 jobs.

- 5.10. Restricting night flying would ultimately reduce connectivity from the MAG airports, with passengers falling by between 0.2 million and 6.3 million depending on the scenario examined. Similarly, cargo volumes could be expected to fall by between 154,000 and 273,000 tonnes across the MAG airports.
- 5.11. The effect of reduced night flying would also be directly felt by passengers, with significant numbers having to retime their journeys and many passengers experiencing rising air fares. The potential increase in airfares is resulting from a total night curfew is estimated to be close to £42 million across the MAG airports and is likely to cost passengers around £46 million extra in monetised time to reschedule their flights to daytime.

Appendix A: Regional Economic Impact

- A.1. Below, we have set out estimates of the regional economic impact of night flying around each of the MAG airports. It should be noted that these impacts are a sub-set of the national impacts and are not additional. Our estimates of the scale of regional effects are based on previous detailed work on each airport undertaken by York Aviation. The regions in the economic impact of each airport are considered are as follows:
- Manchester Airport – the North West;
 - Stansted Airport – the East of England and North London;
 - East Midlands Airport – the East Midlands.
- A.2. The largest regional impact from night flying comes from East Midlands Airport, which contributes around £2.0 billion to the East Midlands economy, driven as we know by the airport’s major role as the national freight hub and its position as a major base for a number of integrators. Again, it is worth noting the particular value of the NQP in relation to East Midlands Airport.
- A.3. Stansted has the second largest regional impact at £1.2 billion in GVA and around 13,950 jobs. The impact is again focussed towards the NQP. Manchester Airport has the smallest regional impact at around £840 million in GVA and 10,100 jobs. This reflects the much smaller freight market at Manchester and the fact that relatively small volumes of freight are moved in the night period. This is reflected in the balance between impacts in the NQP and the rest of the night period. Unlike East Midlands and Stansted, where impacts are focussed in the NQP, reflecting the activities of the integrators at each airport, whereas the larger impact at Manchester is in the other night period.

Table A.1: Regional GVA & Employment Impact of Night Flying at Manchester in the North West, Stansted in East of England & North London and East Midlands Airport in East Midlands

NQP	MAN		STN		EMA		MAG	
	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs
Direct	£85	1,400	£45	700	£65	1,400	£195	3,500
Indirect & Induced	£45	850	£25	450	£35	850	£105	2,150
Operational Impacts	£130	2,250	£70	1,100	£100	2,250	£300	5,650
Wider Impacts	£205	2,400	£650	7,450	£1,650	19,000	£2,505	28,850
Grand Total	£340	4,650	£720	8,600	£1,750	21,250	£2,810	34,500
Other Night								
Direct	£100	1,650	£50	800	£20	400	£170	2,850
Indirect & Induced	£55	1,000	£30	500	£10	250	£95	1,750
Operational Impacts	£155	2,650	£80	1,300	£30	650	£265	4,600
Wider Impacts	£280	3,200	£355	4,050	£225	2,600	£855	9,850
Grand Total	£430	5,850	£435	5,350	£255	3,250	£1,120	14,450
Total Night								
Direct	£185	3,050	£95	1,500	£85	1,800	£365	6,300
Indirect & Induced	£100	1,900	£55	950	£45	1,100	£200	3,950
Operational Impacts	£285	4,900	£150	2,400	£130	2,900	£565	10,250
Wider Impacts	£485	5,600	£1,000	11,500	£1,875	21,550	£3,365	38,650
Grand Total	£770	10,500	£1,150	13,950	£2,005	24,500	£3,930	48,950

Source: York Aviation.

- A.4. Table A.2 details the regional impact of each airport split by passenger and cargo activities. This analysis follows the same pattern as observed on the national impacts. It shows the dominance of passenger impacts at Manchester Airport, the more balanced position at Stansted, albeit with the balance towards cargo, and the dominance of cargo impacts of East Midlands.

Table A.2: Regional Economic Impact of Night Flying by Cargo/Passenger Activity by Night Period by Airport

Airport	Passenger		Cargo		Total	
	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs
MAN						
NQP	£300	4,200	£40	450	£340	4,650
Other Night	£340	4,800	£90	1,050	£430	5,850
Total Night	£640	9,000	£130	1,500	£770	10,500
STN						
NQP	£155	2,050	£560	6,550	£720	8,600
Other Night	£245	3,150	£195	2,200	£435	5,350
Total Night	£400	5,200	£755	8,750	£1,155	13,950
EMA						
NQP	£35	650	£1,715	20,600	£1,750	21,250
Other Night	£40	700	£215	2,550	£255	3,250
Total Night	£75	1,350	£1,930	23,150	£2,005	24,500
MAG						
NQP	£490	6,850	£2,315	27,650	£2,810	34,500
Other Night	£625	8,650	£495	5,800	£1,120	14,450
Total Night	£1,115	15,500	£2,810	33,450	£3,930	48,950

Source: York Aviation

- A.5. The regional impacts of night flying at the three airports are significant. East Midlands Airport contributes around £2.0 billion to the East Midlands economy. Stansted has the second largest regional impact at £1.2 billion in GVA and around 13,950 jobs. Manchester Airport has the smallest regional impact at around £840 million in GVA and 10,100 jobs.

Regional Impacts of Restricting Night Flying

- A.6. The regional impacts are summarised in Table 4.2 below. Given their core catchment areas, the regional impacts are relatively less concentrated at Manchester Airport and East Midlands (over half of the national impacts are estimated to be in the North and East Midlands) in comparison to Stansted, where over two thirds of the national impacts are estimated to be in the East of England and North London.
- A.7. Under a complete Night Ban, it is estimated that the loss to the regional economies is around £3.1 billion in GVA and around 40,500 jobs. Around half of these losses stem from the economic loss to East Midlands as a result of a complete Night Ban at East Midlands Airport. Given the importance of the NQP, the impacts under Scenarios 2 & 3 are similar to a complete Night Ban at East Midlands.
- A.8. A complete Night Ban at London Stansted Airport would result in a loss of £925 million in GVA and over 10,000 jobs in the East of England and North London. The significance of the NQP activity is still prominent regionally, with close to half of these losses would be incurred under a NQP ban, i.e. a loss of around £425 million in GVA and 4,500 jobs.

- A.9. The North West loses over half of the national losses as a result of Night Ban at Manchester Airport. Around £650 million of GVA and close to 9,000 jobs are estimated to be lost in the North West. Under a NQP Ban and 50% Reduction in Other Night Flying scenario, it is estimated that around £250 million in GVA and around 3,500 jobs would likely to be lost in the North West, less than half of these impacts are lost in the NQP Ban (Scenario 3).
- A.10. A 50% Reduction in night flying still significantly affects the regional economy, with a total loss around £1.2 billion in GVA and close to 16,000 jobs across the three MAG airports. Losses originating from the operational curfews at Manchester and Stansted are relatively small, but still significant, with a loss of £50 million in GVA and 550 jobs in the North West and around £275 million in GVA and close to 3,000 jobs in the East of England and North London.

Table 0.1: Regional GVA and Employment Impact of Restricted Flying at Night

Scenario/Impacts	MAN		STN		EMA		MAG	
	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs	GVA (£m)	Jobs
Scenario 1: Night Ban	-£650	-8,850	-£925	-10,050	-£1,500	-21,450	-£3,100	-40,400
Scenario 2: NQP Ban, 50% Reduction in Other Night	-£250	-3,500	-£650	-6,950	-£1,425	-20,200	-£2,325	-30,650
Scenario 3: NQP Ban	-£100	-1,200	-£425	-4,450	-£1,325	-18,700	-£1,850	-24,400
Scenario 4: 50% Reduction	-£50	-550	-£275	-2,900	-£850	-12,150	-£1,175	-15,600

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The Economic Impact of Night Flying in the UK

FLYING TO	AIRLINE	FLYING TO	AIRLINE	FLYING TO	AIRLINE
364 DUBROVNIK	2100	02	REMARKS		
JA 366 DUBROVNIK	2100	03			
OU 707 SKOPJE	2100	04			
OU 342 SARAJEVO	2100	13			
OU 8660 SARAJEVO	2100	15			
OU 660 DUBROVNIK	2105	03			
AZ 543 DUBROVNIK	2230	15			
AF 2055 MILAN-MALPENSA	0550	02			
LH 2485 PARIS	0635	16			
OU 410 FRANKFURT	0650	12			
SK 9300 FRANKFURT	0655				
OS 7052 FRANKFURT	0655				
OS 7052 VIENNA	0655				



with



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Executive Summary

Introduction

1. In early 2021, Airlines UK, working with a number of industry partners, commissioned York Aviation to undertake an assessment of the economic impact of night flying in the UK. The primary purpose of this report is to update, refresh and extend previous research undertaken in this area to provide a strong evidence base as to the economic benefits associated with night flying that will assist policy makers and other stakeholders in making informed judgements around future night flying policy. The study focusses on providing a profile of and assessing the economic impact of night flying in the UK in 2019, before the onset of the COVID-19 pandemic. This was a deliberate choice, as it provides the best basis for considering the role of night flying in the medium to long term.

Relationship to the Balanced Approach

2. The international approach to aircraft noise management is based on the ICAO Balanced Approach. The Balanced Approach consists of identifying noise problems that exist at an airport and then assessing the cost-effectiveness of the various measures available to reduce noise through the exploration of four principal elements, which are:
 - reduction of noise at source (quieter aircraft);
 - land-use planning and management;
 - noise abatement operational procedures (optimising how aircraft are flown and the routes they follow to limit the noise impacts);
 - operating restrictions (including night flight restrictions brought about via this process).
3. At its core, the Balanced Approach is based on the principle of sustainable development, allowing development of air travel while balancing the impact on the acoustic environment. The Balanced Approach has been incorporated into UK law and government has a duty to undertake an assessment of any proposals it brings forward in the context of the Balanced Approach.
4. This research is not intended to be a full assessment of the costs and benefits of night flying in the context of the Balanced Approach. This report is intended to provide additional evidence on the economic benefits of night flying, and particularly the benefits in the wider economy away from airports and from the immediate operators and users of services. In part, this focus on the economic benefits of night flying is designed to address an evidential gap within the Department for Transport's existing framework for considering the economic impacts of night flights. The existing approach used by the Department, and developed by Systra, currently does not consider a range of key economic benefits from night flying, namely those accruing to cargo users, economic effects in the wider economy or the knock-on effects from night flying across operations over the day. Hence, the Department for Transport's approach, while broadly robust in what it covers, cannot be considered as a complete view of the economic costs and benefits of night flying. By extension, any attempt at a 'Balanced Approach' assessment using it is at present not actually balanced, as significant potential benefits to society are not being considered.

Profile of Night Flying in the UK

5. Although the majority of passenger-related activity at UK airports occurs during the daytime, the volume of passengers handled during the night is significant, with approximately 31 million passengers arriving at or departing from UK airports during the night in 2019. This is around 11% of total passenger traffic at UK airports.
6. The second busiest hour for passengers departing UK airports in 2019 was 06:00 to 06:59, which falls into the night period. The busiest hour is the subsequent hour between 07:00 and 07:59, which falls into the day period. These early morning departures are essential to the business models of many airlines with aircraft based at UK airports. If the ability to fly early in the day is curtailed, the rationale for basing aircraft at an airport is severely undermined, with knock-on effects across the day. Although few passengers depart from UK airports between 23:00 and 05:59, a steady stream of passengers arrive throughout this period, with approximately 6.6 million and 8.8 million arriving

seats at designated and non-designated airports respectively. The majority of arriving seats from long-haul destinations at designated airports are early morning arrivals into Heathrow.

7. The profile of activity for freighter aircraft is more weighted towards night operations. This is particularly true for freighter aircraft flying for express freight operators, for which night operations are critical for the delivery of next-day logistics services. The peak for inbound freight carried by express freight operators arriving at UK airports is between 03:00 and 03:59. In total, around 47% of cargo tonnage on freighter aircraft is moved during the night period at UK airports.
8. The profile of bellyhold cargo arriving at and departing from UK airports throughout the day is intrinsically linked to passenger airline schedules, particularly long-haul services, meaning that the great majority of bellyhold cargo at UK airports is handled during the daytime. However, the early morning long-haul arrivals into Heathrow are seen as critically important. Heathrow is important for express services, both in terms of cargo flights and, most particularly, bellyhold. Bellyhold offers a valuable addition to freight only flights, providing flexibility and efficiency. The small number of flights that arrive into Heathrow in the early morning are long haul commercial passenger aircraft coming from strategically important international markets in the Far East, Asia and Africa. Express services have freight on all these movements, which gets cleared and delivered into the UK on the same day of arrival.

Why is Night Flying Important?

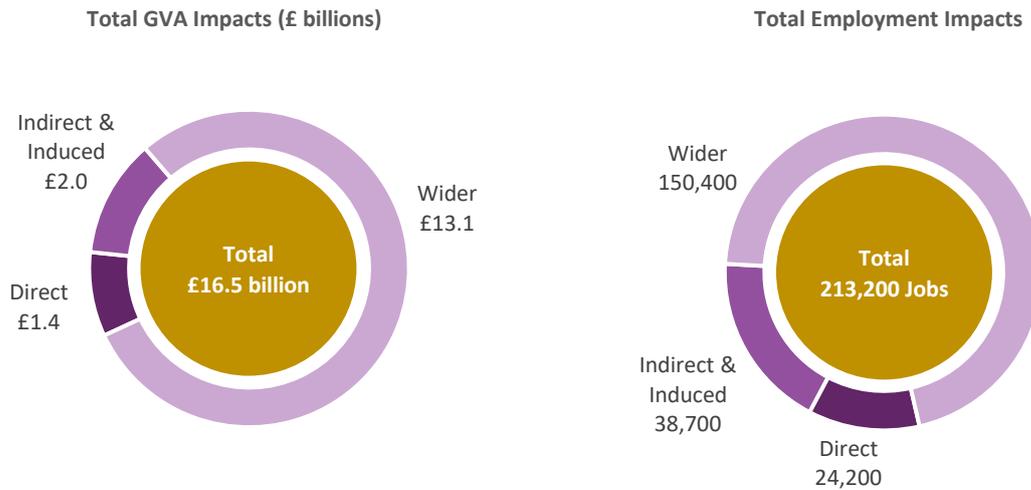
9. Night flying is driven by demand and consumer preferences. Business passengers want to maximise 'on the ground' time and minimise overnight stays and access key connections at hub airports across Europe. Leisure passengers typically also want to maximise time at their destinations. Airlines need to maximise the length of the day available for flying to utilise their aircraft assets effectively. For cargo airlines, particularly those offering express freight services, the night is essential in enabling time definite, next-day delivery services.
10. The effect of reducing the 'length' of the day by reducing night flying will have a multifaceted impact on airlines. In particular, reducing airlines' ability to start early and return late in the day will mean they are faced with potentially unattractive options. Consultations with key airlines illustrates that most airlines flying in the night period do so to maximise their aircraft utilisation, a critical factor in spreading their asset and operational costs over the maximum number of services and passengers. If airlines need to reschedule, they may lose some frequencies which, at best will lead to fare increases for UK passengers and some reduced connectivity or, at worst will potentially undermine their case for basing aircraft at UK airports and lead to assets being redeployed to European bases, leading to more significant reductions in connectivity as well as direct job losses in the UK.
11. Night flying forms a critical feature of hub connectivity, both at the UK's main hub at London Heathrow, but also in terms of regional airports having access to hub connectivity at major European airports. Early morning arrivals into the UK are important in meeting the first wave of short haul departures, helping to sustain services which are particularly attractive to business passengers. These connections also allow airlines to maximise their long haul network, providing further passengers that support increased destinations and frequencies which enhance the UK's connectivity, but which may not be sustainable without arriving or departing in the Night Period so as to maximise onward connections. Access to European hubs from regional airports in many cases requires early morning departures to meet the first wave of onward connections from those hubs. These early morning connections provide significant connectivity for many regional airports and passengers, a necessity given the constrained capacity at London Heathrow.
12. Night flying also adds significantly to airport capacity in the UK, contributing to UK government policy to 'make best use of existing runways'. Whilst airports such as London Heathrow and London Gatwick are at the extreme end of this capacity shortfall spectrum, it remains an issue across many larger UK airports where demand for slots at each end of the day would exceed the available capacity if runways could not be used in the night periods.
13. Night flying allows airlines to overcome the UK's time zone disadvantage when compared with other European countries. Flights often need to depart in the night period from the UK in order to reach their destination in good time, maximising business efficiency and making UK cities competitive as places to locate business within Europe.

14. There is a clear desire for passengers on long-haul flights to travel overnight where possible. For flights from a number of world regions, this results in services operating into the UK with early morning arrivals both from the east and the west, ranging from 04:00 hours from Asia through to 07:00 (and beyond) from the USA and other world regions. Long haul flights in the night periods also play a vital role in supporting the short-haul network from UK hub airports and in carrying bellyhold cargo.
15. Cargo operations, particularly express freight operations, such as the hubs at East Midlands and Stansted, are heavily dependent on night flying in order to meet the needs of customers and to support the UK's position as a place to do business. Guaranteed delivery times and next business day delivery are key features of the offer for night freight operators. If airlines and shippers cannot make their operations work into the UK, they are more likely to fly to hubs on the continent and complete the rest of the journey by truck. This will lead to a significant loss of productivity in the wider economy and will reduce direct employment associated with these activities in the UK.
16. Over the past 20 years express air freight services have grown substantially faster than general air freight services, reflecting the increasing integration of global markets and global supply chains, continued growth of 'just in time' processes, and the rise of time-sensitive shipping from business to consumer (B2C).

The Current Economic Impact of Night Flying

17. The economic impact generated by night flying at UK airports has been assessed using a commonly used and widely accepted economic impact framework which assesses employment and Gross Value Added (GVA) in terms of direct, indirect and induced effects, and also considers the wider impacts supported in the economy by the quality of air connectivity supporting productivity across a wide range of sectors. The direct, indirect and induced impacts reflect the GVA and employment generated by operating flights at night. Wider impacts are different as they accrue to the economy through the benefits that users of passenger and cargo services gain from night flying. These impacts cannot be directly observed in the same way as direct, indirect and induced impacts, and estimates are based on economic modelling. These effects are embedded in the broader UK economy.
18. Figure 1 overleaf presents the total economic impact in terms of GVA and employment generated at UK airports by passenger and cargo-related activity during the entire night period, i.e. across the Night Quota Period (NQP) and Other Night period¹ combined.
19. The direct impact of night flying in 2019 was estimated to be around £1.4 billion in GVA and 24,200 jobs. These direct impacts, in turn, generate around £2.0 billion in GVA through indirect and induced effects and 38,700 jobs.
20. If wider impacts are included, night flying in the UK in 2019 was estimated to generate a total of £16.5 billion of GVA and approximately 213,200 jobs across the UK. This demonstrates the vital role that night flying plays in the wider UK economy. Our assessment suggests that, while direct, indirect and induced impacts are important, particularly to the communities around airports, it is the wider economic benefits associated with night flying that really drive the overall impact in the UK economy.

¹ The 'Night Quota Period' (NQP) is a term used by Government and is defined as 23:30 to 05:59. 'Other Night' includes the parts of the standard 'night period' that are not within the NQP – i.e. 23:00 to 06:59. 'Day' is the daytime period, defined as 07:00 to 22:59.

Figure 1: Total Economic Impact of Aviation Activity at UK Airports During the Night

Source: York Aviation.

21. The total impact associated with night flying in the UK is spread across many airports. The operations at the designated UK airports (Heathrow, Gatwick and Stansted – the three largest London airports) support around £7.6 billion of total GVA and 98,000 jobs, while operations during the night periods at the non-designated UK airports support around £8.8 billion of GVA and 115,000 jobs.
22. Of the total impact in the UK, cargo and passenger operations during the night contribute a similar total of just over £8 billion in GVA each. In terms of total employment, cargo and passenger operations support approximately 101,000 and 112,100 jobs respectively across the entire economy.

The Impact of Restricting Night Flying

23. We evaluated the economic impacts that would occur under four hypothetical scenarios that would further constrain the levels of night flying that occurs at UK airports:
 - Night Ban – a total ban on all aircraft movements between 23:00 to 06:59;
 - NQP Ban – a total ban on all aircraft movements during the NQP (23:30 to 05:59);
 - NQP Ban, 50% Night Reduction – a total ban on all aircraft movements during the NQP (23:30 to 05:59), and a 50% reduction in aircraft movements between 23:00 to 23:29 and 06:00 to 06:59;
 - 50% Night Reduction – a 50% reduction of aircraft movements between 23:00 and 06:59.
24. These scenarios are, of course, simplified and illustrative. In particular, they assume that increased restrictions are applied across the UK and, hence, there is no shifting of demand between UK airports. It should also be recognised that while the approach does consider ‘knock-on’ effects to day time operations, it does not necessarily identify the full range of less quantifiable ‘shadow effects’ that might come with night curfews or similar tight restrictions.
25. Table 1 overleaf outlines the passengers and cargo tonnes that would be foregone across designated and non-designated airports under each of the four scenarios.

Table 1: Annual Passengers and Annual Cargo Volumes Foregone by Constraint Scenario

Scenario	Airport Category	Total Passengers (millions) Foregone	Total Cargo (Tonnes) Foregone
Scenario 1: Night Ban	Designated Airports	13.1	200,000
	Other Airports	7.6	280,000
	Total	20.7	480,000
Scenario 2: NQP Ban, 50% Other Night Reduction	Designated Airports	6.8	130,000
	Other Airports	3.5	260,000
	Total	10.3	400,000
Scenario 3: NQP Ban	Designated Airports	2.7	80,000
	Other Airports	1.0	250,000
	Total	3.6	320,000
Scenario 4: 50% Night Reduction	Designated Airports	3.4	100,000
	Other Airports	0.6	160,000
	Total	4.0	260,000

Source: York Aviation.

26. Figure 2 illustrates the sum of direct, indirect, induced, and wider impacts of each of the four constrained scenarios in terms of foregone GVA and employment. The economic impact that would result under each of the four scenarios is significant.
27. A ban of aircraft movements during the hours of 23:00 and 06:59 would have the most significant impact on the aviation industry and the wider UK economy, with 20.7 million passengers and 480,000 tonnes of cargo per annum lost, which would result in around £1.0 billion in direct GVA foregone and 16,000 jobs put at risk, with indirect and induced impacts increasing this impact by around £1.3 billion in GVA and 26,000 jobs. If wider impacts are then included as well, a total of approximately £12.4 billion of GVA is forgone and up to 158,000 jobs put at risk. Furthermore, consumers would face increased generalised costs as they are forced to travel at less optimal times and as airlines increase air fares for short-haul services by an estimated 0.8%. The total impact on passengers is estimated to be around £571 million at 2019 demand levels.
28. A ban on flying during the NQP and a 50% reduction in the number of movements during the Other Night period would result in an economic impact of £0.5 billion in direct GVA foregone and 9,000 jobs put at risk, with indirect and induced impacts increasing this effect by £0.8 billion in GVA and 15,000 jobs. If wider impacts are included, the total impact on foregone GVA increases to approximately £8.7 billion with around 109,000 jobs being put at risk. Air fares would rise by an estimated 0.6% for short-haul passengers, and re-timing costs are estimated to range between £14 and £18 per passenger. The total impact on passengers is estimated to be around £380 million at 2019 demand levels.
29. An outright ban on aircraft movements during the NQP alone would result in an economic impact of £0.3 billion in direct GVA foregone and 4,000 jobs put at risk, with indirect and induced impacts increasing this effect by £0.4 billion in GVA and 7,000 jobs. If wider impacts are included, the total impact on foregone GVA increases to approximately £5.7 billion of GVA with approximately 69,000 jobs at risk. Air fares would rise by an estimated 0.2% for short-haul passengers, and re-timing costs are estimated to range between £14 and £18 per passenger. The total impact on passengers is estimated to be around £111 million at 2019 demand levels.
30. Even a 50% reduction of aircraft movements throughout the entire night period would result in an economic impact of £0.3 billion in direct GVA foregone and 4,000 jobs put at risk, with indirect and induced impacts increasing this effect by £0.4 billion in GVA and 7,000 jobs. If wider impacts are included, the total impact on foregone GVA increases to approximately £5.1 billion with around 62,000 jobs being put at risk. Air fares would rise by an estimated 0.2% for short-haul passengers, and re-timing costs are estimated to range between £14 and £18 per passenger. The total impact on passengers is estimated to be around £255 million at 2019 demand levels.

Figure 2: Economic Impact of Constrained Night Flying Scenarios by Economic Impact Category



Source: York Aviation.

1. Introduction

Background

- 1.1. In early 2021, Airlines UK, working with a number of industry partners², commissioned York Aviation to undertake an assessment of the economic impact of night flying in the UK. This is an area where previous work has been undertaken by the Department for Transport and a range of other parties, including the Freight Transport Association, Heathrow Airport and British Airways. However, the economic value of night flights remains a ‘live’ issue and the extent to which the full economic value of night flights is recognised and taken account of in policy decisions is unclear. The primary purpose of this report is, therefore, to update, refresh and extend the previous research undertaken in this area to provide a strong evidence base as to the economic benefits associated with night flying that will assist policy makers and other stakeholders in making informed judgements around future night flying policy.

Context for the Research

- 1.2. The key context for this new research is the Department for Transport’s consultation into the night flying regime in the UK. The consultation is being undertaken in two stages:
- in the first stage, to formally consult on the proposal to maintain the existing night flight restrictions for the designated airports (Heathrow, Gatwick and Stansted) from 2022 to 2024, and the proposal to ban QC4 rated aircraft movements during the NQP (23:30 to 06:00). This stage has now closed and the UK Government has announced that the existing restrictions will in fact continue until 2025 and that the ban QC4 aircraft will go ahead;
 - in the second stage, to seek early views and evidence on policy options for the government’s future night flight policy at the designated airports beyond 2024, and nationally. This includes whether there should be amendments to the national noise policy to include specific policy for night noise, revisions to the night flight dispensation guidance, whether there should be set criteria for airport designation, and what any future night flight regime at the designated airports should look like.
- 1.3. A main aim for this analysis is to provide evidence in relation to the second stage of the consultation.

Research Scope

- 1.4. The formal objective for the project was set out as follows:

“The study will produce a fact-based report illustrating the role and contribution of night flights to the UK aviation industry and the wider UK economy to support the industry in responding to the DfT consultation on future night flight policy. This will look at both the role of night flights in supporting UK commercial route connectivity and viability, and also the role of night flights in facilitating UK air cargo services, and the value that such air cargo brings to the wider UK economy. The study should highlight the critical role that night flying plays in supporting a commercially viable aviation sector for both passengers and freight, and therefore its importance in supporting Global Britain.”

- 1.5. There are a number of important themes within this objective that are perhaps worth highlighting:
- the study focusses on the economic value of both passenger and cargo night flying. Night flying is important to both market segments and a rounded picture of the economic value of night flying cannot be reached without considering both;

² Airport Operators Association, Logistics UK, Association of International Courier & Express Services, DHL, FedEx, UPS, Gatwick Airport, Heathrow Airport, Manchester Airports Group, IATA.

- the study has focused strongly on articulating the importance of night flying to the wider UK economy that uses these passenger and cargo services. This is a significant and recognised gap in the evidence base around the economic benefits of night flying currently. Existing approaches do not adequately reflect the important productivity benefits to the UK economy from being able to fly at night;
 - it articulates the need to set the importance of night flying in the context of the operating models of airlines in the UK. This research sets out to explain why night flying is important to airline operating models, both passenger and cargo, and, importantly, to highlight why night time operations cannot be viewed in isolation from the rest of the day;
 - it highlights the importance of placing the importance of night flying in the context of ‘Global Britain’ and the increasing reliance of the UK economy on global trade and its integration with the global economy. This returns to the theme above of properly articulating the importance of night flying to the wider economy.
- 1.6. The report focusses on the economic impact of night flying in 2019, prior to the significant disruption caused to the aviation market by COVID-19. This is for two main reasons. Firstly, seeking to assess the economic impact of night flying in 2020 or at current flying levels would be largely meaningless, as the travel restrictions that have been in place for much of the last 16 months mean that is not actually possible to assess current levels of demand. Secondly, one of the primary drivers for this research is to provide evidence in relation to stage 2 of the Department for Transport consultation, which focuses on policy post 2024. Most commentators expect air transport markets to have largely recovered by 2024 and, hence, impacts in 2019 are likely to provide a better view of the economic impacts of night flying moving into the future.
- 1.7. This research focusses on assessing the economic impact of night flying primarily in terms of impacts on Gross Value Added (GVA) and employment. These are felt to provide the clearest and most understandable measure of economic impact. It does, however, also provide some quantification of passenger economic welfare effects and demand effects. It should be noted that the Department for Transport’s approach to considering the economic impacts of night flying, as developed by Systra, focuses primarily on economic welfare effects. As a result, any direct comparisons between the two should be undertaken with caution. However, it is important to note that the wider economic impacts identified in this research are compatible with the Department for Transport’s approach and would not include any ‘double counting’. These are benefits that are not currently included within the Department for Transport’s existing framework for valuing the economic impact of night flights and this omission is a significant gap given the potential scale of these effects.

Relationship with the Balanced Approach

- 1.8. The international approach to aircraft noise management is based on the ICAO Balanced Approach. The Balanced Approach consists of identifying noise problems that exist at an airport and then assessing the cost-effectiveness of the various measures available to reduce noise through the exploration of four principal elements, which are:
- reduction of noise at source (quieter aircraft);
 - land-use planning and management;
 - noise abatement operational procedures (optimising how aircraft are flown and the routes they follow to limit the noise impacts);
 - operating restrictions (including night flight restrictions brought about via this process).
- 1.9. At its core, the Balanced Approach is based on the principle of sustainable development, allowing development of air travel while balancing the impact on the acoustic environment. The Balanced Approach has been incorporated into UK law and government has a duty to undertake an assessment of any proposals it brings forward in the context of the Balanced Approach.
- 1.10. Prior to considering the results of this analysis, it is important to consider how it sits within the overall ‘Balanced Approach’ to noise management. The ‘Balanced Approach’ seeks to examine the costs and benefits to society of night flying to identify cost effective approaches to mitigating / managing aircraft noise. It should be made clear

at the outset that this work does not represent a cost effectiveness analysis or a cost benefit analysis. It does not seek to consider the scale of costs associated with night flying or to address the balance between costs and benefits. York Aviation and the project sponsors recognise that there are potentially significant societal costs from night flying, particularly from noise, and that these are vital considerations in the Balanced Approach. The scale and nature of these costs is not the subject of this report. It should be emphasised that this research is not intended to be a full assessment of the costs and benefits of night flying in the context of the Balanced Approach. This report is intended to provide additional evidence on the economic benefits of night flying, and particularly the benefits in the wider economy away from airports and from the immediate operators and users of services. In part, this focus on the economic benefits of night flying is designed to address an evidential gap within the Department for Transport's existing framework for considering the economic impacts of night flights.

- 1.11. The Systra approach for assessing the economic benefits of night flying was commissioned by DfT and is its default approach to considering the economic effects of night flying³. The approach considers economic welfare effects, examining the costs and benefits of night flying to different actors in the economy. Essentially, it considers airports, airlines, passengers, and the public accounts. This approach is taken in order to maximise compatibility with WebTAG, the Department's broader approach to appraising transport interventions. It should be noted that this is not an issue. It is a perfectly reasonable and sensible starting point. However, by its own admission, the Systra approach does not cover a number of effects that are potentially significant in the context of a taking a balanced approach to considering the costs and benefits of night flying. Specifically, it does not consider:
- Cargo users – the impacts on passengers as the users of passenger services are considered but there is no similar consideration of the impact on cargo users in terms of the costs of retiming or lost connectivity. Given the importance of night flying in the cargo market, particularly for express freight, this is a significant omission;
 - Wider Economic Benefits – it does not consider the broader impacts on the UK economy in terms of trade, foreign direct investment (FDI), productivity or tourism from changes to the night flying regime. This applies to both passenger and cargo services. Again, this is potentially a significant omission;
 - Knock-on Effects through the day – the Systra approach does not consider how changes to operations in the night would affect day time operations. It does not consider the potential impact on aircraft utilisation for short haul airlines, which is an essential tenet of the low cost airline model in particular. This could significantly impact fares and connectivity, which will ultimately have severe implications for overall demand and in turn significantly reduce economic benefits. It does not consider how transfer traffic might be affected through the remainder of the day by squeezing connection options. The same applies to transferring cargo traffic. In terms of express services, squeezing the night will potentially reduce day time operations, with the overnight business model significantly impaired, the general business case for flying overall is reduced, with some daytime flights likely to move to trucking as well.
- 1.12. At present the Systra approach, while broadly robust in what it covers, cannot be considered as a complete view of the economic costs and benefits of night flying. By extension, any attempt at a 'Balanced Approach' assessment using it is at present not actually balanced. Significant potential benefits to society are not being considered. This research seeks to address a number of these concerns and to enable a better understanding of the benefits side of the equation.

³ Systra (2017). Economic Impacts of Night Flights: Research Study.

Approach

1.13. The development of this report has involved a number of key activities:

- data on passenger and cargo activity has been collected from airports, airlines and a range of public sources. Establishing a baseline position as to what happens during the night period and precisely when has been a fundamental part of this research. Across the UK, the extent and nature of night flying activity is not something that is well understood but it is clearly core to undertaking any form of economic impact assessment. In particular, data on night flying in terms of air transport movements, passengers and cargo tonnage has been collected from 11 UK airports. These airports accounted for 86% of passenger traffic and 96% of cargo tonnage at UK airports in 2019;
- consultations have been undertaken with a number of airports, airlines and stakeholders to assist in understanding the importance of night flying to operating models and the broader and economy;
- a wide-ranging review of previous research into the economic impact of night flying and air services and airports more generally has been undertaken to provide the basis for the economic impact modelling undertaken. We have also undertaken a review of night time operational regimes in a number of other countries worldwide;
- the evidence base established through this research has been used to develop a model of airline and passenger behaviour, which enables the consideration of the effects on the market from changes in the night flying regime. This sits alongside and feeds into an economic impact model that has been developed using existing secondary research on the economic impact of airports and air services in the UK. This model enables consideration of the GVA and employment impacts of night flying and changes in night flights policy across the UK.

Structure of the Report

1.14. The structure of this report is as follows:

- in Section 2 we set out a broad profile of current night flying in the UK;
- in Section 3 we explain why night flying is important for airlines, passengers, and consumers;
- in Section 4 we set out the current economic impact of night flying in the UK;
- in Section 5 we consider the impact of restricting night flying more than is currently the case;
- in Section 6 we draw some conclusions.

2. Profile of Night Flying in the UK

Introduction

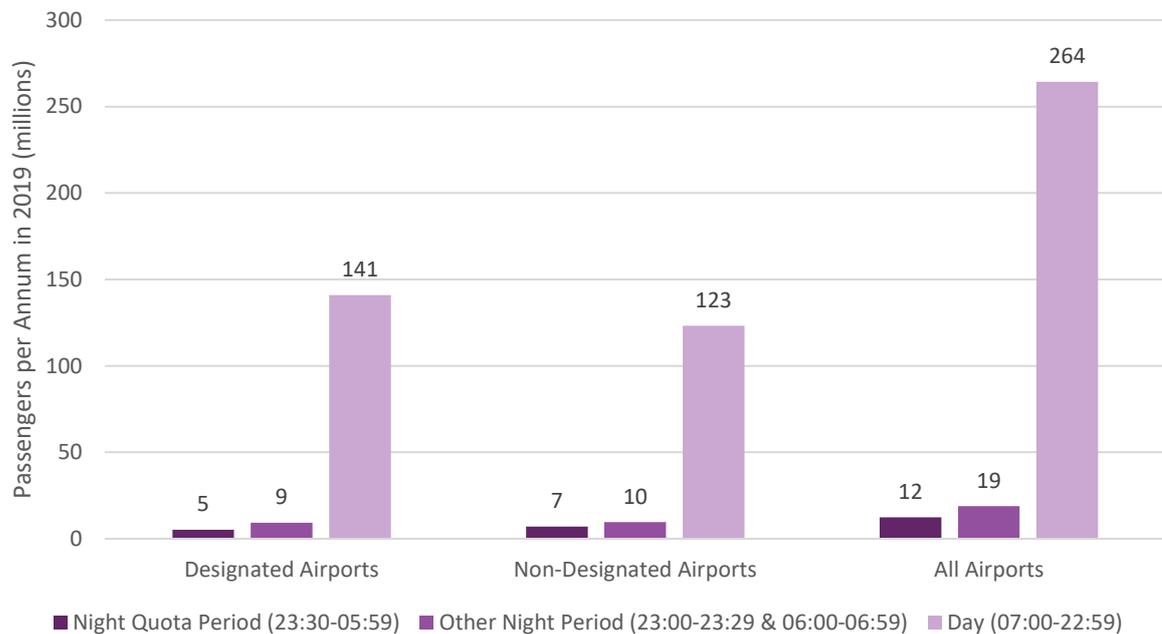
- 2.1. This section sets out a profile of aviation activity that occurred at UK airports throughout day and night periods in 2019. Our analysis illustrates the varying profiles of aviation activity between airports that are designated by central Government as requiring restrictions on night flying, which are Heathrow, Gatwick and Stansted, and all other airports in the UK that are non-designated, where night flying activity may be regulated through individual local arrangements.
- 2.2. The analysis primarily considers flying activity in three time bands:
 - Night Quota Period (NQP), which is defined as 23:30 to 05:59;
 - Other Night, which includes the parts of the standard night period, which is defined as 23:00 to 06:59, that are not within the NQP;
 - Day, which is the day time period, defined as 07:00 to 22:59.
- 2.3. Additionally, we have provided some analysis on an hour-by-hour basis to aid understanding of flying patterns.
- 2.4. The analysis has focussed on aviation activity related to:
 - commercial passenger operations, which includes scheduled and charter services; and
 - air freight operations, where we have distinguished between the operations of integrators/express cargo firms⁴ (e.g., DHL, FedEx and UPS) and general cargo firms (e.g., CargoLogicAir, Emirates, SkyCargo, and Cargolux);
 - where appropriate, we have considered bellyhold cargo that is carried by passenger aircraft separately.
- 2.5. It should be noted that the analysis of air cargo operations has relied solely on data provided to us by 11 UK airports, which covered approximately 96% of cargo tonnage handled across all UK airports in 2019.
- 2.6. General aviation, business aviation, and other sub-sectors of the aviation industry have not formed part of this analysis. Information for these sectors is difficult to obtain, but there is a clear need for business aviation flights to be able to operate during the night periods and anecdotally we understand this is becoming increasingly difficult at the London airports.

Overview of Aviation Activity in the Night Periods

Passenger Activity

- 2.7. Figure 2.1 demonstrates that most passenger traffic at UK airports arrives or departs during the daytime, with approximately 264 million passengers handled at UK airports during the day period in 2019. However, the volume of passenger traffic handled during the night is not insignificant. Approximately 31 million passengers were handled during the night in 2019, of which approximately 12.4 million were handled during the NQP.

⁴ It should be noted that this is not a perfect definition of the express cargo sector as there are a range of smaller operators in the UK that offer express freight services but do not operate their own aircraft. Similarly, in terms of cargo tonnage, we are aware that the express freight sector makes significant use of bellyhold capacity but that, again, this is not separately identifiable within this profile. We have, however, reflected this use of bellyhold capacity within our economic impact modelling.

Figure 2.1: Profile of Passenger Traffic at UK Airports Throughout Day and Night Periods in 2019

Source: CAA Airport Survey Data, CAA Airport Data, Study Airports Data.

- 2.8. The volume of passengers handled during the Other Night period is broadly equally split between designated and non-designated airports, with designated airports handling approximately 9.3 million passengers per annum (mppa) and non-designated airports handling approximately 9.7 mppa during this period. However, non-designated airports handled approximately 1.8 mppa more passengers than designated airports during the NQP.

Cargo

- 2.9. Patterns of cargo activity have been considered in relation to three market segments: express freight, general air freight and bellyhold cargo. The data available for this research focusses on aircraft movements and volumes of freight moved. However, whenever considering issues in relation to air cargo, it is important to remember that air cargo is all about moving high value and / or time sensitive items with an economic value which may be significantly higher than is reflected in their weight. For instance, research by Steer⁵ identified that in 2017, non-EU trade classified as being transported by air accounted for over 40% in terms of value but under 1% of total trade in volume terms (with sea accounting for over 98%). Air freight represented 49% by value of non-EU exports (£91.5 billion) and 35% by value of non-EU imports (£89.9 billion). Furthermore, York Aviation's previous research for the Freight Transport Association on the economic impact of cargo night flying in 2016 identified that air freight flown at night displayed even higher values than air freight flown during the day. The value per tonne of exports flown on night flights was estimated to around 2.5 times higher than the average across the day, while the value per tonne of imports on night flights was estimated to be around 1.4 times higher. This is a vital consideration if comparing volumes across different modes of transport.

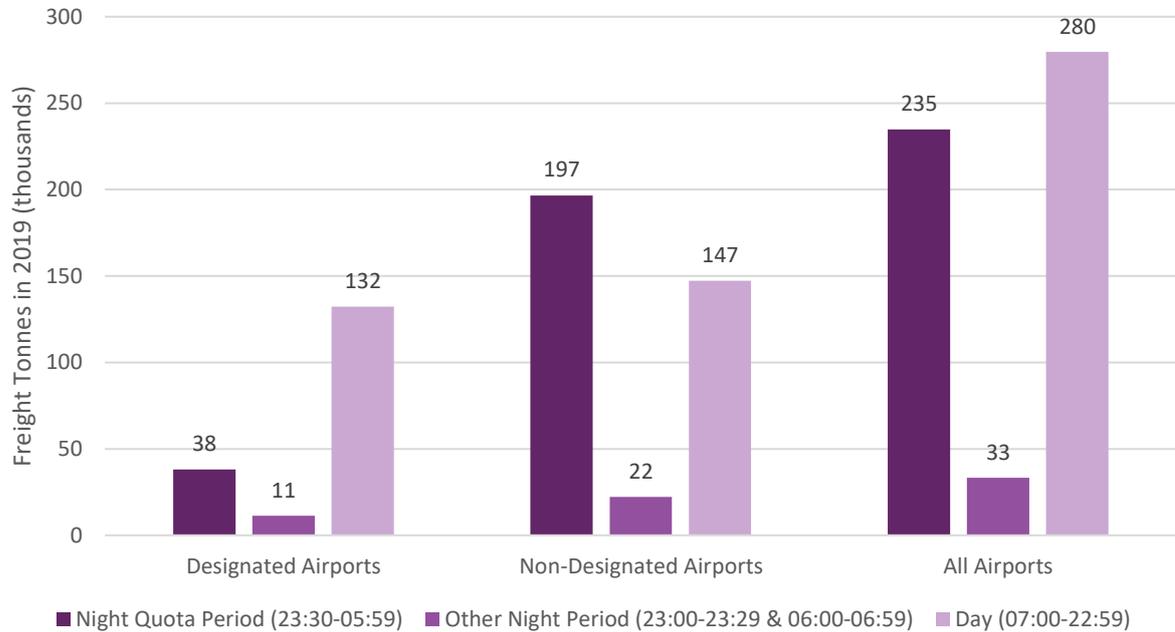
Express Freight

- 2.10. In percentage terms, the night period is significantly more important for the carriage of air freight by express freight operators, however. Figure 2.2 shows that around 268,000 tonnes were flown during the night period, with a strong emphasis on the NQP, compared to around 280,000 tonnes during the day. In other words, nearly half of all cargo flown on express freight aircraft was flown at night.

⁵ Steer (2018). Assessment of the Value of Air Freight Services to the UK Economy.

- 2.11. The pattern is even more extreme if non-designated airports are considered alone. More air cargo is carried by express freight operators during the NQP alone than during the entire day period. This is largely driven by the significant scale of express freight operations at East Midlands Airport.

Figure 2.2: Profile of Air Freight Carried by Express Freight Operators at UK Airports Throughout Day and Night Periods in 2019

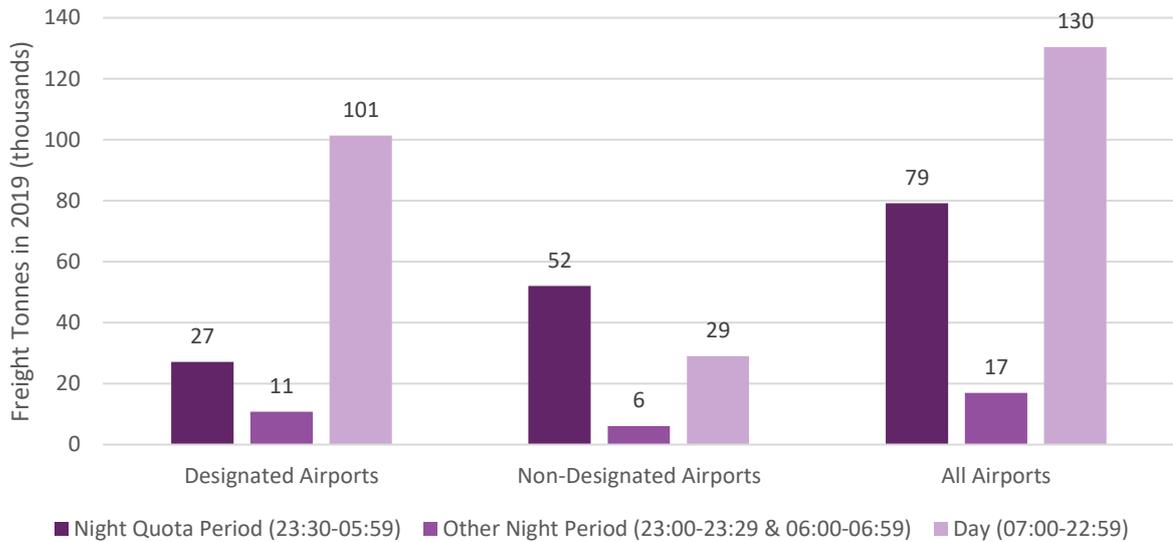


Source: Study Airports Data.

General Air Freight

- 2.12. The majority of air freight carried by general freighter operators to or from UK airports is also flown during the day (approximately 130,000 tonnes arriving and departing at UK airports) during this period (see Figure 2.3). However, the night period is also significant for general freighter operations, with approximately 96,000 tonnes carried during the NQP and Other Night period combined.
- 2.13. Again, the largest driver of night activity for general air freight is flying during the NQP at non-designated airports. This is again primarily driven by large volumes of general air freight arriving and departing at East Midlands Airport throughout the night.

Figure 2.3: Profile of Air Freight Carried by General Freighter Aircraft Operators at UK Airports Throughout Day and Night Periods in 2019



Source: Study Airports Data.

Bellyhold Cargo

2.14. Figure 2.4 shows the volume of bellyhold cargo departing and arriving at UK airports. Given the link between bellyhold cargo and passenger activity, it is not surprising that the profile of activity across the day is similar to that observed for passenger throughput, with the majority of activity occurring during the day. However, there is still around 195,000 tonnes of bellyhold freight moved at night. The market is, ultimately, heavily dominated by activity at Heathrow and this is reflected in the dominance of the designated airports.

Figure 2.4: Profile of Air Freight Carried by Passenger Aircraft (Bellyhold) at UK Airports Throughout Day and Night Periods in 2019



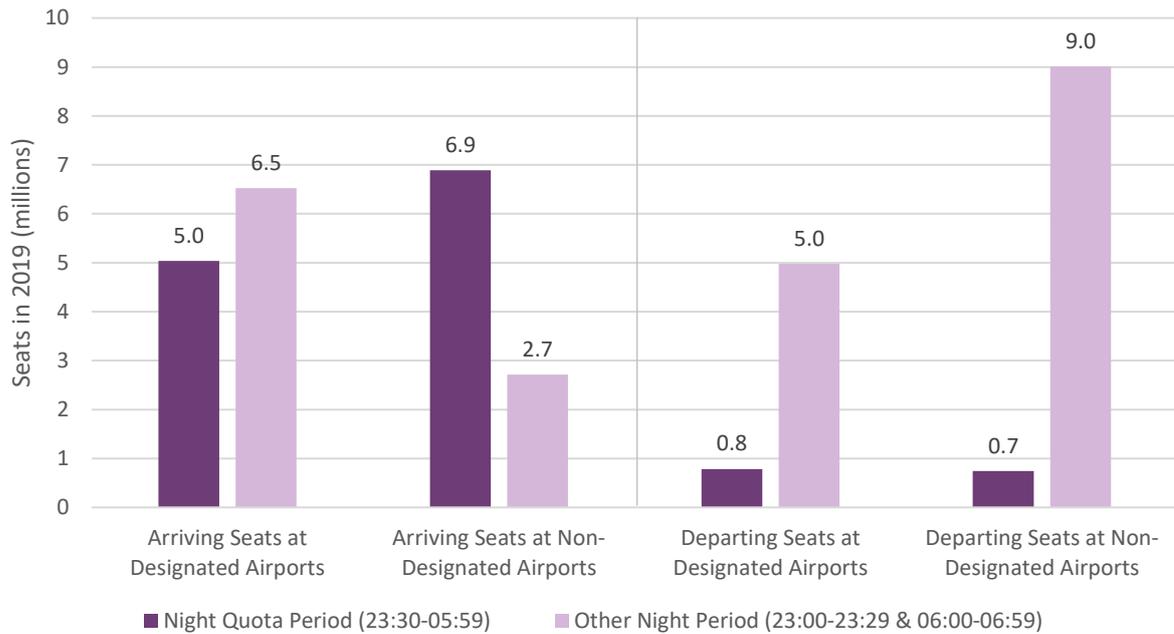
Source: Study Airports Data.

Arriving and Departing Volumes at Night

Passengers

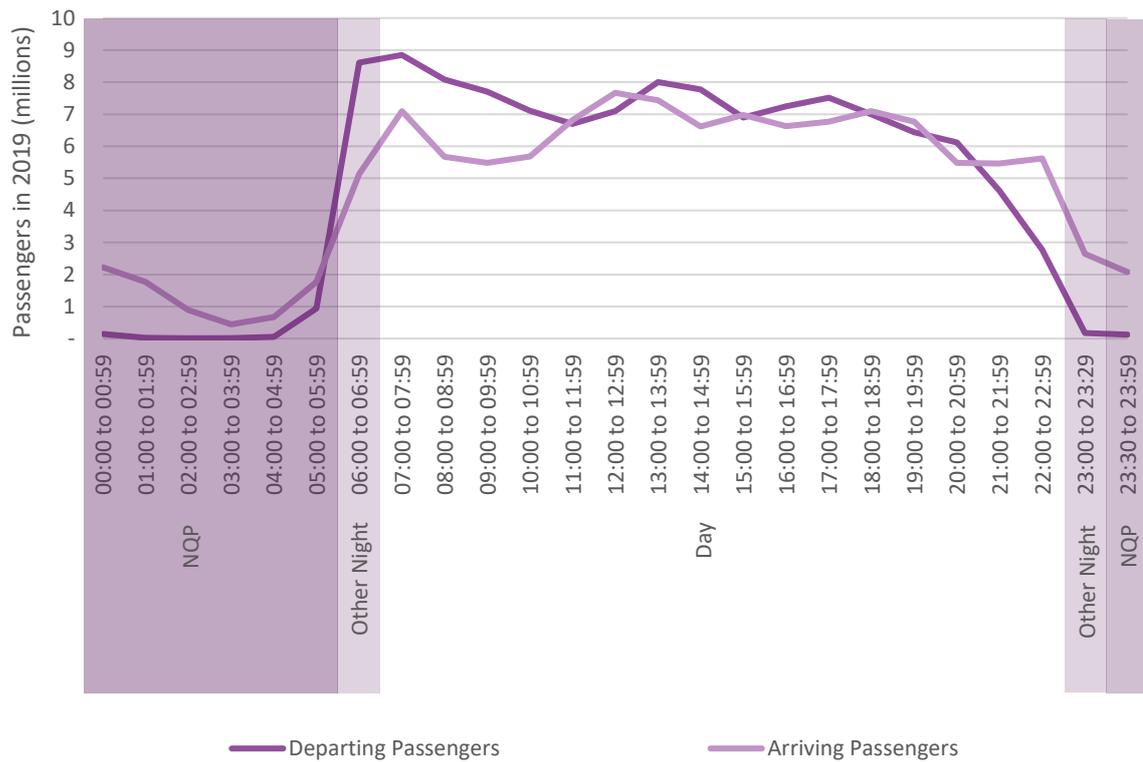
- 2.15. Figure 2.5 shows the split of arriving and departing passenger seats at UK airports during the NQP and Other Night in 2019. It shows the generally greater focus on arrivals in the NQP period at both designated and non-designated airports. However, the picture in the rest of the night is more mixed, with a relatively more balanced position between departures and arrivals at designated airports, but a distinct bias towards departures at non-designated airports.

Figure 2.5: Arriving and Departing Seats at UK Airports by Broad Time Period in 2019



Source: OAG.

- 2.16. Figure 2.6 provides a detailed hour by hour analysis of passenger arrival and departure patterns at UK airports. Whilst it is clear that the majority of passengers arrive and depart during the day period, there is significant activity during the evening and morning shoulders and during the Other Night period. It is notable that the second busiest hour for passengers departing UK airports in 2019 was between 06:00 and 06:59, which falls in the night period.
- 2.17. Conversely, there are very few passengers departing UK airports between 23:00 and 04:59, although there is a clear steady stream of passengers that arrive at UK airports throughout the night. This is partly representative of the operating patterns of UK-based airlines, which we explore in greater detail in Section 3, and partly representative of consumer preferences, whereby there is generally little demand for flights departing from UK airports during this time period. In contrast, passengers are more accepting of late-night arrivals into UK airports, as flights arriving at UK airports during this time will allow for a later departure from their origin, which allows passengers a longer day of business or leisure before the return flight.

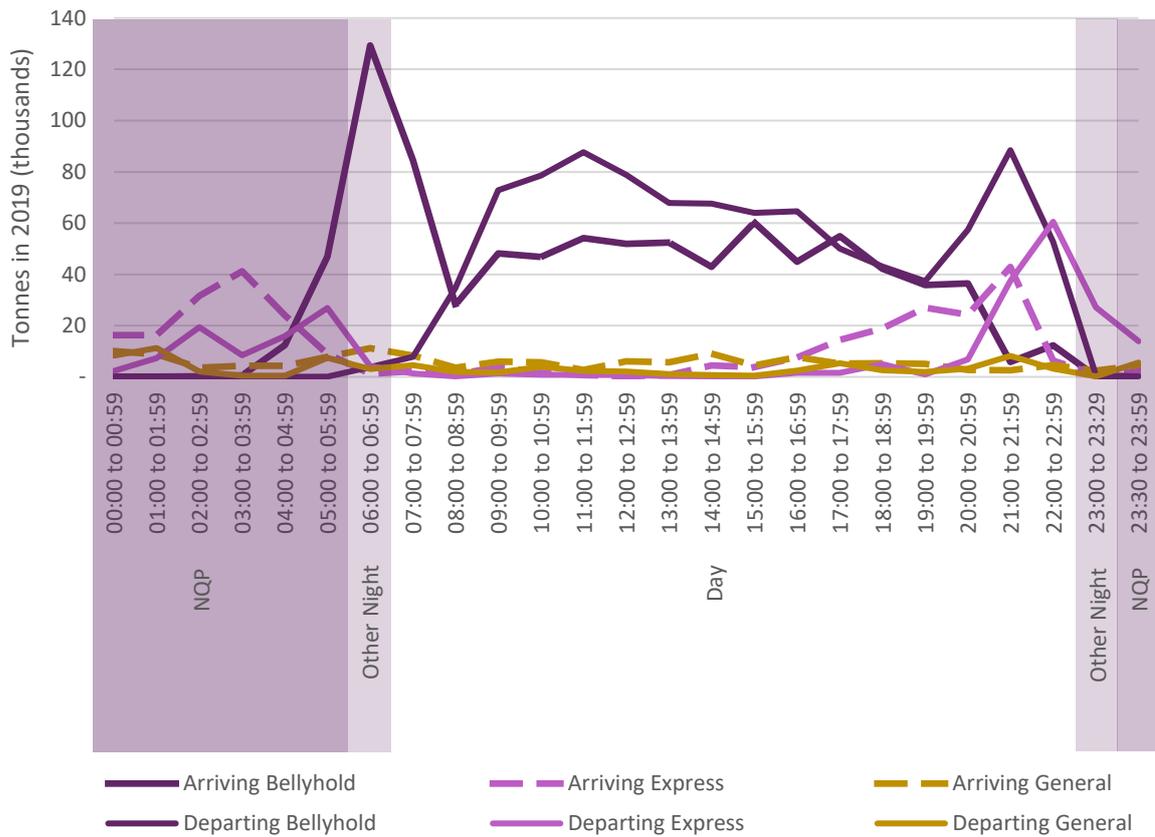
Figure 2.6: Passengers Handled at UK Airports per Hour by Arriving and Departing Passengers in 2019

Source: York Aviation.

Cargo

- 2.18. Figure 2.7 presents a similar profile for air freight tonnage by market segment arriving and departing at UK airports hour-by-hour in 2019.
- 2.19. The majority of air freight to and from UK airports is carried by passenger aircraft as bellyhold cargo. The peak for inbound bellyhold cargo is between 06:00 and 06:59, during the Night AM period, which is primarily driven by early morning arrivals into Heathrow from long-haul origins. Outbound bellyhold cargo follows a similar profile to outbound passengers throughout the day given that both metrics are dependent upon commercial passenger movements.
- 2.20. The peak for outbound express freight tonnage is between 22:00 and 22:59, just before the night period, as volume is shipped out of the UK to hubs across Europe for processing and delivery the next day. The peak for inbound express freight tonnage is between 03:00 and 03:59, in the NQP, as volume is brought into the UK ready for delivery to meet morning delivery thresholds. There is also a peak of express arrivals between 21:00 and 21:59, reflecting particularly the arrival of cargo volumes at the express freight hub at East Midlands ready for onward shipping.
- 2.21. Air freight tonnage shipped by general air cargo operators is also significant during the night, particularly between 23:29 and 01:59, although there are relatively steady volumes of activity throughout the daytime compared with express freighter operations.

Figure 2.7: Air Freight Tonnes Arriving and Departing at UK Airports per Hour in 2019



Source: Study Airports Data.

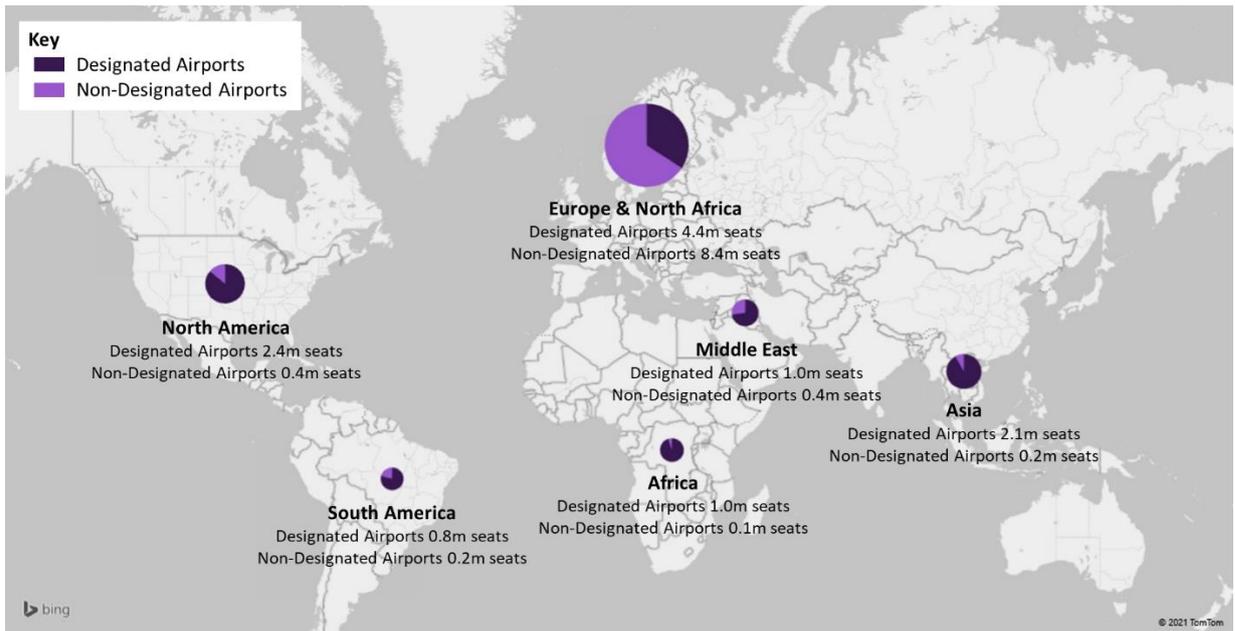
Origins and Destinations of Seats and Cargo Handled at UK Airports During Night Periods

Arriving Passengers and Cargo Tonnage

- 2.22. Figure 2.8 shows the volume of seats by origin arriving at UK airports during the NQP and Other Night period at designated and non-designated airports in 2019. The majority of arriving seats during these periods are from Europe and North Africa, with approximately 4.4 million and 8.4 million arrival seats at designated and non-designated airports respectively. There were significantly more arriving seats from long-haul destinations at designated airports compared with non-designated airports. The majority of arriving seats from long-haul destinations at designated airports come from early morning arrivals into Heathrow⁶.

⁶ This reflects the origin and destination of flights rather than passengers and as such takes no account of transfer traffic.

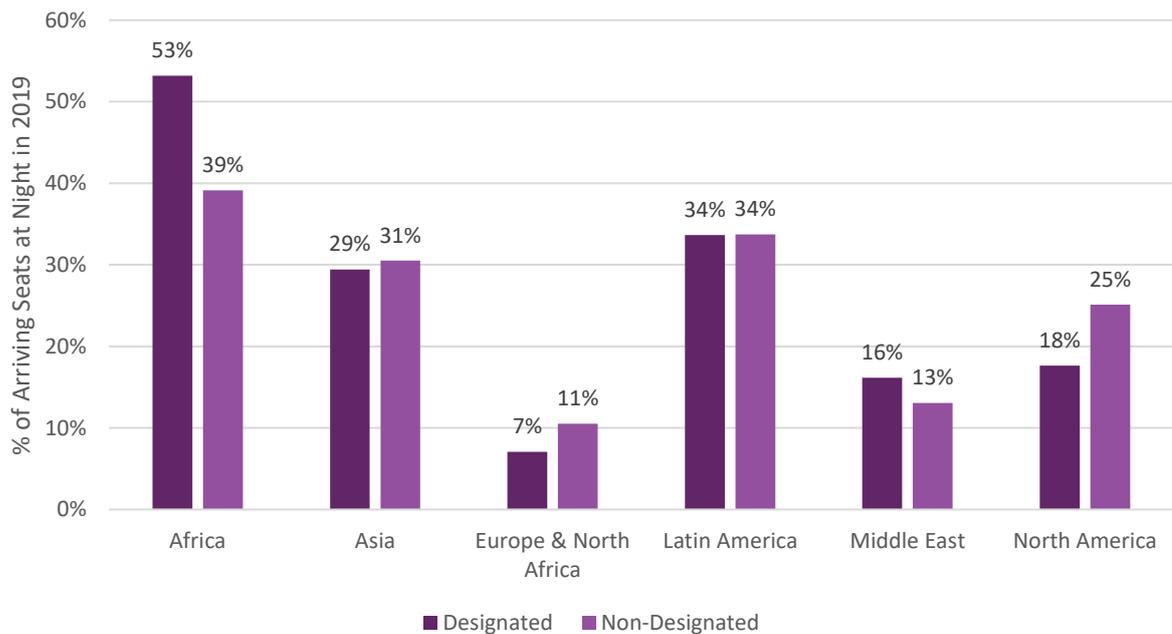
Figure 2.8: Arriving Seats at UK Airports During Night Quota Period and Other Night Periods in 2019



Source: OAG.

2.23. The volumes shown in Figure 2.8 do, however, mask an important point. While Europe & North Africa is by some margin the largest volume source of arrivals in the NQP and Other Night, this is heavily influenced by the overall size of different markets at UK airports. Some long-haul regions are, in reality, substantially more reliant on night time operations in terms the proportion of overall seat capacity that flies at night. This can be seen in Figure 2.9, which shows the proportion of seat capacity from different continents that arrives at night. It shows that arrivals from Africa, Asia and Latin America are particularly reliant on night flying. Of these markets, the economically important connections to Asia are by some margin the largest market, with around 2.3 million seats arriving during the night, with the great majority coming into Heathrow.

Figure 2.9: Percentage of Arriving Seat Capacity at UK Airports that Arrived During the Night Quota Period and Other Night Periods in 2019



Source: OAG.

2.24. Figure 2.10 shows that arriving bellyhold cargo tonnage at UK airports during the NQP and Other Night in 2019 predominantly originated from long-haul destinations, with only around 1,000 tonnes originating from Europe and North Africa. This contrasts with arriving passenger seats, where the majority during the same period originated from Europe & North Africa. Again, this reflects the pattern of long-haul arrivals into Heathrow in the early mornings.

Figure 2.10: Arriving Bellyhold Cargo Tonnes at UK Airports During Night Quota Period and Other Night Periods in 2019



Source: Study Airports Data.

2.25. The origin of air freight flown by freighter aircraft to UK airports during the NQP and Other Night in 2019 is shown in Figure 2.11. In contrast to the origin of bellyhold cargo, which was weighted towards long-haul origins, the majority of cargo arriving on freighter aircraft during the night originates from Europe and North Africa. This reflects the high volumes of freight that are carried from the key European express freight hubs, such as Leipzig, Cologne and Liege. However, it should be noted that this may disguise the original origin of some freight from further afield that is simply transferring through these hubs.

Figure 2.11: Arriving Cargo in Freighter Aircraft at UK Airports During Night Quota Period and Other Night Periods in 2019



Source: Study Airports Data.

Departing Passengers and Cargo Tonnage

2.26. In terms of outbound flows, Figure 2.12 shows the destination of seats departing UK airports during the NQP and Other Night in 2019. The great majority of departing seats are to destinations across Europe and North Africa. This is true for both designated and non-designated airports. The pattern ultimately reflects the operating models of short-haul airlines in the UK, particularly the low fares airlines, which rely on early departures from the UK of their based aircraft to maximise aircraft utilisation through the day. This issue is discussed further in Section 3.

Figure 2.12: Departing Seats at UK Airports During Night Quota Period and Other Night Periods in 2019



Source: OAG.

- 2.27. Figure 2.13 shows the destination of bellyhold cargo departing from UK airports during the NQP and Other Night in 2019. Approximately 5,000 tonnes depart from designated and non-designated airports during this period, which is relatively small, reflecting the fact that there are relatively few departing passenger movements during the night. The bellyhold freight that is being flown out in the night period is bound primarily for Europe & North Africa or North America, and, in line with the overall share of bellyhold activity, is flown almost exclusively from designated airports.

Figure 2.13: Departing Bellyhold Cargo Tonnes at UK Airports During Night Quota Period and Other Night Periods in 2019



Source: Study Airports Data.

- 2.28. Figure 2.14 shows the destinations of cargo that departed UK airports in freighter aircraft during the NQP and Other Night in 2019. The majority of this cargo was destined to Europe and North America. Approximately 70% of all outbound tonnage carried by freighter aircraft from UK airports during this time is from East Midlands Airport to Europe and North Africa, which again reflects volume being moved from the UK late in the day to express freight hubs in Europe for next day delivery.

Figure 2.14: Departing Cargo in Freighter Aircraft at UK Airports During Night Quota Period and Other Night Periods in 2019



Source: Study Airports Data.

Conclusions

- 2.29. The majority of passenger-related activity at UK airports occurs during the daytime. However, there is a significant minority of passengers that fly at night, with approximately 31 million passengers arriving at or departing UK airports during the night in 2019. The second busiest hour for passengers departing UK airports in 2019 was between 06:00 and 06:59. Few passengers depart from UK airports between 23:00 and 05:59, but a steady stream of passengers do arrive throughout this period.
- 2.30. The profile of bellyhold cargo arriving and departing from UK airports throughout the day is intrinsically linked to the schedules of passenger airlines, particularly to those airlines that operate long-haul services, and thus the great majority of bellyhold cargo at UK airports is handled during the daytime. However, the peak for bellyhold cargo arriving at UK airports is between 06:00 and 06:59, at the end of the night period. This is driven by long-haul arrivals into Heathrow.
- 2.31. Freighter aircraft operations, however, fly a considerably higher percentage of their volumes at night. This is particularly true for freighter aircraft flown by express freight operators, for which night operations are critical for the enabling of next-day delivery services. The peak for inbound freight tonnage carried by express freight operators arriving at UK airports is between 03:00 and 03:59, as shipments are brought into the UK for early morning delivery.

3. Why is Night Flying Important?

Introduction

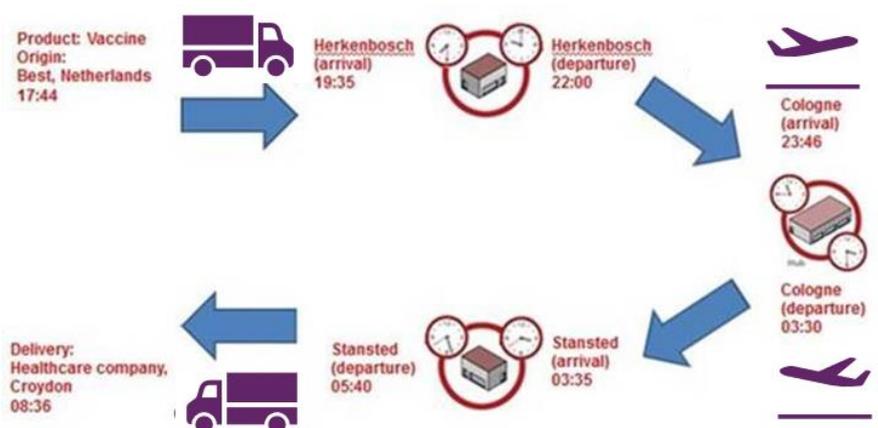
- 3.1. In this section we consider why night flying is important to airlines and consumers and consider the extent to which changes in operating patterns towards more daytime and fewer night flights may be possible.

Overview

- 3.2. To a large extent night flying activity is driven by demand and consumer preferences. Ultimately, passengers want to travel at times which are convenient to their needs, such as:
- business passengers want to maximise 'on the ground' time and minimise overnight stays. This approach increases business efficiency and therefore economic output. This makes the UK a more attractive place to invest and from which to do business. From a short-haul perspective, this means leaving early in the morning and returning late in the day, while for long-haul passengers, there is a strong preference to travel overnight;
 - passengers want to be able to access key connections both in the UK, notably at Heathrow, and at hub airports across Europe. Early morning arrivals into the UK are important in meeting the first wave of departures. While for access to European hubs, in many cases this requires early morning departures to meet the first wave of onward connections from those hubs. These early morning connections provide significant connectivity for many regional airports and passengers.
 - leisure passengers typically also want to maximise their time at destinations and minimise 'dead time' travelling. This means they will prefer early and late flights or, in the case of long and medium haul services, overnight flights.
 - passengers also want the best value from their flights, typically through lower fares. Maximising the length of the day available for flying is essential to utilising aircraft assets effectively and therefore minimising fares by allocating the asset costs across more passengers.

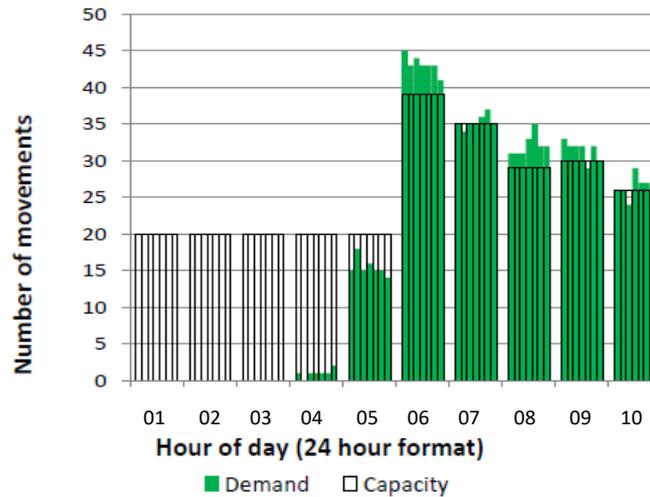
- 3.3. Air cargo is generally used to move mission critical, high value / time sensitive goods and packages. This is especially true of cargo flown at night. The night period is used to move items whose value is to a significant degree defined by their speed and / or certainty of delivery and for whom international delivery times need to be measured in hours rather than days and guaranteed delivery times and next business day delivery are key features of the offer. This could include essential time expiring medical or pharmaceutical products, financial, legal or business documents, critical manufacturing components or spares, perishable produce or high value consumer goods. The night provides vital time between business days when goods / packages can be moved with minimal loss of productivity or time to market or user.

How Night Flying Lets Express Freight Work – Time Sensitive Items



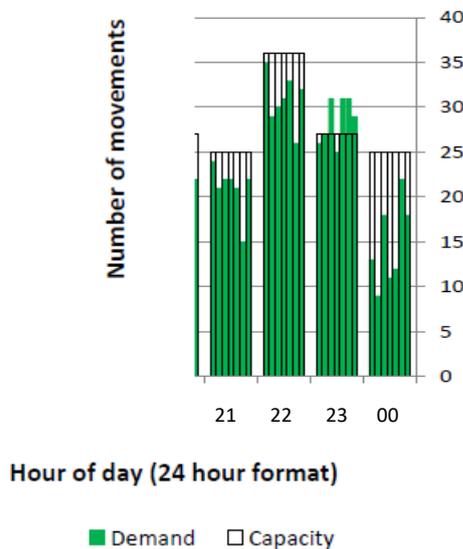
3.4. Night flying activity also adds significantly to airport capacity in the UK, contributing to UK government policy to ‘make best use of existing runways’⁷. The early morning periods and those at the end of the day often remain the busiest for airports, as this is when based aircraft depart and arrive in quick succession at the beginning and ends of their working days. For departures, this leads to high levels of demand for slots in the period from 06:00-08:00 across UK airports. Figure 3.1 illustrates the early morning demand for departure slots at London Gatwick Airport in Summer 2019, showing the requested times for departure slots vs the available capacity. Clearly in this example, due to higher demand than capacity, not all the airlines will get their preferred slots, but the problem would be amplified if the departure slot capacity in the 05:00-06:59 periods was not available. Figure 3.2 illustrates the opposite end of the day, and in particular the high levels of arrival demand in the night periods which could not be accommodated within the spare capacity up to 23:00 hours.

Figure 3.1: Summer 2019 Departure Slot Demand vs Capacity for London Gatwick by Hour



Source: ACL Slot Coordination Report – Start of Season.

Figure 3.2: Summer 2019 Arrival Slot Demand vs Capacity for London Gatwick by Hour



Source: ACL Slot Coordination Report – Start of Season.

⁷ See ‘Beyond the Horizon - the future of UK aviation’, UK Government, June 2018.

**Why Night Flying Matters:
Its role in clinical trials testing**

The UK is a world leader in clinical trials testing. Patient urine and blood samples from across the world are sent to the UK in order to develop world class drugs to treat illnesses such as cancer. The connectivity express air freight provides as a global hub is critical for this industry. As an example, biological samples are imported (often on dry ice) from countries such as South Africa and Kuwait on direct commercial flights into the UK.

From collection of these samples at patient sites across the world to delivery at UK laboratories, delivery needs to be within 48 hours so as not to compromise the sample integrity. Flying into the UK is the only way to meet this demand on such a tight timeline, enabling effective diagnosis and the development of life saving drugs.

3.5. Whilst airports such as London Heathrow and London Gatwick are at the extreme end of this capacity shortfall spectrum, it remains an issue across many UK airports where demand for slots at each end of the day would exceed the available capacity if runways could not be used in the night periods. Without night flying there could be an increasing need for additional runway infrastructure in the UK with associated environmental and cost implications, with the latter being passed on to consumers through higher fares.

3.6. Therefore, without the early morning and late evening periods being available to airlines there would be a significant reduction in the number of aircraft which could be handled at UK airports. Given that the night slots at many airports are often used by short-haul aircraft based at an airport, then the inability to handle these aircraft would lead not only to a loss of the movements at each end of the day, but

also the subsequent flying to and from the airport that these aircraft perform throughout the day. We consider this in more detail later in this section.

- 3.7. Night flying also allows airlines to overcome the time zone disadvantage suffered by the UK when compared to other countries in Europe, which sees the UK at least an hour behind most European nations. Where passengers fly overnight from some long-haul points, such as Asia or southern Africa, the ability to arrive in the early morning means airlines can offer more attractive departure times from the origin, matching those offered by competitors flying into European airports. In particular, this is of relevance for passengers making connections through hubs whereby they may be inclined to choose a more attractively timed flight to a European hub rather than a later departure at an unsociable time to a UK hub. This enhances global connectivity by ensuring services are more sustainable financially through greater levels of passenger demand stemming from the hub connectivity offered.
- 3.8. Furthermore, in order to allow business travellers to reach their destinations in Europe in the early part of the working day, flights must often depart in the night period from the UK in order to reach their destination in good time due to the change of time zone into Europe, maximising business efficiency and making UK cities competitive as places to locate business within Europe. Ultimately the night period is therefore needed to minimise an inherent competitive disadvantage of operating in the UK.
- 3.9. The same argument can be made in relation to express cargo services. The time difference between the UK and much of Europe means that any express shipments to Europe are always operating behind other countries. This truncates the time that express freight operators have to deliver, making the night hours even more crucial.
- 3.10. Night flying activity also provides important resilience for all airlines and is necessary so that aircraft which are delayed can still complete their daily schedules and return to their bases in preparation for their flying programme the next day. In circumstances where night flying is not permitted, this could leave airlines vulnerable to aircraft being stuck away from their overnight destination which would incur considerable costs and allowance for which would need to be added to air fares and cargo costs more generally, thereby reducing consumer benefits. Costs which could be incurred and would need to be covered might include:
- a greater number of back-up aircraft at each base to build in resilience, with associated increases in fixed costs to be covered;
 - hotel accommodation and compensation for passengers suffering disruption as required by law;
 - hotel accommodation and costs for staff that cannot return to their base location;

- overnight parking costs for aircraft away from their base (particularly as many airports will not charge overnight based aircraft for parking); and
- increased use of third party handlers and maintenance providers at non-base locations.

3.11. We now go on to look at some of the issues affecting different types of flights and airlines in more detail.

Passenger Markets

Short-Haul

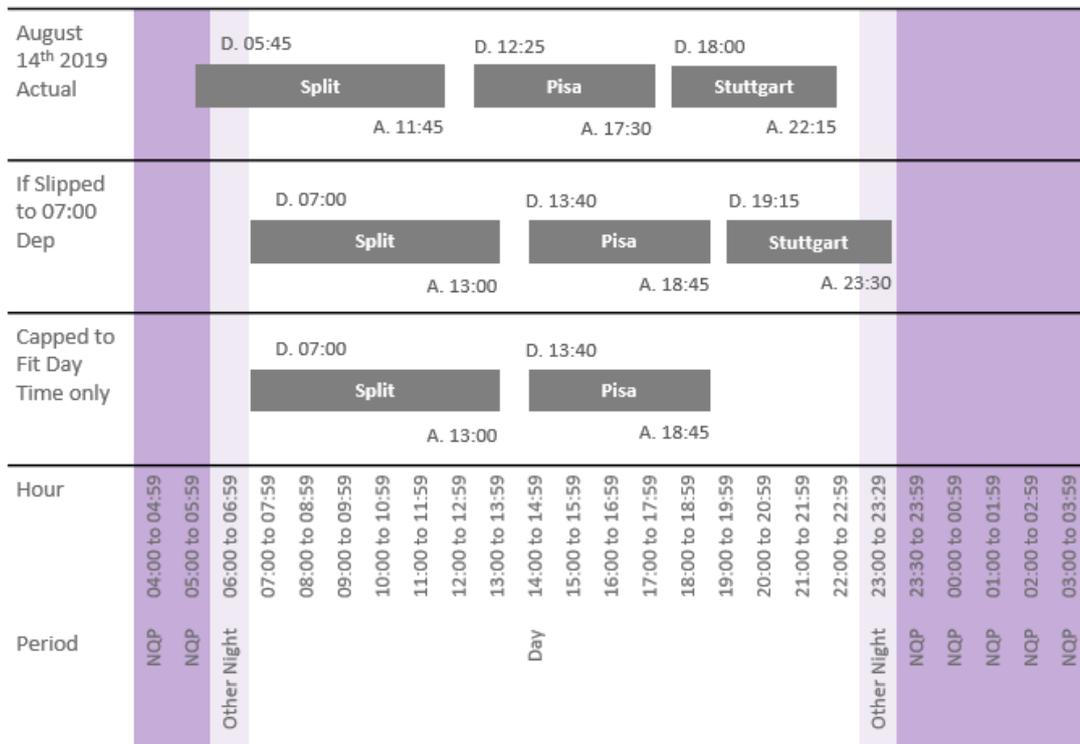
- 3.12. In the competitive short-haul market, night flying permits airlines to maximise the use of their aircraft assets to provide lower fares to consumers and to meet underlying demand for air travel through improved efficiency. This also allows improved connectivity through a greater array of destinations being available as well as providing higher frequencies on core routes, which is important to businesses operating within the UK.
- 3.13. The use of the night flying period by short-haul airlines is typically driven by early morning departures (from 05:00 hours onward, but most typically from 06:00) and late night or early morning arrivals (in the period 23:00-02:00 hours most typically). These represent the ends of the day for aircraft which also undertake flights back and forth from their base during the daytime period. For short-haul airlines, this may mean that the night period can represent anywhere from 12% to 50% of an aircraft's movements at a UK airport on a typical day depending on the overall number of flights undertaken and whether one or two night period slots are used.
- 3.14. This means that a large proportion of flying in the UK is undertaken by aircraft which require at least one night movement, but which still generate the majority of their movements, and therefore passengers, through the daytime period. As we consider in more detail below, losing access to even one movement in the night period can undermine the business case for basing an aircraft at a UK airport, and could lead to aircraft being relocated elsewhere in Europe with a subsequent loss of connectivity and employment.
- 3.15. Access to night flying can meet different needs for different airlines, but key components across the sector include:
- night slot usage at one or both ends of the day can increase the available flying time throughout a typical day for low fares airlines and therefore allows them to maximise aircraft utilisation by undertaking the maximum possible number of rotations through the day. This lowers costs by dividing fixed costs, such as aircraft depreciation and management costs, by the maximum number of passengers and therefore helps keep fares lower for consumers. Many of these carriers have target minimum numbers of rotations across their fleets and anything that undermines this may threaten the viability of their operations within the UK. The same is also required for full service airlines as they increasingly compete against low fares airlines across large parts of their networks and therefore need to maximise aircraft utilisation to be competitive;
 - through early departures and later arrivals, all airlines can better meet the needs of time sensitive travellers, particularly business users seeking to maximise the length of their day at the destination. This can translate to higher fares as passengers may be willing to pay more for an air fare if this reduces the need to spend money on hotels and subsistence at a destination. This is an important income source for all airlines;
 - night flights at both ends of the day are required to meet the 'wave' structures employed by hub airlines across Europe. These waves are designed to maximise connections through co-ordinated arrivals times followed by co-ordinated departure times. However, these structures are not set up solely for UK passengers and therefore services originating in the UK must fit in with the wider wave system at a hub, often requiring an early morning departure in the night period to compensate for the time difference between the UK and most of mainland Europe. Even within the UK, connections to the hub at London Heathrow can be dependent on night departures from the regions in order to meet the first significant waves of departures out of London;

→ for UK hub airlines, the use of night flying periods is important not only in providing outward connections from the hub after the first wave of long-haul arrivals, but also because this ensures the returning aircraft do so in sufficient time to feed the next wave of long-haul departures around lunchtime. Delaying the start of the day for some of these movements would undermine the ability of the hub airline to feed into key long-haul destinations from select destination across Europe, often those with a longer flying time, such as Italy or Spain.

3.16. We illustrate below some examples around the difficulties of re-timing flights to operate only in the daytime periods. Each of these represents an actual aircraft operating in Summer 2019.

3.17. Figure 3.3 shows an easyJet aircraft which departed London Gatwick in the night period but finished its rotations by arriving back before the night period started again. However, this aircraft could not be re-timed to depart in the daytime (07:00 onwards) period without then encroaching into the night period for its evening arrival back in the UK. The result would be that, if the airline wished to retain the aircraft at the base, one of the rotations undertaken by the aircraft would need to be dropped, reducing the available seats (and likely passengers) by 33%.

Figure 3.3: easyJet Example Schedule for London Gatwick Based Aircraft, Summer 2019



Source: OAG, York Aviation.

3.18. Figure 3.4 presents an easyJet aircraft operating from a regional airport (Bristol) beginning its schedule during the day period (at 0700) but finishing in the night period. If the arrival were pulled forward to occur before 23:00, then the whole schedule for this aircraft would then be pulled forward into the night period for departures. Again, if the airline wished to retain the aircraft in the UK base, the only solution would be the cancellation of one rotation if this aircraft were to fly only between 07:00 and 23:00, reducing capacity (and likely passengers) by 25%.

Figure 3.4: easyJet Example Schedule for Bristol Based Aircraft, Summer 2019

2019 Actual 14 th August		D. 07:00 Belfast A. 09:40	D. 10:10 Alicante A. 15:50	D. 16:40 N'castle A. 19:15	D. 19:40 Malaga A. 01:30
Forward to Prevent Night Arrival	D. 04:25 Belfast A. 07:05	D. 07:35 Alicante A. 13:15	D. 14:05 N'castle A. 16:40	D. 17:05 Malaga A. 22:55	
Capped to Fit Day Time only		D. 07:00 Belfast A. 09:40	D. 10:10 Alicante A. 15:50	D. 16:40 Malaga A. 22:30	
Hour	NQP 04:00 to 04:59 NQP 05:00 to 05:59 Other Night 06:00 to 06:59 07:00 to 07:59 08:00 to 08:59 09:00 to 09:59 10:00 to 10:59 11:00 to 11:59 12:00 to 12:59 13:00 to 13:59 14:00 to 14:59 15:00 to 15:59 16:00 to 16:59 17:00 to 17:59 18:00 to 18:59 19:00 to 19:59 20:00 to 20:59 21:00 to 21:59 22:00 to 22:59 Other Night 23:00 to 23:29				
Period	NQP NQP Other Night Day Other Night NQP NQP NQP NQP NQP				

Source: Study Airport Data.

- 3.19. These patterns are typical for many airlines in the UK and any requirement to control movements within a more limited number of hours of operation in the day is likely to require airlines to reduce the overall number of rotations they perform with based aircraft because re-timing is, in some cases, only a hypothetical option, as at many airports there would not be sufficient runway capacity in the 07:00 period to shift departures later. Any attempt to move first departures later into the day would further exacerbate the problem with even less time available to complete rotations before any night restrictions. In reality, therefore, with morning capacity at airports restricted, all rotations would be lost, and based aircraft would be relocated by the airlines (considered below).
- 3.20. Where rotations could be reduced, this is likely to lead to the loss of some routes or reductions in frequency, both impacting on connectivity. It is difficult to say what rotations and destinations may be lost, but it is likely that airlines would focus on higher yielding core routes and therefore would drop rotations to destinations with less demand. This would likely lead to a concentration of capacity to a limited number of points. Domestic services, which act as useful infills for aircraft during the day, are often lower yielding than core leisure routes, so there is a risk that these would be the first to be dropped, thereby impacting on regional connectivity in the UK, the Channel Islands and Isle of Man.
- 3.21. In addition to lost connectivity benefits, passengers would be faced with increased fares to cover the continued fixed costs within each airlines' business. Whatever the drivers for increased fares, there would be a reduction in consumer welfare as a result.

3.22. Ultimately, such restrictions would seriously impair the ‘based aircraft’ model. Consultations with key airlines indicate that reducing rotations on based aircraft would not be a viable option in reality and airlines would move aircraft assets to their bases in Europe or remove them from the fleet. This would lead to reduced employment in the UK, with jobs supporting based aircraft (pilots, cabin crew, maintenance staff etc.) relocated with the aircraft out of the UK or lost altogether. Furthermore, it could not be relied upon that aircraft based elsewhere would adequately make up for lost connectivity because:

- many bases are at larger airports and therefore would not provide services to the UK from smaller airports and cities;
- aircraft based in Europe would be unable to operate domestic services in the UK due to Brexit;
- flight times would be less attractive because the aircraft would need to fly to the UK before allowing UK passengers to travel to the Continent, this would mean business travellers in the UK could be disadvantaged by shorter working days overseas compared to their European counterparts; and
- airports with their own capacity or night-movement restrictions across Europe could make it hard to generate viable schedules into the UK.

Why Night Flying Matters:
Supporting the Aerospace Industry

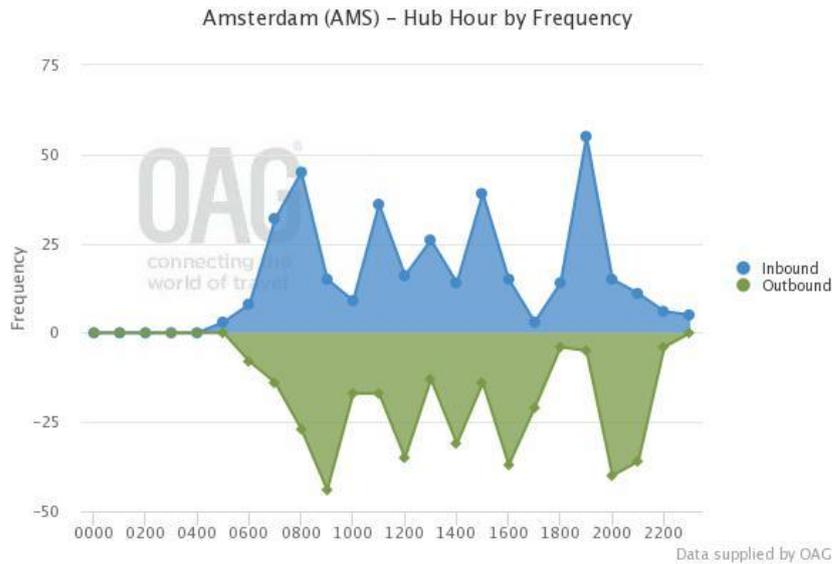
The UK has significant expertise in aerospace, with many manufacturers creating components essential to the global aerospace sector, including engines, wings and spare parts. For both private aircraft and commercial airlines, there are significant costs and repercussions to keeping an aircraft grounded. Night flying is a vital driving factor in enabling key components to be delivered across the globe while keeping down time to a minimum.

There is a growing use of ‘Just in Time’ stock holdings, where it is essential that spare parts and precision tools are delivered the next day, including to long-haul destinations. On occasion, there is a rapid turnaround on components which arrive into the UK for repair before being sent back out on the same day.

One example of success in this area is an independent aircraft maintenance and repair company which has grown to a truly global player thanks to the connectivity provided by outbound flights from the UK in the late evening. Shipments are collected close to the end of the working day and fly late in the evening, underpinning this “just in time” business model.

3.23. As previously highlighted, hub connectivity could be impacted by night flying restrictions, cutting off access to the first departures from the UK regions, which are needed to meet the first significant waves of departures out of hubs in the UK and in Europe. Figure 3.5 shows the pattern of arrivals and departures at Amsterdam airport by KLM in support of its hub waves. This clearly shows that the peak of early morning arrivals is around 8am local time to maximise connections for the first wave of onward departure which peaks around 9am. In order to meet this first wave of outward departures from its hub, KLM services tend to need to depart from the UK in the 0600-0645 period to allow for the difference in time zone between the UK and Amsterdam.

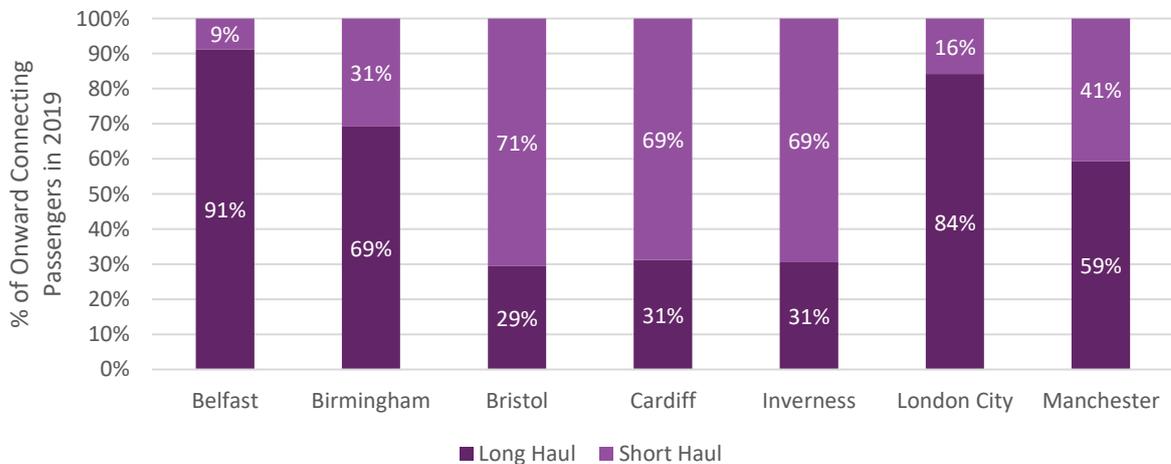
Figure 3.5: KLM Bank Structure Report at Amsterdam for August 2019



Source: OAG.

3.24. Capacity constraints at the UK’s main hub at London Heathrow mean that it cannot currently act as a substitute for these links, and further night restrictions would impede the ability of the London hub still further. If these European services could not be operated, then a significant level of UK regional connectivity would be lost and it should be recognised that this is not just for long-haul passengers, with Europe’s hubs also providing breadth of connectivity across the continent. This can be seen in Figure 3.6 which shows the ratio of long-haul and short-haul connections made at Amsterdam from selected UK regional airports.

Figure 3.6: Ratio of Long and Short-Haul Onward Connections Through KLM Hub from UK Regional Airports



Source: CAA Passenger Survey 2019.

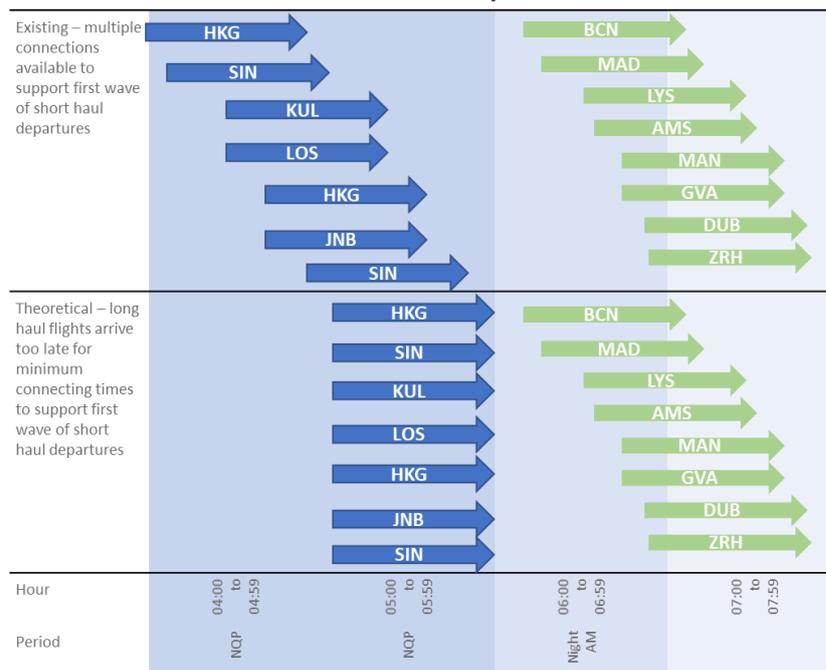
3.25. Restrictions on night flying in the UK would ultimately lead to reduced connectivity, higher air fares, reduced business efficiency (through shorter working days, lower frequencies and higher costs) and reduced employment impacts from based aircraft. The result of this would be to stifle UK economic growth and recovery.

Long-Haul

3.26. Consultations with airlines and their consumer preference surveys demonstrate a clear desire for passengers on long-haul flights to travel overnight where possible. This allows travellers to maximise their day for being ‘on the ground’ for whatever purpose (business or leisure) at both ends of the route, whilst minimising hotel nights and therefore reducing overall travel costs. Early morning arrivals after overnight flights essentially allow business passengers to undertake a full day of work after landing and therefore increases business efficiency in the UK.

- 3.27. For flights from a number of world regions, this results in services operating into the UK with early morning arrivals both from the east and the west, as seen earlier in Section 2, ranging from 04:00 hours from Asia through to 07:00 (and beyond) from the USA and other world regions. In many cases, the chosen departure time from the origin is designed to be competitively attractive when compared to services to other European hubs, which can depart earlier and arrive after local night period restrictions given that European hubs are one hour ahead of the UK due to the time zone difference, for example pre-midnight departures from Singapore arrive into the European hubs just after 06:00, but to compete against these departure times, services to London arrive in the 05:00-06:00 period.
- 3.28. Whilst some overseas carriers (such as Singapore Airlines and Cathay Pacific) operate from their home regions across the day into the UK, these tend to be driven by their own hub waves and are not comparable to those services operated by UK airlines, which need to provide both short and long-haul connections in the morning period at the European end of the route.
- 3.29. Importantly, long-haul flights in the night periods play a vital role in supporting the short-haul network from UK hub airports. Early morning long-haul arrivals into the UK are the only viable option for supplementing point to point passengers with connecting traffic to increase overall passenger levels and make services more economically sustainable. At the other end of the day the counter is true to this, whereby final short-haul services into the hubs are supported by passengers arriving to connect to the final wave of long-haul departures, some of which can occur in the night period. Moving arriving flights later in the morning, or bringing late night departures forward would potentially undermine the viability of some of these short-haul services which themselves have two important functions;
- ➔ they are critical to business travellers, allowing a full day of business at the destination and therefore increasing UK business efficiency; and
 - ➔ they support the hub activity through the remainder of the day by providing return frequencies into the hubs to meet outbound long-haul flights.
- 3.30. Figure 3.7 illustrates some of the impact of lost connections between early long-haul arrivals and the first wave of short-haul departures for British Airways at London Heathrow if all movements are required to take place outside of the NQP. Assuming a minimum connecting time of 60 minutes between flights, then any early departures from London (required to get people to their destinations in the early part of the working day) would lose all connecting passengers.

Figure 3.7: Example of Reduced Connections on British Airways Connections Without NQP Arrivals



Source: OAG Bank Report.

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- 3.31. The lack of slot availability at key UK airports, particularly the main hub at London Heathrow, is potentially a significant issue for long-haul flying that is required to re-time from the NQP or Other Night period up to 0659. In these circumstances, airlines will need to determine how best to use the slots they hold outside of these periods and this will lead to a significant impact on UK connectivity. As with the short-haul market, the airlines are likely to seek to retain services to core destinations with strong point to point demand and higher yields, meaning they are more likely to free up slots for re-timing by suspending routes to emerging markets. As many of these will be dependent on short-haul feeder traffic from across Europe, they will be unlikely to be replaced within the UK overall as the only airport from which they can viably be served is the main hub airport at London Heathrow. This will run counter to Government aims for increasing global trade with emerging markets and reduce the UK's competitive position relative to other European nations.
- 3.32. Whilst we focus on the pure freighter market below, bellyhold cargo is also an important component of long-haul flying and is again dependent on night flying operations in the UK. Overnight flying in the long-haul market allows freight, parcels and documents to be collected as late in the day as possible from its origin and shipped to the UK for morning deliveries. The early morning arrivals into the UK therefore provide the best solution for just-in-time air freight to arrive into the UK for the start of the working day and to meet the needs of UK businesses and allow guaranteed next day delivery, which is a critical component of a number of business sectors in the UK economy.
- 3.33. The role of freight is important in adding revenue to long-haul flights and helping underpin the economic sustainability of such services, particularly on routes to emerging markets. There is also an element of connecting freight through the London Heathrow hub, which would be lost if early morning and late night long-haul flying was restricted. If freight connections cannot be made then the freight will be shipped through other hubs in Europe and lost from the airline revenue streams for UK bound carriers, potentially further undermining UK connectivity if services are made more marginal through the loss of bellyhold freight revenue.

Cargo Flights

- 3.34. As we have already highlighted earlier in this section, cargo operations are heavily dependent on night flying in order to meet the needs of customers and to support the UK's position as a place to do business. In addition to bellyhold cargo, touched on above, the sector covers the express freight market, dominated by the integrators such as DHL, Fedex and UPS, as well as the general air cargo market often consisting of multi-stop long-haul flights carrying mixed freight.
- 3.35. By reference to other freight modes, air freight costs are high and as a result freight and packages carried by air tend to be more time critical or higher value (or a combination of both) and this is especially true of cargo flown at night. The night period provides an opportunity to move items whose value is defined by their speed and/or certainty of delivery and for which international delivery times are measured in hours rather than days. Guaranteed delivery times and next business day delivery are key features of the offer for night freight operators and, due to the higher costs involved, users, shippers and operators will only choose overnight air freight when no other alternative will meet their business needs.
- 3.36. Such freight often covers essential time expiring medical or pharmaceutical products, financial, legal or business documents, critical manufacturing components or spares, perishable produce or high value consumer goods. The night provides vital time between business days when goods / packages can be moved with minimal loss of productivity or time to market or user, which is critical for UK competitiveness.

Why Night Flying Matters:**Supporting the Financial Services Industry and Trade Finance**

The UK is the world's leading financial services capital, and both a major global origin and destination for financial documents. These include time critical trade documents, financial instruments (credit cards / cash letters) and confidential investment/private banking data. This allows shippers to benefit from pick up towards the end of the working day, and delivery close to the beginning of the next. Any change to the pick up or delivery times of these documents would impact their bottom line and harm London's status as the financial capital of the world.

One example is international trade finance. Every business that sells and buys goods needs the financial services industry to operate. This can range from the day-to-day management of working capital, investments to innovate and grow, and numerous financial transactions required along the fulfilment process from exporter to distributor. Trade Finance is the most vital part of global banking today. According to the World Trade Organisation (WTO), world merchandise trade was worth approximately \$19.3 trillion in 2015. As globalisation continues, supply chains have lengthened and become more complex. For our banks this means greater risk and has resulted in a greater focus on financial supply chains. Express services make the movement of the vital trade documents more visible, quicker and reliable is very valuable to the customer.

Banks act as intermediaries to collect payment from the buyer of goods in exchange for the transfer of documents that enable the holder to take possession of the goods. Similar to an invoice, the exporter may send a bill of exchange with other shipping documents including the documents of title. These documents are sent to the importing country nominated agents and this agent only releases the title documents when the importer signs the bill to accept liability to pay on the terms stated. There are therefore two supply chain flows where the Express sector plays a role. The first is the physical flow of the actual goods and the second is the flow of financial documents as part of international trade financing solutions offered by the banks.

Express Freight

- 3.37. Services that use night flying are often referred to as express or priority services and are offered by a wide range of operators in the market. Express operators use a combination of their own aircraft for short-haul connections between major cities and their hubs as well as bellyhold capacity on long-haul scheduled services.
- 3.38. If the delivery timeframes offered by these services cannot be met then the impacts can be very high. For instance:
- some items may become degraded or unusable, such as clinical samples, time limited medical products or perishables, leading to knock on consequences ranging from financial losses to delayed or aborted treatments for life threatening illnesses;
 - sales windows on perishable items may be shortened, meaning that the likelihood of sale is reduced and waste increased, ultimately leading to higher prices;
 - production lines may be halted as components, spares or supplies are held up leading to delays and significant costs for manufacturers, operators and end users;
 - deals may fail as essential legal and financial documents cannot reach their destinations in time.

3.39. It is a feature of the market that the economic cost of delay or failure to deliver can be disproportionate to the measurable value of the individual item.

3.40. Over the past 20 years, express freight services have grown substantially faster than general air freight, reflecting the increasing integration of global financial markets and global supply chains, continued growth of 'just in time' processes, and the rise of time sensitive business to consumer (B2C) shipping.



3.41. There are a number of key reasons why night freight operators would be unable to retime some operations to the day time and continue to offer the same value to their customers and meet their service demands, including:

- items often need to be picked up at the end of the working day in the country of origin and then delivered as early as possible the following day to enable companies to maximise productivity. The night is the time available to transport items to meet these types of deadline. Flying is the only way to cover the distances necessary. Trucking is simply too slow in the great majority of cases. It is ultimately a case of being able to fly at night or not being able to offer the service, which in turn will impact on UK business productivity;
- night flights cannot simply be retimed. The ability of the express freight operators to offer next day and priority services is reliant on a global hub and spoke network similar to that used by the major network airlines for passenger air services. This is based on meeting a system of late pick ups and early deliveries and on waves of arrivals and departures that enable packages to make connections at key hub airports. It is therefore not possible to simply retime services to be just before or just after the night periods as this would severely damage the integrity of the broader network, of which the UK is only one part. The only course of action open to freight service providers is to accept that air is no longer an option for express services and that delivery will take at least 24 hours longer. In these circumstances it is more likely that freight would simply be trucked due to the lower cost, but end users must accept the loss of service and productivity and competitiveness in international markets;
- flying at night often means that airspace and airport infrastructure is less congested (as indeed is the road infrastructure around airports). This enables greater speed, efficiency and reliability of processing. All of which are essential elements of the service that is being delivered when margins for delay can be as short as only 15 minutes.

General Air Cargo

3.42. General dedicated air freight sits between express air freight and other, slower modes of transport, such as trucking or shipping. The items carried tend to have a higher value or are perishable in nature (such as flowers, food or pharmaceuticals) to justify the higher costs of air freight when compared to other forms of transport. The operating patterns of these services are often related to airline and airport capacity globally, which dictates when such operations will arrive in to the UK. If airlines and shippers cannot make their operations work into the UK because of night restrictions they are more likely to fly to hubs on the continent, such as Amsterdam, Brussels or

Luxembourg, and then complete the rest of the journey by truck. This will lead to a loss of productivity and will reduce direct employment associated with these activities in the UK over time.

Conclusions

- 3.43. This section has set out why night flying is such an intrinsic part of business models for both passenger and cargo airlines operating in the UK. Ultimately, flying at night is about demand and consumer preferences. Airlines fly at night to meet the requirements of their customers.
- 3.44. For passenger airlines, flying at night is about maximising 'on the ground' time for customers, about competing effectively with other European hubs, and about counteracting some of the innate difficulties in operating from the UK. For short-haul flying, it is also an essential element in enabling airlines to maximise aircraft utilisation through based aircraft and operate efficiently, which is at the heart of providing connectivity at a price that is acceptable to consumers. Having to retime services would have significant consequences for airlines, passengers and the wider economy.
- 3.45. For express freight operators, flying at night is fundamental to their business model. It is simply not possible to offer the time definite, next day delivery services, that are in such high demand in modern economies without being able to fly at night. Without night flying the value of flying at all is lost. It becomes more efficient to simply truck freight and accept that next day services are not possible, with corresponding loss of time and productivity for users. The ability to retime for express freight operators is extremely limited. This also applies to express freight being carried in the bellyhold of passenger aircraft. General air freight is also reliant on night flying given its need to fit in with airline and airport capacity and operating patterns globally. It is, however, likely less reliant on night flying than express freight.

Why Night Flying Matters:

Export of Life Saving Drugs

The UK is a world leader in pharmaceuticals, exporting life-saving drugs to patients across the world.

For example, a global exporter of pharmaceuticals ships drugs reliably and efficiently from their UK site to hospitals and medical facilities across the world.

The drugs, which are used to treat cancer and other illnesses, are moved in temperature controlled boxes.

They must be shipped using express services as they have a short life span before they start to degrade.

For each drug that is moved, a patient is depending on the connectivity and reliability of the air cargo services supported by night flights.

4. The Economic Impact of Night Flying in 2019

Introduction

- 4.1. In this section, we set out our assessment of the current economic impact generated by night flying at UK airports. Initially, we explain the analytical approach that we have adopted and the key assumptions and components that we have used in our economic modelling, followed by the results of our assessment.

Analytical Framework

- 4.2. The economic impact generated by night flying at UK airports has been assessed using a commonly used and widely accepted economic impact framework that is considered best practice in assessing the economic impact of aviation activity.
- 4.3. This approach splits the ways that airports interact with the economy into a series of economic effects. A range of techniques is then used to provide a quantitative assessment of the Gross Value Added (GVA) and employment benefits supported by each effect. Table 4.1 describes the various effects that we have sought to assess in this study.

Table 4.1: Types of Quantitative Economic Impacts

Type	Definition	Examples
Direct Impacts	Employment and GVA supported by activities wholly or largely related to the operation of air services and related activities. They are located at the airport or in the vicinity but off-site from the airport. There is no strict threshold for direct off-site activity, but typically such activities are usually located within 20 minutes drive of the airport.	Companies where effects might be felt include the airport company, airlines, handling agents, aircraft maintenance and engineering, freight forwarders and logistics companies.
Indirect Impacts	Employment and GVA supported in the supply chain to the direct activities. The companies that generate the direct impacts need to buy goods and services from others to produce their output, who in turn have their own supply chains. These purchases in turn support jobs and GVA in a wide range of sectors.	The types of economic activity that might be included is broad ranging. Examples might include utilities and energy, advertising, manufacturing, professional services or construction.
Induced Impacts	Employment and GVA supported in the economy by the expenditure of wages and salaries earned in relation to the direct and indirect activities. People working in the companies in the direct and indirect effects spend money in their local economies. This expenditure injection also supports GVA and jobs.	Impacts are likely to be felt across all sectors. Particular beneficiaries might include general retailing, food and beverage, leisure activities, utilities, banking and finance costs and insurance.
Wider Impacts	Employment and GVA supported in the wider economy by the role air connectivity plays in facilitating trade, foreign direct investment, competition, agglomeration, labour attraction and retention, and tourism.	Impacts are felt across all sectors, as the productivity benefits boost economic activity and increase overall output levels.

Source: York Aviation.

- 4.4. The direct, indirect and induced economic impacts described above are sometimes termed the operational economic impacts of air services, reflecting the GVA and employment supported through the operation of the

services as an economic activity. It is these types of impact that have traditionally been assessed in airport and air service economic impact studies and that have the most immediate and direct relationship to the labour market in areas around airports. Wider impacts are more complex and accrue to the users of passenger and cargo services in the economy. They reflect the role that air service connectivity plays in making other sectors more productive and efficient.

Approach to Assessing Baseline Economic Impact

- 4.5. The direct, indirect and induced economic impact of night flying at UK airports in 2019 has been estimated based on existing research into the economic impact of airports across the UK. This research has included a wide range of assessments of individual airports but also analysis of the economic impact of the air transport sector in the UK. This research has been undertaken by a range of organisations including York Aviation and a number of other well-known consultancies. These studies have been used to establish a baseline direct, indirect and induced impact for each airport in the study at 2019 traffic levels⁸. The economic impact associated with night flying is based on the proportion of workload units⁹ operating in the relevant night period (either the NQP or Other Night). This is conceptually similar to one of the preferred approaches taken by CEPA in considering the economic impact of night flying previously at Heathrow. CEPA identified that viewing the impact of night flights in this way tied the estimate to actual night activity rather than simply considering the number of people on site at the airport in the night period, which was found to generate considerably higher estimate. Also, from a practical perspective, it is a methodology that is readily deliverable across UK airports without the requirement for significant primary research, which is simply not possible at the current time. These GVA and employment impacts are the immediate and most tangible impacts associated with night flying at UK airports. They are also the impacts that are likely to be felt most keenly by local communities around the UK's airports.
- 4.6. The wider economic impact of night flying has been assessed using a statistical relationship between the connectivity offered by UK airports and the level of productivity in the UK economy developed by Oxford Economics¹⁰. Within this relationship, connectivity is defined as the number of business passengers using UK airports plus air cargo tonnage multiplied by 10, relative to UK GDP. This analysis identified that a 10% increase in the UK's connectivity would result in a 0.5% increase in productivity. This particular relationship between connectivity and productivity in the economy has been selected for a number of reasons:
- it is an analysis that is focussed specifically on the UK. Other relationships of this nature have drawn data from a wide range of countries, which may have different characteristics;
 - it is the only relationship identified that enables a consideration of air cargo alongside passenger connectivity;
 - the modelling approach has been developed and refined over time through a number of studies, with similar results being identified each time. It involves analysis of the UK economy over a substantial period of time and across a range of sectors;
 - the elasticity identified is in line with other similar work that has been undertaken in this area, albeit all the models are slightly different and consider different measures of connectivity. More recent work by InterVISTAS for ACI EUROPE identified a similar elasticity¹¹, while research by PwC for the Airports Commission identified an elasticity of around 0.1¹²;
 - the Oxford Economics' model's focus on business travel and cargo provides a close fit with the key drivers of the wider economic impacts of air travel, notably increased trade, foreign direct investment, competition

⁸ A list of references can be found in Appendix B.

⁹ A workload unit is standardized measure of activity in air transport. It refers to either one passenger or 100 Kg of cargo.

¹⁰ Oxford Economics (2013). Impacts on the UK Economy through the Provision of International Connectivity.

¹¹ InterVISTAS. (2015). The Economic Impact of Airports in Europe.

¹² PwC. (2013). Econometric Analysis to Develop Evidence on the Link Between Aviation and the Economy.

and transparency of global markets. Other models that focus purely on passenger numbers or seat capacity do not, intuitively, have same direct linkage to the drivers of wider economic impacts.

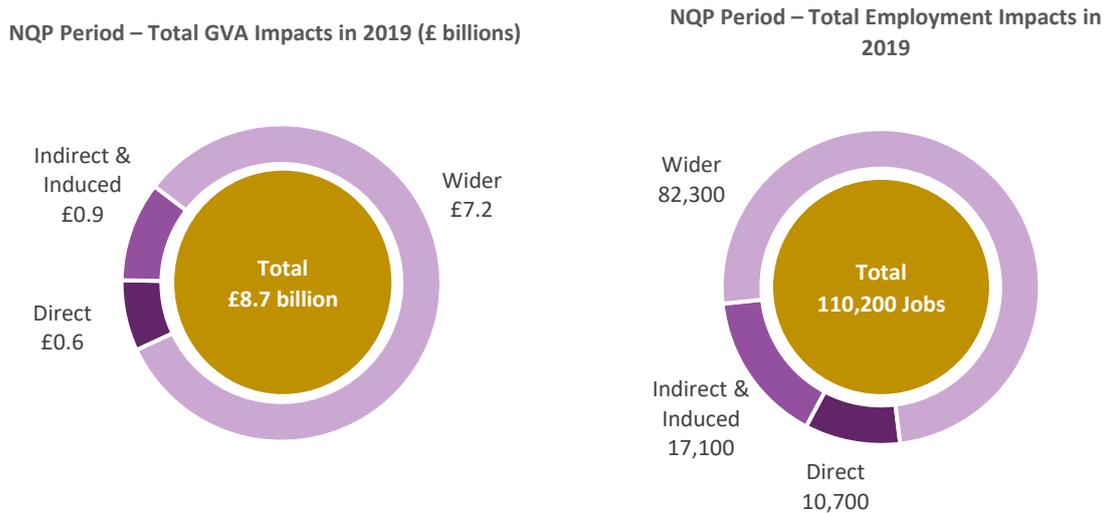
- 4.7. In this analysis, we have used this relationship developed by Oxford Economics to estimate the GVA impact of night flights based on the proportion of total UK connectivity they make up¹³. These impacts have been allocated across UK airports based on the contribution of each airport to this definition of night flying connectivity (i.e. the number of passengers moved at night and cargo tonnage moved at night). The corresponding impact on employment has been estimated based on an average GVA per job for the UK's largest trading sectors. This is designed to ensure that the estimates reflect the likely user sectors of night flying services. As described above, this approach has the advantage of being able to deal with passenger and cargo related wider economic impacts within the same analytical approach.
- 4.8. It should, ultimately, be recognised that assessing the scale of the wider impacts of night flights is highly complex, as these wider impacts cannot be physically counted in quite the same way as, for instance, the number of jobs involved in actually operating air services (direct impacts). These wider impacts are intrinsic to the way that the UK economy functions as a trading nation in the globalised economy. Night flights make lots of economic activities in a wide range of sectors across the UK economy work better and more efficiently. The sum total of these incremental differences across the economy is what is being estimated through this process. The wider impacts estimates presented here should, therefore, be considered as broad order of magnitude assessments of these effects.

Economic Impacts in the Night Quota Period

- 4.9. Figure 4.1 shows the total economic impact in terms of Gross Value Added (GVA) and employment generated by passenger and cargo related aviation activity at UK airports during the NQP.
- 4.10. Direct impacts account for around £0.6 billion in GVA and 10,700 jobs. These direct impacts are supplemented by around £0.9 billion and 17,100 jobs in indirect and induced impacts.
- 4.11. The majority of the benefits in the NQP come from wider economic impacts. These account for £7.2 billion in GVA impacts and around 82,300 jobs across the UK.
- 4.12. When direct, indirect, induced and wider impacts are combined, night flying in the NQP has a total impact of £8.7 billion and 110,200 jobs across the UK.

¹³ The number of business passengers on night flights has been estimated using CAA Passenger Survey and OAG data. OAG has been used to identify flight numbers operating in the night period, which have then been used to identify relevant records within the CAA Passenger Survey.

Figure 4.1: Economic Impact of Aviation Activity at UK Airports During the Night Quota Period in 2019



Source: York Aviation.

4.13. Figure 4.2 illustrates the GVA impacts that are generated by passenger and cargo related activity at UK airports during the NQP, split between designated and non-designated airports. The total GVA impact generated from designated and non-designated airports is approximately £3.0 billion and £5.7 billion, respectively. Non-designated airports account for the majority of GVA impacts generated by aviation activity during the NQP, which is heavily driven by the significant level of cargo activity during the period at East Midlands Airport.

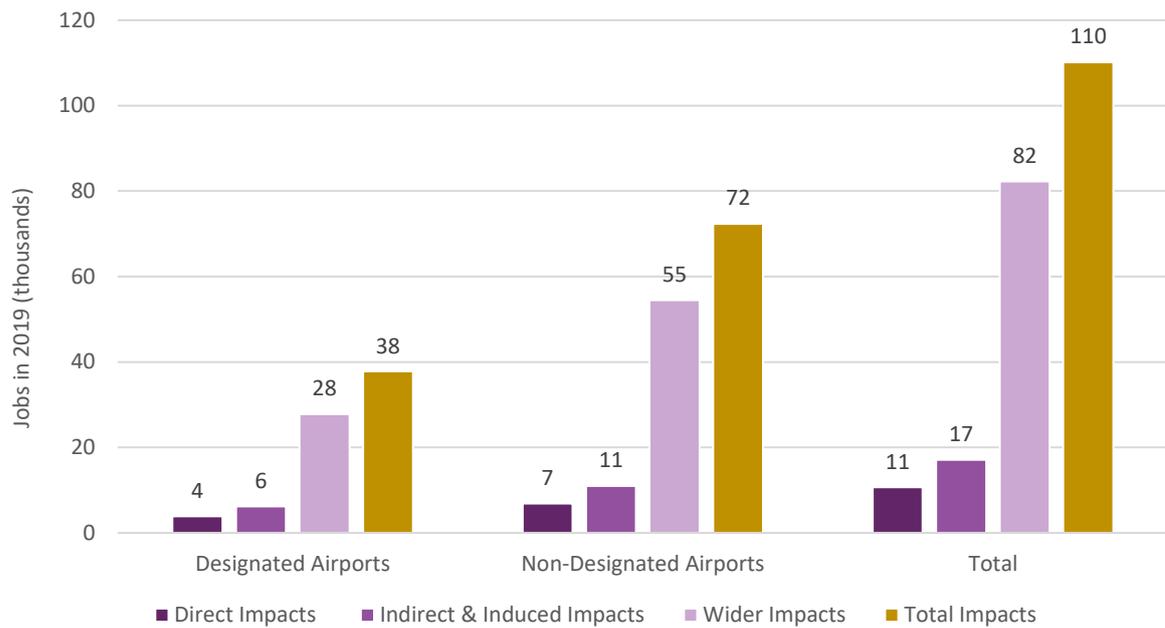
Figure 4.2: GVA Impacts Generated by Aviation Activity at UK Airports During the Night Quota Period in 2019



Source: York Aviation.

4.14. Figure 4.3 illustrates that a total of approximately 38,000 jobs are supported by passenger and cargo operations in the NQP at designated airports and a further 72,000 jobs are supported at non-designated airports. Again, these jobs are primarily supported in the wider economy.

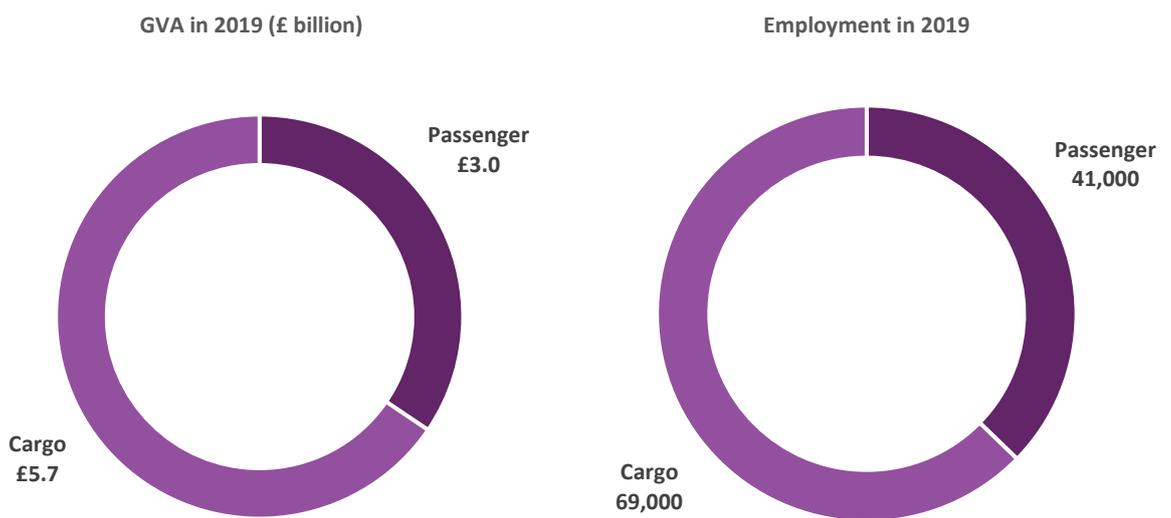
Figure 4.3: Employment Supported by Aviation Activity at UK Airports During the Night Quota Period in 2019



Source: York Aviation.

4.15. Figure 4.4 separates the GVA and employment impacts generated in the NQP at UK airports by cargo and passenger operations. The contribution to overall GVA impact from cargo operations during the NQP outweighs the contribution from passenger operations during the same period, with each generating approximately £5.7 billion and £3.0 billion, respectively. Cargo operations during the NQP period supported a total 69,000 jobs across the economy. Passenger operations during the same period supports a total of 41,000 jobs. Given the strong focus of express freight operations in the NQP and the more related role that the period plays in passenger markets, this pattern is not surprising.

Figure 4.4: GVA and Employment Impacts Generated by Cargo and Passenger Aviation Activity at UK Airports During the Night Quota Period in 2019

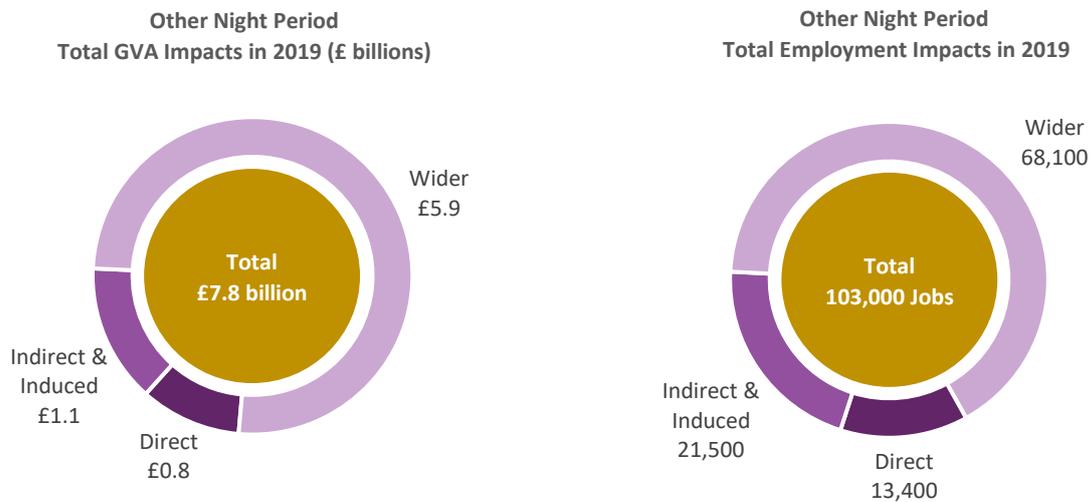


Source: York Aviation.

Economic Impacts During the Other Night Period

- 4.16. Figure 4.5 shows the total economic impact in terms of Gross Value Added (GVA) and employment generated by passenger and cargo related aviation activity at UK airports during the Other Night Period.
- 4.17. Direct impacts account for around £0.8 billion in GVA and 13,400 jobs. These direct impacts are supplemented by around £1.1 billion and 21,500 jobs in indirect and induced impacts.
- 4.18. The majority of the benefits in the Other Night period come from wider economic impacts. These account for £5.9 billion in GVA impacts and around 68,100 jobs across the UK.
- 4.19. When direct, indirect, induced and wider impacts are combined, night flying in the NQP has a total impact of £7.8 billion and 103,000 jobs across the UK.

Figure 4.5: Economic Impact of Aviation Activity at UK Airports During Other Night Period in 2019



Source: York Aviation.

- 4.20. Figure 4.6 illustrates the GVA impacts that are generated by passenger and cargo related activity at UK airports during the Other Night period split between designated and non-designated airports. The total GVA impact generated from designated and non-designated airports is approximately £4.6 billion and £3.2 billion, respectively.

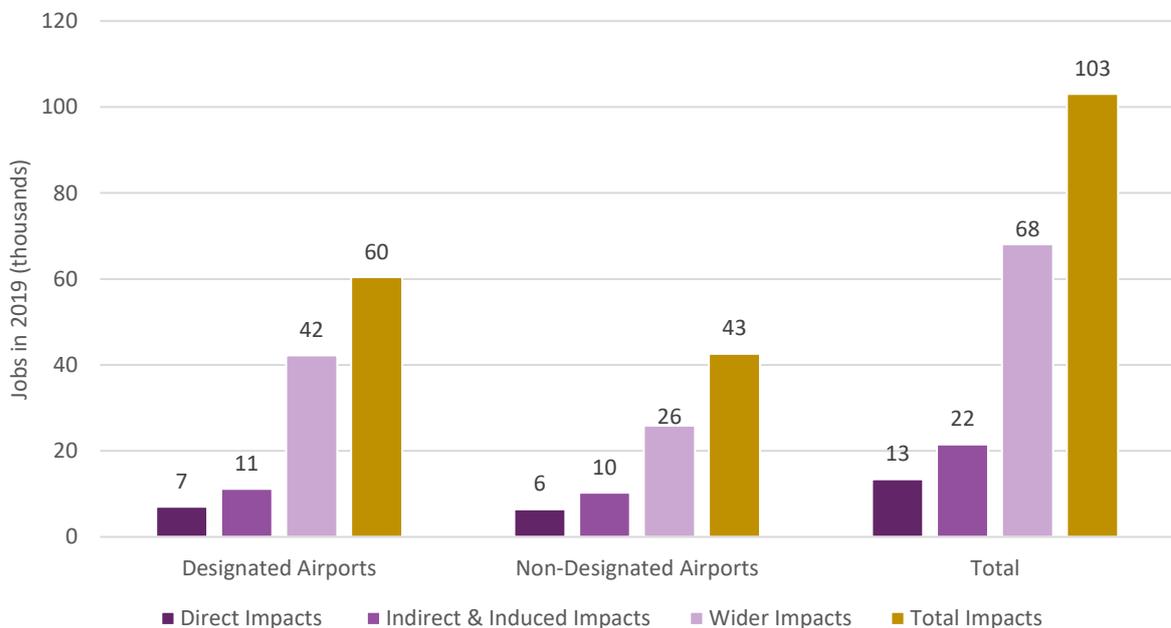
Figure 4.6: GVA Impacts Generated by Aviation Activity at UK Airports During Other Night Period in 2019



Source: York Aviation.

4.21. Figure 4.7 shows that approximately 60,000 jobs are supported by passenger and cargo operations in the Other Night period at designated airports, and a further 43,000 jobs are supported by activity at non-designated airports. The primary driver of these impacts is, again, jobs supported in the wider economy amongst sectors that are users of passenger and air freight services.

Figure 4.7: Employment Supported by Aviation Activity at UK Airports During Other Night Period in 2019

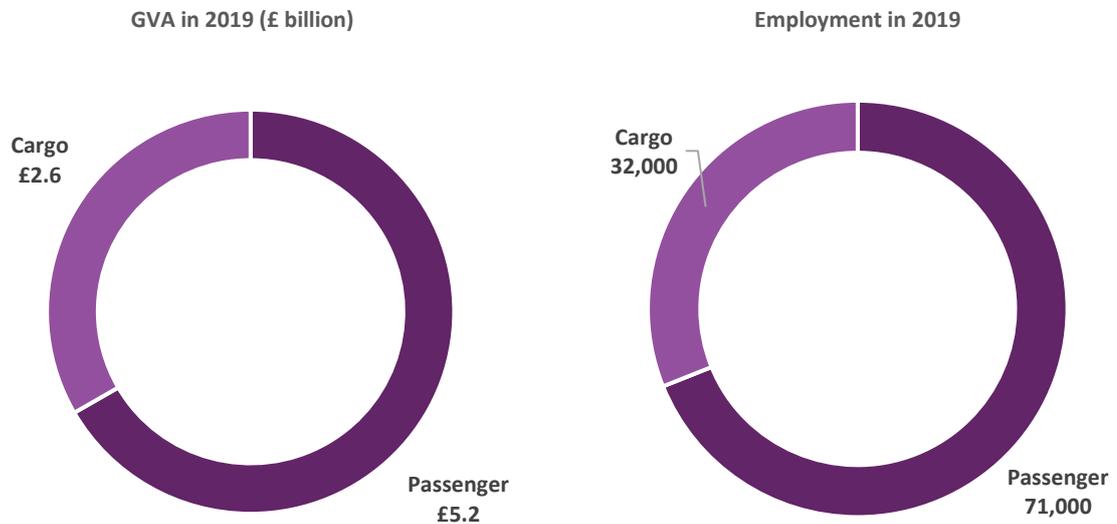


Source: York Aviation.

4.22. Figure 4.8 demonstrates that cargo and passenger operations during the Other Night period separately generate approximately £2.6 billion and £5.2 billion respectively in terms of GVA. Compared to the NQP, passenger operations contribute more to overall GVA versus cargo operations during the Other Night period. This reverses the position in the NQP and reflects the vital importance of the 06:00 to 06:59 period to passenger operations.

Passenger operations were estimated to have supported around 71,000 jobs across the UK economy, compared to 32,000 for cargo operations.

Figure 4.8: GVA Impacts Generated by Cargo and Passenger Aviation Activity at UK Airports During Other Night Period in 2019

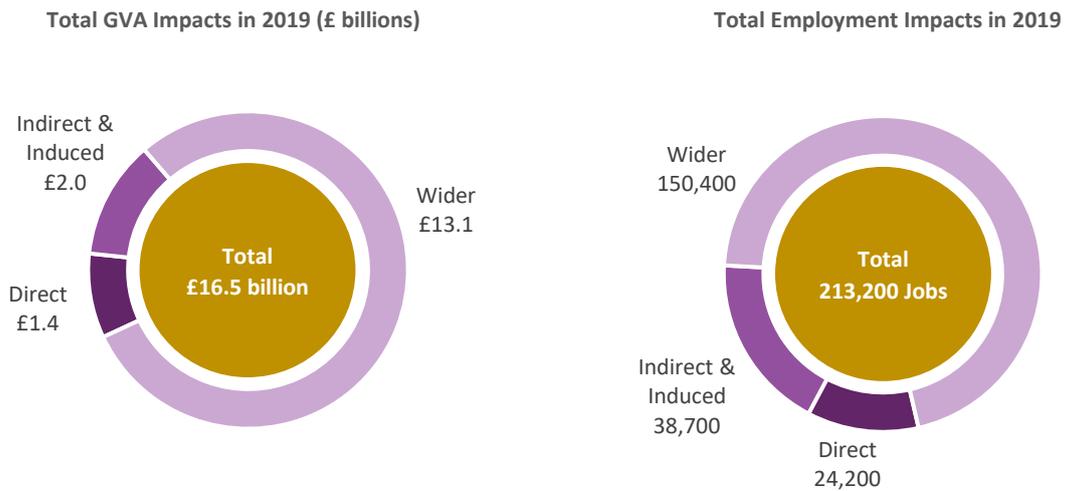


Source: York Aviation.

Total Economic Impacts During the Night

- 4.23. Figure 4.9 shows the total economic impact in terms of Gross Value Added (GVA) and employment generated by passenger and cargo related aviation activity at UK airports during the entire night period (23:00 to 06:59).
- 4.24. Direct impacts account for around £1.4 billion in GVA and 24,200 jobs. These direct impacts are supplemented by around £2.0 billion and 38,700 jobs in indirect and induced impacts.
- 4.25. The majority of the benefits across the night period come from wider economic impacts. These account for £13.1 billion in GVA impacts and around 150,400 jobs across the UK.
- 4.26. When direct, indirect, induced and wider impacts are combined, night flying across the whole night has a total impact of £16.5 billion and 213,200 jobs across the UK.

Figure 4.9: Total Economic Impact of Aviation Activity at UK Airports During the Night in 2019



Source: York Aviation.

4.27. Figure 4.10 details the total GVA impacts that are generated by passenger and cargo related activity at UK airports throughout the night. The total GVA impact accruing from designated and non-designated airports is approximately £7.6 billion and £8.8 billion, respectively.

Figure 4.10: Total GVA Impacts Generated by Aviation Activity at UK Airports During the Night in 2019



Source: York Aviation.

4.28. Figure 4.11 shows that night operations at designated airports support approximately 98,000 jobs, with the majority of jobs generated by wider impacts. Night operations at non-designated airports supported approximately 115,000 jobs, with the majority of jobs also generated by wider impacts.

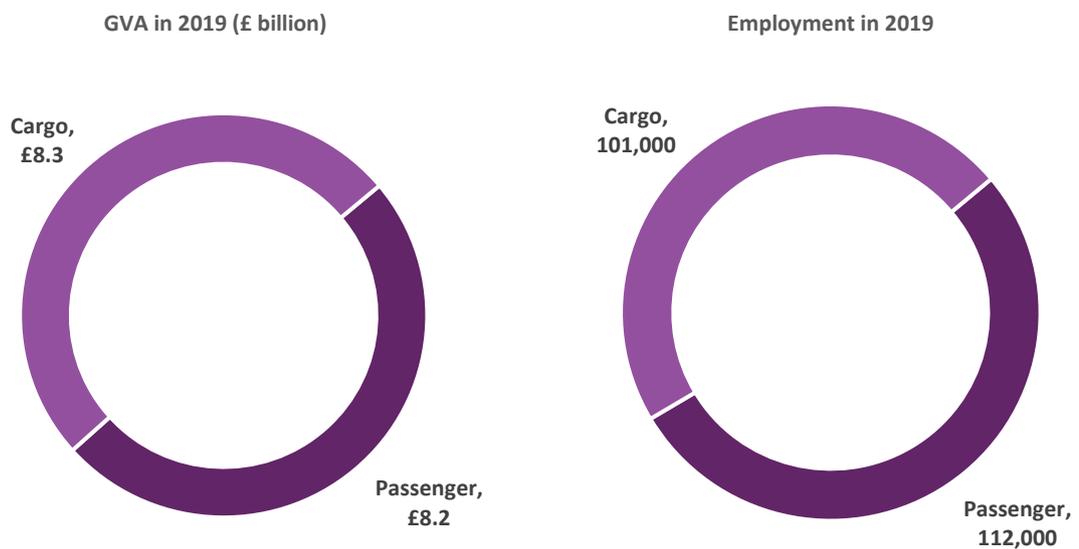
Figure 4.11: Total Employment Supported by Aviation Activity at UK Airports During the Night in 2019



Source: York Aviation.

4.29. Figure 4.12 presents the GVA impacts generated separately by cargo and passenger operations at UK airports during the night. Cargo and passenger operations during the night contribute a similar total of just over £8 billion each, but in terms of wider GVA impacts, cargo operations generate approximately £7.8 billion compared to £5.3 billion for passenger operations. In total, cargo and passenger operations support approximately 101,000 and 112,000 jobs respectively across the entire economy.

Figure 4.12: GVA Impacts Generated by Cargo and Passenger Aviation Activity at UK Airports During the Night in 2019



Source: York Aviation.

Conclusions

- 4.30. The operation of passenger and cargo flights at UK airports during the night generates significant GVA and employment benefits that extend throughout the economy. Direct impacts account for around £1.4 billion in GVA and 24,200 jobs. These direct impacts are supplemented by around £2.0 billion and 38,700 jobs in indirect and induced impacts. When wider impacts are included, the total economic impact of aviation activity during the entire night period (23:00 to 06:59) is estimated to be around £16.5 billion in terms of GVA in 2019, supporting approximately 213,200 jobs.
- 4.31. Aviation activity during the NQP (23:30 to 05:59) alone generates a total of approximately £8.7 billion of GVA impact and supports approximately 110,200 jobs. This includes direct impacts account of around £0.6 billion in GVA and 10,700 jobs. These direct impacts are supplemented by around £0.9 billion and 17,100 jobs in indirect and induced impacts. The operations of express cargo and general cargo services form a significant component of the economic impact during the NQP, reflecting the intensity of cargo operations that occur during this period that are fundamental in supporting their business models.
- 4.32. Despite forming just an hour and a half of the day, the economic impact generated during the Other Night period (23:00 to 23:29 and 06:00 to 06:59) is considerable. Direct impacts account form around £0.8 billion in GVA and 13,400 jobs. These direct impacts are supplemented by around £1.1 billion and 21,500 jobs in indirect and induced impacts. When wider impacts are included, aviation activity during this period supported approximately 103,000 jobs in 2019 and generated around £7.8 billion in GVA across the entire economy. The scale of the economic impact generated during the Other Night period compared to the NQP, which forms a longer duration, is notable. The period between 06:00 to 06:59 is central to outbound passenger volumes at UK airports across the entire day, which drives significant economic impact. Furthermore, this period is also the peak for inbound bellyhold cargo arriving to the UK, which again is a key driver of economic benefit.

5. The Impact of Restricting Night Flying

Introduction

- 5.1. This section presents our modelling of the economic impacts that would occur under four hypothetical scenarios that would further constrain the levels of night flying that occurs at UK airports:
- Night Ban – a total ban on all aircraft movements between 23:00 to 06:59;
 - NQP Ban – a total ban on all aircraft movements during the NQP (23:30 to 05:59);
 - NQP Ban, 50% Night Reduction – a total ban on all aircraft movements during the NQP (23:30 to 05:59), and a 50% reduction in aircraft movements between in the Other Night period (23:00 to 23:29 and 06:00 to 06:59);
 - 50% Night Reduction – a 50% reduction of aircraft movements between 23:00 and 06:59.
- 5.2. Each of the four scenarios considers aviation activity related to cargo and passenger operations. Night flying constraints are applied universally across designated and non-designated airports.
- 5.3. These scenarios are, of course, simplified and illustrative. In particular, they assume that increased restrictions are applied across the UK and, hence, there is no shifting of demand between UK airports. It should also be recognised that while the approach does consider ‘knock-on’ effects to day time operations, it does not necessarily identify the full range of less quantifiable ‘shadow effects’ that might come with night curfews or similar tight restrictions.
- 5.4. The economic impact that would occur under each scenario is estimated in terms of employment that is put at risk and GVA foregone, alongside the volume of passengers and cargo tonnes that would be lost. We also quantify the additional generalised journey costs that passengers would bear as a consequence of each of the four scenarios.

Estimating the Impact on Passenger and Cargo Throughput

- 5.5. The economic impact of any of the constraint scenarios is ultimately driven by the extent to which the additional night time restrictions reduce overall passenger and cargo throughput across the whole of the day. In other words, the economic effects of each scenario take into account the extent to which airlines are able to mitigate against the restrictions by retiming activity but also the extent to which any re-timing then knocks on to operations throughout the rest of the day. The first effect reduces the economic effect of any restriction, while the second increases the effect. The extent to which any airline is able to retime activity is dependent on a combination of:
- the availability of slot capacity in key hours in which displaced flights need to move to;
 - the likely revenue value of long-haul versus short-haul flights, whereby long-haul movements are assumed to displace short-haul movements if required;
 - the reliance on specific timings to support the overall business model. These have been based on discussions with individual airlines and reviews of wider research.
- 5.6. For passengers, the modelling essentially considers the day at 30 UK airports, starting at 04:00, and how increased night flying restrictions would force changes in flying patterns as a cascade through different time periods in the day. For instance, if flying were to be banned in the NQP, the model examines the extent to which airlines are able to shift capacity into the 06:00 to 06:59 period, then to the 07:00 to 07:59 period and then into the rest of the day.

- 5.7. In each time period, the extent and nature of existing flying has been identified using data collected from participating airports, OAG schedules, CAA Statistics and CAA Passenger Survey data. This forms the basis for understanding what needs to be rescheduled and also the use of capacity in periods into which airlines might seek to retime. This picture of what is happening in the baseline position is combined with an assessment of the available capacity at each airport in any given time period. This capacity has been assessed as follows:
- for the slot coordinated airports in the UK¹⁴, we assessed Start of Season reports published by Airport Coordination Limited (ACL) that present the number of slots allocated to carriers at coordinated airports versus the declared capacity of the airport by each clock-hour for a peak week in Summer 2019;
 - for uncoordinated regional airports we used a percentage average of the capacity available in each clock hour across the larger coordinated regional airports and applied this percentage to assume the remaining capacity at each uncoordinated regional airport.
- 5.8. Passenger airlines are assumed to attempt to re-time their operations if they are affected by night constraints. Long haul movements are assumed to either take up existing capacity in unrestricted periods or, if necessary, to displace existing short-haul operations (these, in turn, then have to be retimed). These services are unlikely to be cancelled, ultimately, given their value to airlines and passengers. Retiming does, however, make them less attractive to passengers, particularly transfer passengers, and as a consequence there is assumed to be a second-round impact on demand related to the delay to passengers' travel associated with retiming¹⁵. A generalised cost penalty equal to the monetised length of the retime is applied the existing journey and the impact on demand calculated using a price elasticity taken from the Department for Transport's UK Aviation Forecasts 2017. This secondary effect is designed to reflect the less attractive timing and the loss of transfer opportunities.
- 5.9. For short-haul operations, the same broad approach applies but with some additional considerations. Again, in the first instance, airlines will seek to retime operations, but given the importance of early morning departures to aircraft utilisation and the overall operating models of short-haul airlines, there are cut-offs in relation to the extent that airlines are prepared to attempt to retime. After these cut-offs, the services are assumed to be cancelled and the based aircraft associated with the relevant early morning movements removed from the airport. Short-haul services that are displaced by night restrictions are assumed to be retimed if there is available capacity before 08:00. Short haul flights that have been displaced by long-haul flights affected by night restrictions are assumed to be accommodated only if there is available capacity within the next time period. If services are cancelled and the based aircraft lost, then all the rotations associated with that movement through the day are lost. However, the slots released later in the day are assumed to be become available for inbound aircraft to use to some degree. At Heathrow and Gatwick, all released slots are assumed to be filled, while at Stansted this is limited to 75%. At all other airports, 50% of released slots are assumed to be filled. As with long-haul services, in addition to any losses resulting from services having to be cancelled because they cannot realistically be retimed, there is assumed to be a second-round effect stemming from the retiming of services that continue to fly. Again, where services are forced to operate later, as a result of re-timing, there is assumed to be a generalised cost penalty to passengers equal to the length of that delay, which is applied to the existing generalised cost of travel on these services. In addition, for short-haul services, there is a further additional cost to passengers resulting from the reduced aircraft utilisation suffered by short-haul airlines. The model estimates the reduction in the average number of rotations that can be achieved in a day at each time based on the extent to which the average operating day is truncated by night flying restrictions. This is assumed to be equal to the reduction in aircraft utilisation suffered by short-haul airlines at the airport. The corresponding increase in fixed costs per passenger

¹⁴ The UK's slot coordinated airports are Heathrow, Gatwick, London City, Stansted, Luton, Manchester, Birmingham. Bristol is also coordinated during the daytime in summer seasons.

¹⁵ When passengers are forced to change their plans by night flying restrictions, they will arrive or depart later in the day than is their original preference. In transport economics the time that they are delayed is a cost to that passenger. This cost can be expressed as a monetary value by multiplying the length of the delay experienced by the passenger by the passenger's so-called value of time. The value of time is the opportunity cost of the time that a traveler spends on his/her journey. In essence, this makes it the amount that a traveler would be willing to pay in order to save time, or the amount they would accept as compensation for lost time. In this analysis values of time identified by the Airports Commission have been used (Airports Commission (2015). *Economy: Transport Economic Efficiency Impacts*. Page 16). These values have been updated to reflect increases in the real value of time and updated to a 2019 price base in line with WebTAG guidance.

on a typical short flight is then passed on via an increase in air fares. The impact on demand is then again calculated using a price elasticity taken from the Department for Transport UK Aviation Forecasts 2017.

- 5.10. As we have seen above, cargo airlines are more reliant on night time operations than passenger airlines, and their ability to retime is very limited given the primary purpose of cargo night flying to facilitate international next day time definite deliveries. The modelling for cargo activities is, therefore, more binary around the ability to retime volume in to the day, as opposed to accepting that next day services cannot be delivered without the relevant and simply shifting activity to trucks instead, thereby losing the speed and certainty benefits associated air cargo.
- 5.11. For express freight operators, only 10% of volume and movements are assumed to be able to be retimed. This reflects the segments very high reliance on night flying to deliver its services. For general air cargo, the ability to retime is assumed to be considerably higher at around 75%. This reflects the lower reliance on night flying, the less urgent nature of what is being shipped in many cases (accepting that all air freight is urgent to some degree) and the fact that ultimately activity is likely to be less tied to particular UK airports and, hence, there may be greater flexibility in the event of restrictions. Transfer freight is assumed to be completely lost in the event of a need to retime, as it is likely that a more efficient routing could be found outside of the UK in the event of restrictions.
- 5.12. Based on this modelling approach, our assessment of each of the scenarios described is set out below.

Impact on Passenger and Cargo Throughput

- 5.13. Table 5.1 outlines the passengers and cargo tonnes that are estimated to be lost across designated and non-designated airports under each of the four scenarios at 2019 demand levels.
- 5.14. All of the scenarios would have considerable costs to the UK aviation industry, an outright ban during the entire night period (23:00 to 06:59) would be the most damaging, with an estimated 13.1 million passengers and 200,000 tonnes of cargo foregone each year between the three designated airports. Under the same scenario, non-designated airports would lose approximately 7.6 million passengers and 280,000 tonnes of cargo per annum.
- 5.15. Even the least constrained scenario, whereby aircraft movements would be reduced by 50% across the entire night period, has significant implications, with an estimated 4 million passengers and 260,000 tonnes of cargo lost between designated and non-designated airports.

Table 5.1: Annual Passengers and Annual Cargo Volumes Foregone by Constraint Scenario at 2019 Demand Levels

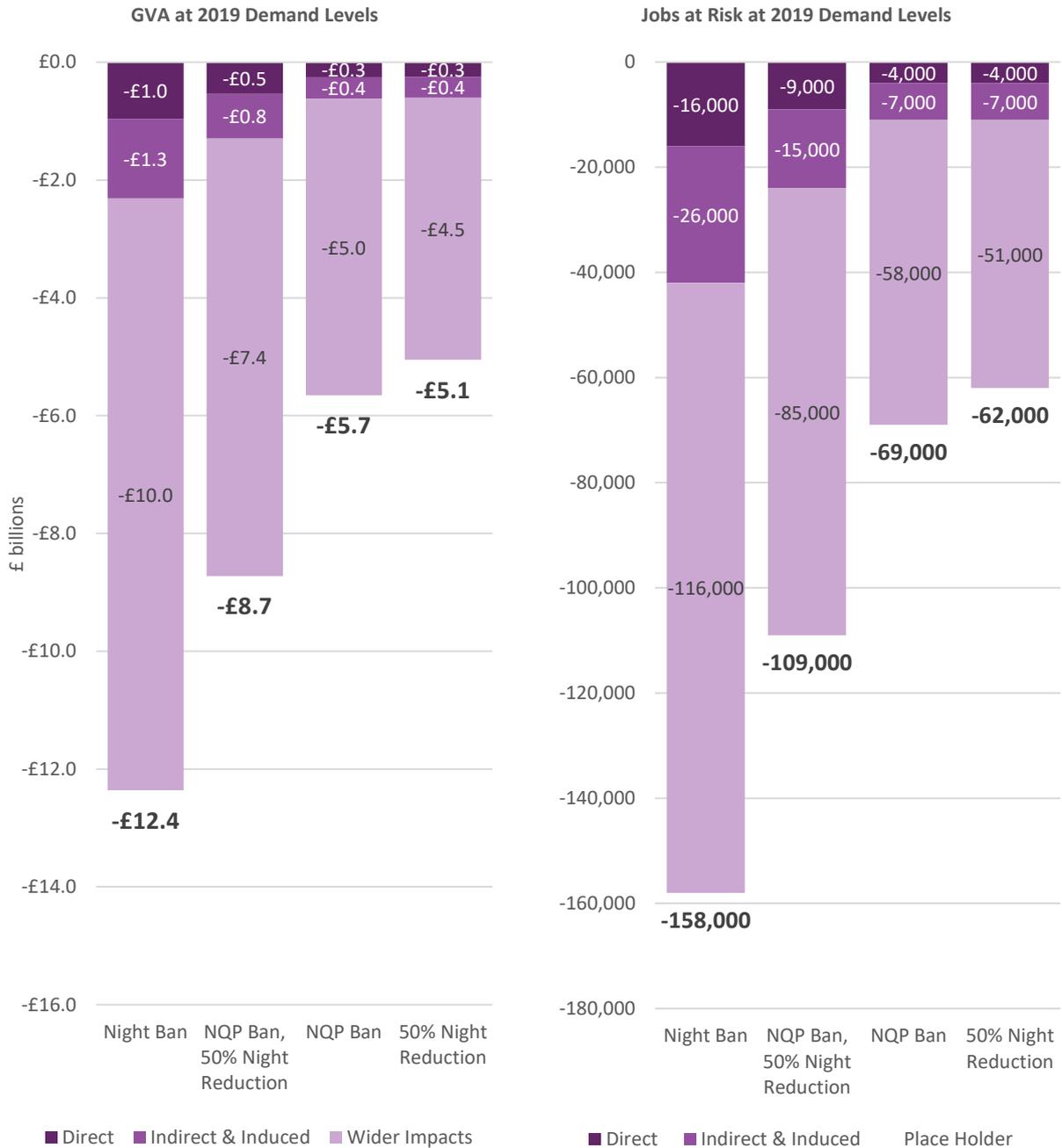
Scenario	Airport Category	Total Passengers (millions) Foregone	Total Cargo (Tonnes) Foregone
Scenario 1: Night Ban	Designated Airports	13.1	200,000
	Other Airports	7.6	280,000
	Total	20.7	480,000
Scenario 2: NQP Ban, 50% Other Night Reduction	Designated Airports	6.8	130,000
	Other Airports	3.5	260,000
	Total	10.3	400,000
Scenario 3: NQP Ban	Designated Airports	2.7	80,000
	Other Airports	1.0	250,000
	Total	3.6	320,000
Scenario 4: 50% Night Reduction	Designated Airports	3.4	100,000
	Other Airports	0.6	160,000
	Total	4.0	260,000

Source: York Aviation.

Impact on GVA and Employment

- 5.16. Operations at airports in the UK during the night deliver considerable GVA and employment impacts that extend across the wider economy. The impact of restricting night flying will, similarly, be felt across the UK economy and most keenly amongst the users of passenger and cargo air services.
- 5.17. Figure 5.1 shows the GVA and employment impact of the four scenarios described above split between the different types of effect within analytical framework. In each case, there is a core of economic impact stemming from direct, indirect and induced GVA foregone and employment put at risk. The potential economic impacts in the wider economy stemming from reduced productivity then significantly magnify this initial effect.

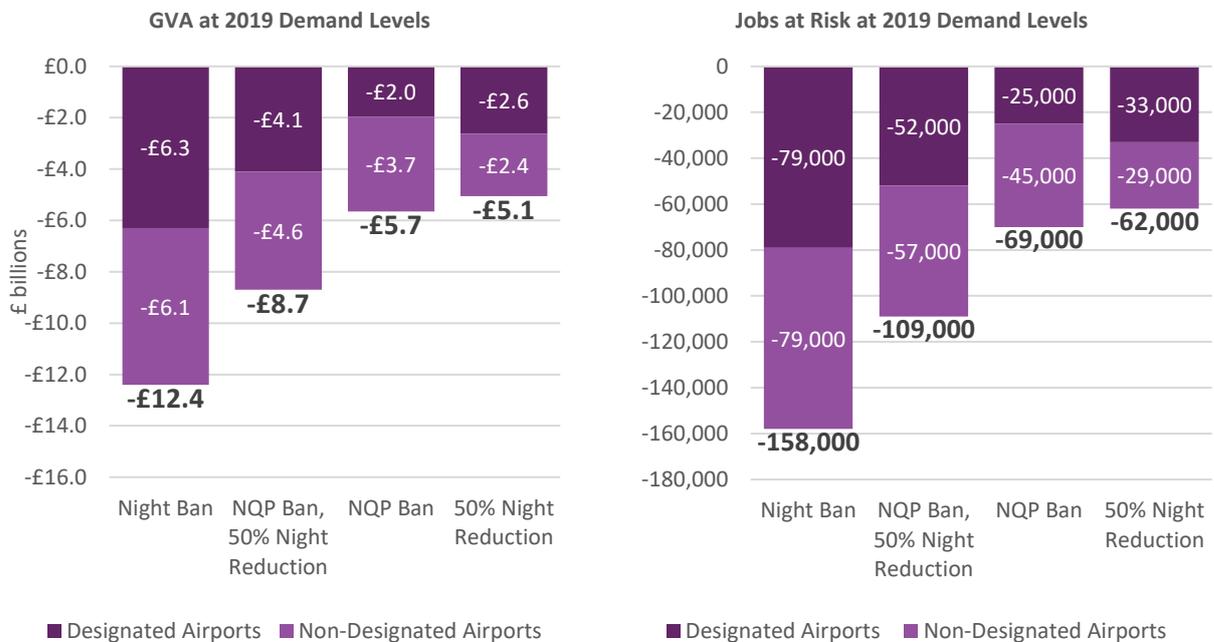
Figure 5.1: Economic Impact of Constrained Night Flying Scenarios at 2019 Demand Levels by Type of Effect



Source: York Aviation.

- 5.18. The economic impact that would result under each of the four scenarios is significant. Unsurprisingly, the most stringent constraints on night flying leads to largest negative economic impacts as carriers have less ability to re-time displaced flights. An outright ban on aircraft movements between 23:00 and 06:59 would have the most significant consequences. It would result in around £1.0 billion in direct GVA foregone and 16,000 jobs put at risk, with indirect and induced impacts increasing this impact by around £1.3 billion in GVA and 26,000 jobs. If wider impacts are then included as well, a total of approximately £12.4 billion of GVA is forgone and up to 158,000 jobs put at risk. In each case, the majority of economic impacts are related to wider impacts.
- 5.19. A ban on flying during the NQP and a 50% reduction in the number of movements during the Other Night period would result in an economic impact of £0.5 billion in direct GVA foregone and 9,000 jobs put at risk, with indirect and induced impacts increasing this effect by £0.8 billion in GVA and 15,000 jobs. If wider impacts are included, the total impact on foregone GVA increases to approximately £8.7 billion with around 109,000 jobs being put at risk.
- 5.20. An outright ban on aircraft movements during the NQP alone would result in an economic impact of £0.3 billion in direct GVA foregone and 4,000 jobs put at risk, with indirect and induced impacts increasing this effect by £0.4 billion in GVA and 7,000 jobs. If wider impacts are included, the total impact on foregone GVA increases to approximately £5.7 billion of GVA with put approximately 69,000 jobs at risk.
- 5.21. A 50% reduction of aircraft movements throughout the entire night period would result in an economic impact of £0.3 billion in direct GVA foregone and 4,000 jobs put at risk, with indirect and induced impacts increasing this effect by £0.4 billion in GVA and 7,000 jobs. If wider impacts are included, the total impact on foregone GVA increases to approximately £5.1 billion with around 62,000 jobs being put at risk.
- 5.22. Figure 5.2 shows the same analysis but with the impacts split between designated and non-designated airports. In most scenarios, the impacts are relatively evenly split between designated and non-designated airports. The exception being the NQP Ban, where impacts are weighted towards non-designated airports, reflecting the particular effect on the national freight hub at East Midlands Airport.

Figure 5.2: Economic Impact of Constrained Night Flying Scenarios at 2019 Demand Levels – Designated and Non-Designated Airports



Source: York Aviation.

Impact on Passengers

- 5.23. In Table 5.2 we consider the potential impacts on individual passengers of the different night restriction scenarios described above. It shows:
- the average time cost to passengers¹⁶ on flights that are re-timed as a result of night time restrictions. This is shown for both short-haul and long-haul passengers. The total cost to passengers re-timed is also shown;
 - the percentage impact on short-haul fares for all passengers still flying at the airport after the imposition of additional night restrictions. The total cost to short haul passengers from fare increases is also shown.
- 5.24. The average re-time cost per passenger remains broadly similar across all the scenarios. This reflects the fact that in many ways the primary effect in each scenario comes from the cancellation of flights. Those that are re-timed are re-timed by a broadly similar amount. The cost of re-timing for short-haul passengers ranges between around £16 and £18. This results in total retime costs to passengers of between £28 million and £219 million annually. For long-haul passengers, the average retime cost ranges between £17 and £21, with a total cost to passengers of between £40 million and £234 million each year.
- 5.25. The impact on average fares shows greater variation, ranging from around 0.1% in Scenario 4 up to around 0.8% in Scenario 1. It should be remembered that these increases are paid by all short-haul passengers at the airports, not just those directly affected night flight restrictions. The total additional fare costs to passengers are estimated to be between £43 million and £118 million annually. It is also worth noting that the impacts at designated airports are higher than those at non-designated airports, reflecting the fact that there is less flexibility to re-time at these airports in the main.

¹⁶ As above, when passengers are forced to change their plans by night flying restrictions, they will arrive or depart later in the day than is their original preference. In transport economics the time that they are delayed is a cost to that passenger. This cost can be expressed as a monetary value by multiplying the length of the delay experienced by the passenger by the passenger's so-called value of time. The value of time is the opportunity cost of the time that a traveler spends on his/her journey. In essence, this makes it the amount that a traveler would be willing to pay in order to save time, or the amount they would accept as compensation for lost time. In this analysis values of time identified by the Airports Commission have been used (Airports Commission (2015). Economy: Transport Economic Efficiency Impacts. Page 16). These values have been updated to reflect increases in the real value of time and updated to a 2019 price base in line with WebTAG guidance.

Table 5.2: Average Cost of Re-Timing and Increase in Air Fares by Constrained Night Flying Scenario at 2019 Demand Levels

		Scenario 1: Night Ban	Scenario 2: NQP Ban, 50% Night Reduction	Scenario 3: NQP Ban	Scenario 4: 50% Night Reduction
Average Cost of Retiming Short-Haul Flights	Designated Airports	£17	£17	£18	£17
	Non-Designated Airports	£18	£16	£16	£16
	Average	£18	£17	£17	£16
	Total Cost (£ million)	£219	£133	£28	£116
Average Cost of Retiming Long-Haul Flights	Designated Airports	£21	£18	£18	£18
	Non-Designated Airports	£19	£14	£14	£14
	Average	£21	£17	£17	£17
	Total Cost (£ million)	£234	£141	£40	£121
Average Rise in Air Fares (Short-Haul)	Designated Airports	1.0%	0.8%	0.3%	0.2%
	Non-Designated Airports	0.7%	0.5%	0.2%	0.1%
	Average	0.8%	0.6%	0.2%	0.1%
	Total Cost (£ million)	£118	£106	£43	£18

Source: York Aviation.

Other Potential Impacts of Restrictions on Night Flying

5.26. As we have highlighted, the potential impacts on the market of night flying restrictions are highly complex. The impacts set out above are based on a stylised model that considers a range of effects but cannot reflect all of the potential effects of increased restrictions. There are a number of such effects that are worth highlighting in particular:

- the analysis considers the GVA and employment impact on the economy from lost freight activity. However, it should also be recognised that, in the limited circumstances where freight is able to be retimed, then there will be a generalised cost effect on freight users from that retiming (similar to that for passengers) that will ultimately impact on demand. It has not been possible through this work to identify a value of time for freight users to enable this analysis but this is potentially an area for further research;
- if night time restrictions were to include a ‘hard stop’ at the beginning of the night period, such that aircraft are actually turned away from the airport in the event of missing the time cut-off, this has the potential to create a ‘shadow period’ in the schedule before the beginning of the night period in which airlines will be reluctant to schedule services. This would have the effect of increasing negative economic impacts through the channels we have described as it would reduce the length of the operating day by proxy;
- similarly, increased night time restrictions have the potential to simply increase the number of flights being ‘night-stopped’ or diverted. Again, this would have additional negative impacts to those described above;
- we have already noted that the importance of the night period for airlines in terms of resilience and recovering from delays, however, it is also worth noting that a reduced operational day which leads to an increased concentration of flights is, of itself, likely to result in increased delays in general, with corresponding economic costs. This, again, is something that has not been factored into this analysis;

- the reduction in airport capacity resulting from additional night restrictions at constrained airports has the additional potential to result in increased fares for all passengers as a result of further constraint in supply.

Conclusions

- 5.27. We have modelled the impact of four scenarios that constrain night flying operations at UK airports to varying degrees. A ban of aircraft movements during the hours of 23:00 and 06:59 would have the most significant impact on the aviation industry and the wider UK economy, with 20.7 million passengers and 480,000 tonnes of cargo per annum lost, which would result in around £1.0 billion in direct GVA foregone and 16,000 jobs put at risk, with indirect and induced impacts increasing this impact by around £1.3 billion in GVA and 26,000 jobs. If wider impacts are then included as well, a total of approximately £12.4 billion of GVA is forgone and up to 158,000 jobs put at risk. Furthermore, consumers would face increased generalised costs as they are forced to travel at less optimal times and as airlines increase air fares for short-haul services by an estimated 0.8%. The total impact on passengers is estimated to be around £571 million at 2019 demand levels.
- 5.28. A ban on flying during the NQP and a 50% reduction in the number of movements during the Other Night period would result in an economic impact of £0.5 billion in direct GVA foregone and 9,000 jobs put at risk, with indirect and induced impacts increasing this effect by £0.8 billion in GVA and 15,000 jobs. If wider impacts are included, the total impact on foregone GVA increases to approximately £8.7 billion with around 109,000 jobs being put at risk. Air fares would rise by an estimated 0.6% for short-haul passengers, and re-timing costs are estimated to range between £14 and £18 per passenger. The total impact on passengers is estimated to be around £380 million at 2019 demand levels.
- 5.29. An outright ban on aircraft movements during the NQP alone would result in an economic impact of £0.3 billion in direct GVA foregone and 4,000 jobs put at risk, with indirect and induced impacts increasing this effect by £0.4 billion in GVA and 7,000 jobs. If wider impacts are included, the total impact on foregone GVA increases to approximately £5.7 billion with put approximately 69,000 jobs at risk. Air fares would rise by an estimated 0.2% for short-haul passengers, and re-timing costs are estimated to range between £14 and £18 per passenger. The total impact on passengers is estimated to be around £111 million at 2019 demand levels.
- 5.30. Even a 50% reduction of aircraft movements throughout the entire night period would result in an economic impact of £0.3 billion in direct GVA foregone and 4,000 jobs put at risk, with indirect and induced impacts increasing this effect by £0.4 billion in GVA and 7,000 jobs. If wider impacts are included, the total impact on foregone GVA increases to approximately £5.1 billion with around 62,000 jobs being put at risk. Air fares would rise by an estimated 0.2% for short-haul passengers, and re-timing costs are estimated to range between £14 and £18 per passenger. The total impact on passengers is estimated to be around £255 million at 2019 demand levels.

6. Conclusions

- 6.1. Night flying is an essential part of the air transport market in the UK. There is a significant minority of passengers that fly at night, with approximately 31 million passengers arriving at or departing UK airports during the night in 2019. The second busiest hour for passengers departing UK airports in 2019 was between 06:00 and 06:59. The busiest hour is the following hour, 07:00 to 07:59, which is outside the night period. Freighter aircraft operations fly a considerably higher percentage of their volumes at night. This is particularly true for freighter aircraft flown by express freight operators, for which night operations are critical for the enabling of next-day delivery services. Bellyhold cargo arriving and departing from UK airports throughout the day is intrinsically linked to the schedules of passenger airlines. However, the peak for bellyhold cargo arriving at UK airports is between 06:00 and 06:59, at the end of the night period. This is driven by long-haul arrivals, especially into Heathrow.
- 6.2. Ultimately, flying at night is about demand and consumer preferences. Airlines fly at night to meet the requirements of their customers. For passenger airlines, flying at night is about maximising 'on the ground' time for customers, about competing effectively with other European hubs, and about counteracting some of the innate difficulties in operating from the UK that come from the time difference between the UK and Europe. For short-haul flying, it is also an essential element in enabling airlines to maximise aircraft utilisation and operate efficiently, which is the heart of providing connectivity at a price that is acceptable to consumers. Having to retime services would have significant consequences for airlines, passengers and the wider economy. For long haul flying, night operations are an essential pre-requisite of serving distant markets in different time zones at times of day that passengers want and need to travel. The ability to arrive into the UK early in the morning is particularly important for services to economically important Asian destinations. Being able to serve these markets effectively is central to the UK Government's Global Britain agenda.
- 6.3. For express freight operators, flying at night is fundamental to their business model. It is simply not possible to offer the time definite, next-day delivery services that are in such high demand in modern economies without being able to fly at night. Without night flying the value of flying at all is lost. It becomes more efficient to simply truck freight and accept that next day services are not possible, with corresponding loss of time and productivity for users. The ability to retime for express freight operators is extremely limited. This also applies to express freight being carried in the bellyhold of passenger aircraft. General air freight is also reliant on night operations but to a lesser extent and there is likely to be a greater ability to retime.
- 6.4. The operation of passenger and cargo flights at UK airports during the night generates significant GVA and employment benefits that extend throughout the economy. Direct impacts account for around £1.4 billion in GVA and 24,200 jobs. These direct impacts are supplemented by around £2.0 billion and 38,700 jobs in indirect and induced impacts. When wider impacts are included, the total economic impact of aviation activity during the entire night period (23:00 to 06:59) was estimated to be around £16.5 billion in terms of GVA in 2019, supporting approximately 213,200 jobs.
- 6.5. Aviation activity during the NQP (23:30 to 05:59) alone generates a total of approximately £8.7 billion of GVA impact and supports approximately 110,200 jobs. This includes direct impacts that account of around £0.6 billion in GVA and 10,700 jobs. These direct impacts are supplemented by around £0.9 billion and 17,100 jobs in indirect and induced impacts. The operations of express cargo and general cargo services form a significant component of the economic impact during the NQP, reflecting the intensity of cargo operations that occur during this period that are fundamental in supporting their business models.
- 6.6. Despite forming just an hour and a half of the day, the economic impact generated during the Other Night period (23:00 to 23:29 and 06:00 to 06:59) is considerable. Direct impacts from aviation activity during this period account for around £0.8 billion in GVA and 13,400 jobs. These direct impacts are supplemented by around £1.1 billion and 21,500 jobs in indirect and induced impacts. When wider impacts are included, aviation activity during this period supported approximately 103,000 jobs in 2019 and generated around £7.8 billion in GVA across the entire economy. The scale of the economic impact generated during the Other Night period compared to the NQP, which forms a longer duration, is notable. The period between 06:00 to 06:59 is central to outbound passenger volumes at UK airports across the entire day, which drives significant economic impact. Furthermore,

this period is also the peak for inbound bellyhold cargo arriving to the UK, which again is a key driver of economic benefit.

- 6.7. We have modelled the impact of four scenarios that constrain night flying operations at UK airports to varying degrees. A ban of aircraft movements during the hours of 23:00 and 06:59 would have the most significant impact on the aviation industry and the wider UK economy, with 20.7 million passengers and 480,000 tonnes of cargo per annum lost, which would result in around £1.0 billion in direct GVA foregone and 16,000 jobs put at risk, with indirect and induced impacts increasing this impact by around £1.3 billion in GVA and 26,000 jobs. If wider impacts are then included as well, a total of approximately £12.4 billion of GVA is forgone and up to 158,000 jobs put at risk. Furthermore, consumers would face increased generalised costs as they are forced to travel at less optimal times and as airlines increase air fares for short-haul services by an estimated 0.8%. The total impact on passengers is estimated to be around £571 million at 2019 demand levels.
- 6.8. A ban on flying during the NQP and a 50% reduction in the number of movements during the Other Night period would result in an economic impact of £0.5 billion in direct GVA foregone and 9,000 jobs put at risk, with indirect and induced impacts increasing this effect by £0.8 billion in GVA and 15,000 jobs. If wider impacts are included, the total impact on foregone GVA increases to approximately £8.7 billion with around 109,000 jobs being put at risk. Air fares would rise by an estimated 0.6% for short-haul passengers, and re-timing costs are estimated to range between £14 and £18 per passenger. The total impact on passengers is estimated to be around £380 million at 2019 demand levels.
- 6.9. An outright ban on aircraft movements during the NQP alone would result in an economic impact of £0.3 billion in direct GVA foregone and 4,000 jobs put at risk, with indirect and induced impacts increasing this effect by £0.4 billion in GVA and 7,000 jobs. If wider impacts are included, the total impact on foregone GVA increases to approximately £5.7 billion of GVA with put approximately 69,000 jobs at risk. Air fares would rise by an estimated 0.2% for short-haul passengers, and re-timing costs are estimated to range between £14 and £18 per passenger. The total impact on passengers is estimated to be around £111 million at 2019 demand levels.
- 6.10. Even a 50% reduction of aircraft movements throughout the entire night period would result in an economic impact of £0.3 billion in direct GVA foregone and 4,000 jobs put at risk, with indirect and induced impacts increasing this effect by £0.4 billion in GVA and 7,000 jobs. If wider impacts are included, the total impact on foregone GVA increases to approximately £5.1 billion with around 62,000 jobs being put at risk. Air fares would rise by an estimated 0.2% for short-haul passengers, and re-timing costs are estimated to range between £14 and £18 per passenger. The total impact on passengers is estimated to be around £255 million at 2019 demand levels.

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