# NOISE ACTION PLAN 2019-2023

## DETAILED PLAN

eastmidlandsairport.com

MAG East Midlands Airport

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# FOREWORD

This is the third Noise Action Plan for East Midlands Airport. This is an exciting time for East Midlands Airport. It is 53 years since East Midlands Airport first opened for commercial flights and since that time the airport has grown to become an airport of national importance serving 4.9 million customers and establishing itself as the largest airport for all-cargo operations in the UK.

**We are ambitious for the development of the airport and the region we serve. Our 4.9 million customers currently fly to around 100 destinations across Europe and North America. The airport provides jobs for 8,000 people, and the airport and its on-site partners annually contribute £440 million of total GVA (direct, indirect and induced) to the East Midlands economy.**

Our aim is to deepen the role that we play in the Midlands: driving growth through better connectivity; creating jobs, attracting investment and enabling people from across the East Midlands to do business, visit friends and family and enjoy travel to their favourite destinations from their local airport.

In our 2015 Sustainable Development Plan we set out our ambition and capability to grow to handle up to 10 million passengers and 1.2 million tonnes of freight and to set East Midlands Airport as an economic powerhouse at the centre of the three cities of Nottingham, Derby and Leicester in the heart of the UK.

But we are committed to growing the airport in a responsible and sustainable way. As we grow, we know that our operation and future development brings challenges, particularly in relation to night flights, which although a vital part of the UK's express freight and mail economy, can also be intrusive and disruptive for those who live close to the airport.

Although the framework and the guidance for airport Noise Action Plans are set at a national level, many of the measures in our plan are agreed and set at a local level. The Noise Action Plan supplements our 2015 Sustainable Development Plan which has already set a maximum night noise limit, which, has also been agreed by our local planning authority, within which we will deliver our anticipated growth.

Our Noise Action Plan was published as a draft for consultation with a wide range of stakeholders. We have worked with the airport's Independent Consultative Committee, local authorities, airlines and local community representatives. We are grateful to everyone, including local residents, who took the time to review our plan and let us have views and comments. We have made changes to our plan in the light of the comments we have received, and we believe that we have an effective strategy for controlling aircraft noise. Our policies include restrictions on the use of the noisiest aircraft, targets and incentives for the introduction of newer quieter aircraft, financial penalties and a range of measures that encourage the operation of aircraft in the quietest way possible. This will include the opportunity to review our aircraft operational procedures and departure routes within the plan period as part of a wider UK Airspace modernisation programme.

This Noise Action Plan runs for the next five years. Over that time, we will continue to develop our policies and targets, and it is likely that some of our operating procedures will change. Our approach will continue to be focussed on limiting and reducing, where possible, the number of people affected by aircraft noise whilst we continue to work to grow the overall prosperity of the East Midlands region.

**KAREN SMART**
Managing Director, East Midlands Airport

# 1. NOISE ACTION PLAN

## WHAT IS A NOISE ACTION PLAN?

A Noise Action Plan is a five-year plan to assess, consider and manage aircraft noise at the airport. It is a key part of delivering broader UK Government noise objectives that are to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise.

Noise Action Plans are a legal requirement under European Union Directive 2002/49/EC relating to the Assessment and Management of Environmental Noise. This Directive is commonly referred to as the Environmental Noise Directive or END[1]. The requirements of the END are transposed by the UK Government in the Environmental Noise (England) Regulations 2006[2] as amended ("the Regulations").

The EU Directive (known as Environmental Noise Directive – END) sets the objectives of Noise Action Plans:-

'…to define a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise. To that end the following actions shall be implemented progressively:

(a) the determination of exposure to environmental noise, through noise mapping, by methods of assessment common to the Member States;

(b) ensuring that information on environmental noise and its effects is made available to the public;

(c) adoption of action plans by the Member States, based upon noise-mapping results, with a view to preventing and reducing environmental noise where necessary and particularly where exposure levels can induce harmful effects on human health and to preserving environmental noise quality where it is good.'

Quoted from the EU Environmental Noise Directive 2002, Objectives, Article 1[3].

## WHO IS THE 'COMPETENT AUTHORITY'?

Under the Environmental Noise (England) Regulations 2006 the airport operator is the competent authority for non-designated[4] major airports. Consequently, East Midlands International Airport Limited is the competent authority for this Noise Action Plan.

## WHO IS REQUIRED TO PRODUCE A NOISE ACTION PLAN?

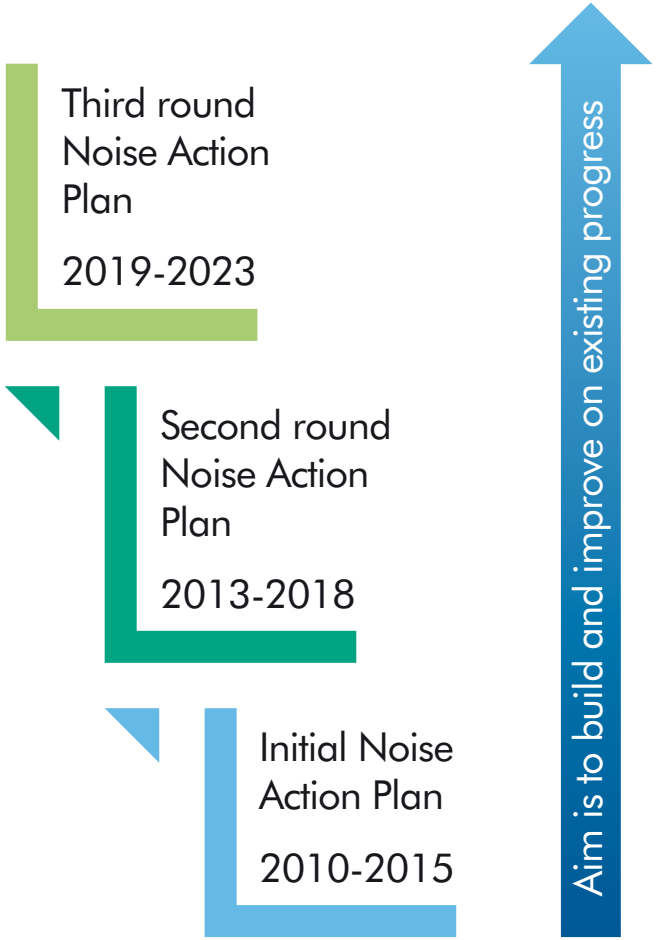
The requirements for producing Noise Action Plans are specified in the Environmental Noise (England) Regulations 2006 and apply to four areas:

- Agglomerations, large towns or cities, with more than 100,000 people and a population density equal to or greater than 500 people per km²;
- Roads with over 3 million vehicle movements a year;
- Railways which have more than 30,000 train movements per year;
- Civil airports which have more than 50,000 movements per year (a movement being a take-off or a landing), excluding those purely for training purposes on light aircraft.

## WHAT ARE THE BROAD AIMS OF A NOISE ACTION PLAN?

The primary aim of our airport Noise Action Plan is to limit and where possible reduce the number of people significantly affected by aircraft noise. To do this, it needs to consider the noise impact experienced by communities living near the airport and explore how this can be better managed in the future. This will include consideration of the anticipated growth at the airport and potential benefits of new aircraft technology and operating procedures, as well as noise controls where necessary. The plan needs to be developed in consultation with those affected by the noise. Some specific aims are:

- to quantify the current number of people and dwellings exposed to noise levels above 50 decibels at night and 55 decibels during the day[5]
- to identify any noise problems and situations that need to be improved
- to consider the noise effects of any current noise reduction measures or future projects




[1] See http://ec.europa.eu/environment/noise/directive_en.htm
[2] See http://www.legislation.gov.uk/uksi/2006/2238/contents/made
[3] See http://ec.europa.eu/environment/noise/directive_en.htm
[4] "non-designated" when used in relation to an airport means not designated under section 80 for the purposes of section 78 of the Civil Aviation Act 1982. Only Heathrow, Gatwick and Stansted airports are designated under this act.
[5] This relates to the DEFRA noise mapping results and specifically the noise exposure at 50dB(A) $L_{night}$ or more and 55dB(A) $L_{den}$ or more

- to consider any new evidence regarding the effects of noise disturbance on people
- to consider any new Government regulations or polices relating to aircraft noise or operations
- to consult with local communities, business partners and authorities on new and continued actions to manage noise disturbance
- to collectively agree a new Noise Action Plan and review its effectiveness over the period of the plan.

## REVIEW PERIOD

The Noise Action planning process operates in five-yearly cycles. The aim is for each subsequent Noise Action Plan to build on existing progress to manage the effects of aircraft noise on people. This is the third Noise Action Plan for East Midlands Airport and is based on noise maps prepared by the Department for Environment, Food and Rural Affairs (DEFRA) showing the situation at the airport in 2016.

Following our consultation on this plan in summer 2018, it was presented to the UK Government for formal adoption in autumn 2018.

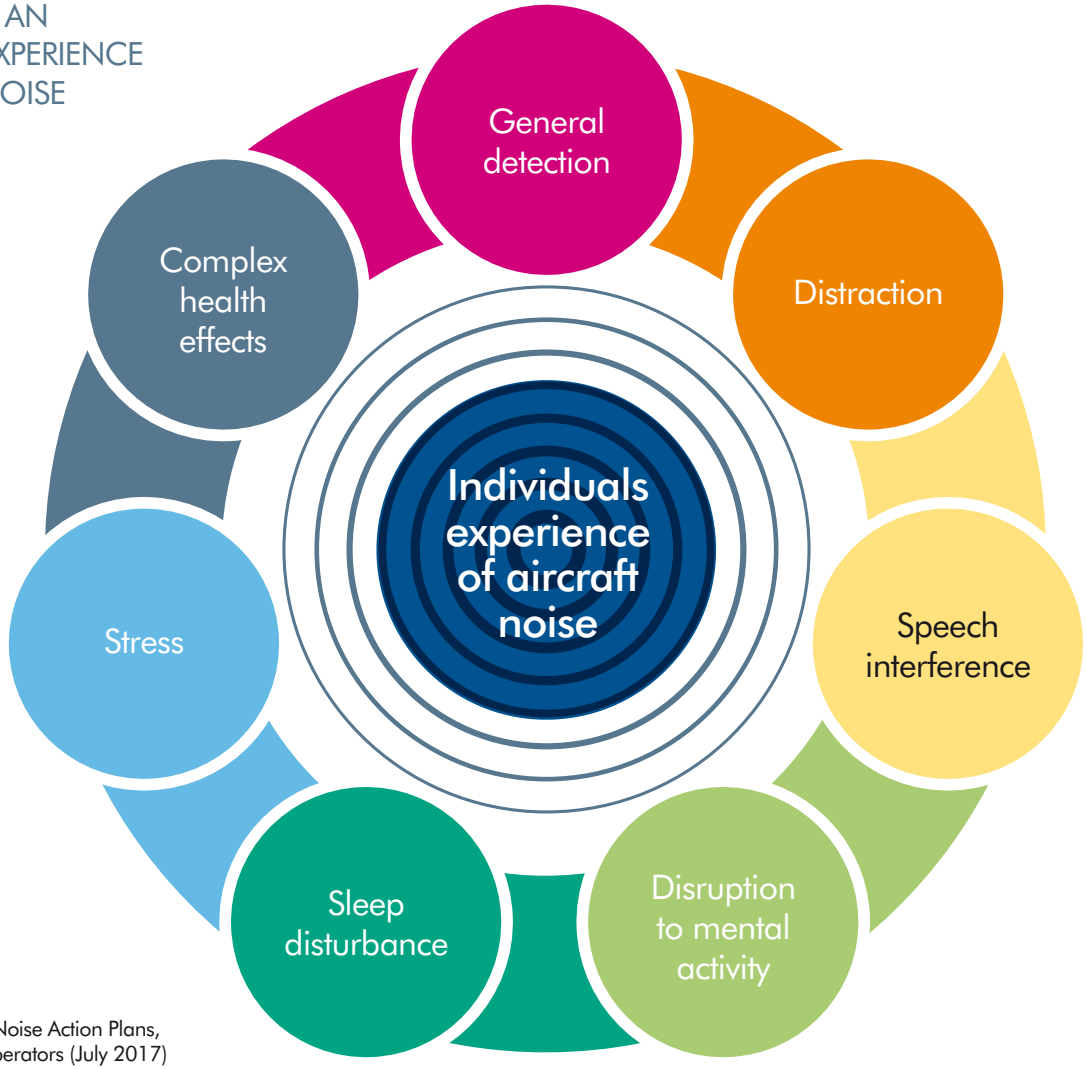
MAG East Midlands Airport

"A Noise Action Plan is a five-year plan to assess, consider and manage aircraft noise at the airport."

# 2. PUBLIC CONSULTATION

To help us develop the new Noise Action Plan (NAP) views on our draft plan were sought through a public consultation. This took place over 12 weeks between 8th May 2018 and 30th July 2018.

RESPONSES TO AN INDIVIDUAL'S EXPERIENCE TO AIRCRAFT NOISE




**Source:** DEFRA Airport Noise Action Plans, Guidance for Airport Operators (July 2017)

**The objective of the consultation was to give people an early and effective opportunity to participate in the preparation and review of the Plan. To ensure the draft plan was accessible for public consultation, we were careful to explain technical concepts and to provide a glossary of terms. We also published a separate supplementary document so that technical information within the body of the main draft plan was minimised.**

The airport designed this consultation to comply with the EU Environmental Noise Directive (END) requirements which specify that in preparing and reviewing NAP's:

- The public are consulted about proposals in the NAP
- The public are given early and effective opportunities to participate in the preparation and review of the NAP
- The results of public participation are taken into account
- The public are informed of the decisions that have been taken
- Reasonable time-frames are provided allowing sufficient time for public participation

There are many different stakeholders, including airlines and their customers, regional and national businesses that rely on the services that they provide and local communities. People living around the airport experience noise in different ways and to different degrees. Current Government guidance has summarised these effects as shown.

## 2.1 APPROACH TO THE PUBLIC CONSULTATION

East Midlands Airport has a well-established community engagement and outreach programme, strong relationships with external stakeholders and is familiar with undertaking public consultation on its strategic plans, including previous Noise Action Plans and the Sustainable Development plan (SDP). Public consultation played an important part of the NAP process and stakeholder comments were welcomed, encouraged and taken into account. The airport regularly discusses noise matters through the long-standing Airport Independent Consultative Committee (ICC). The ICC is the formal body in charge of liaison between East Midlands Airport and our neighbouring communities and is independently chaired. Representatives from the airport and operators, local authorities, amenity and user groups meet three times a year. The ICC is further supported by two sub-committees which the airport and operators take part in; MENT (Monitoring, Environment, Noise and Track) and TEP (Transport, Economic Development and Passenger Service). These regular forums enable ongoing opportunities to review noise performance at the airport and explore ways to address any concerns.

The public consultation process included:

- Engagement and discussions with key stakeholders including airlines, regulators and the ICC during the drafting of the NAP
- Communication with stakeholders when the draft NAP was published for consultation. This communication went out via email on Tuesday 8th May notifying all consultees that consultation closed on 30th July 2018.
- A full 12 weeks public consultation to enable stakeholder comments to be made, running from 8th May to 30th July 2018
- An offer of meetings and briefings with key local stakeholders was made as part of this communication to key local stakeholders including County Councils, District Councils, Parish Councils, Airlines, MP's and the ICC
- Existing community communication channels were used to promote the consultation on the NAP. This included publication of information on the Airport web site as well as within the 'Summer 2018' edition of the Community Flyer, which was delivered to over 35,000 homes under our flight paths through our Royal Mail door drop contract in the week commencing 2nd July 2018.
- Provision of information about the NAP consultation at outreach events including Castle Donington Medieval Market on 7th May, Kegworth 'One Weekend' on the 2nd June, Breedon on the Hill Family Day on the 24th June, and Aston Well Dressing on the 8th July.
- Parish councils including Kegworth and Castle Donington supported the process by promoting the consultation process on their web sites and social media pages.
- On request a workshop was held with South Derbyshire parishes and other representatives on 25th June at Sharpe's Potteries. On request a presentation with question and answer session was given to a Neighbourhood Forum in Littleover on 27th June. On request a meeting was held with 'Packington Communications Group' on 29th June.
- On request, hard copies of the NAP consultation documentation were provided to the Kegworth Library and Village Hall.
- Pre-consultation with the airport's Pilot Liaison Group on 11th April.
- Pre-consultation the airport attended meetings at Weston-on-Trent and Melbourne at the request of both the District and Parish Councils to discuss the imminent NAP consultation
- Consultation workshop for Airline partners on 25th June
- Consultation with ICC MENT on 18th May and with the ICC General on 15th June

### 2.1.1 FORMAL CONSULTEES

Formal consultees were agreed as part of a pre-consultation process with the ICC:

#### County Councils

- Leicestershire
- Nottinghamshire
- Derbyshire

#### District Councils

- Rushcliffe Borough Council
- North West Leicestershire District Council
- South Derbyshire District Council
- Erewash Borough Council
- Charnwood Borough Council
- East Midlands Councils

#### Parish Councils

- Aston on Trent (South Derbyshire District Council, Derbyshire)
- Weston upon Trent (South Derbyshire District Council, Derbyshire)
- Melbourne (South Derbyshire District Council, Derbyshire)

- Kegworth (North West Leicestershire District Council, Leicestershire)
- Diseworth and Long Whatton (North West Leicestershire District Council, Leicestershire)
- Breedon on the Hill (North West Leicestershire District Council, Leicestershire)
- Hemington and Lockington (North West Leicestershire District Council, Leicestershire)
- Castle Donington (North West Leicestershire District Council, Leicestershire)
- Isley Walton (North West Leicestershire District Council, Leicestershire)
- Sutton Bonnington (Rushcliffe Borough Council, Nottinghamshire)

The East Midlands Airport Independent Consultative Committee (ICC), and the Monitoring, Environment, Noise and Track Sub-Committee of the ICC

East Midlands Airport's Pilot Liaison Group

## LOCAL MEMBERS OF PARLIAMENT

- Andrew Bridgen (North West Leicestershire)
- Heather Wheeler (South Derbyshire)
- Ken Clark (Rushcliffe)
- Maggie Throup (Erewash)
- Ed Argar (Charnwood)

### 2.1.2 CONSULTATION PROCESS

The UK Government provided guidance information and a data pack for East Midlands Airport in July 2017. This information was used to support the preparation of the draft NAP. Additionally, the airport discussed the development of the plan and sought views on aircraft noise from the ICC MENT sub-group and the General ICC on 19th January and 16th February 2018 respectively. Finally, information on best practice and emerging noise reduction work was gathered by EMA through MAG's involvement in Sustainable Aviation, a coalition of UK aviation companies. This includes information shared through Sustainable Aviation's noise group and the 2013 Noise Road-Map plus the 2017 Progress Report.

A copy of the draft Noise Action Plan was published on the EMA web site with details of how to respond and a dedicated email address was set up for people to share their views with us.

The airport developed a questionnaire in order to help structure responses, which we encouraged people to use where possible, however responses were encouraged and welcomed in any format. Printed versions of the draft NAP were available for meetings and on request by any interested party.

## 2.2 LESSONS LEARNED FROM THE CONSULTATION

Whilst the airport welcomed responses from consultees in any format, the majority of consultees used either the questionnaire provided or sent an email to our dedicated email address. The questionnaire was designed as an editable PDF, which could be completed, saved and then emailed to us using the dedicated email address, and whilst most used this method, some chose to print the blank form, complete it and post it to us.

Despite the majority of consultees successfully using the editable PDF, a few local residents reported difficulty with it. The principal concern expressed to us was that in order to create an unlimited text box for each question in the questionnaire, then this prevented printing of the form once it was filled out. We had not anticipated that some consultees would wish to print the completed on-line form and post it to us, rather had planned that the completed forms would be saved and emailed. Whilst this did not prevent any consultees from making their view known to us, we have noted the comments we received and will ensure they are carefully considered when we undertake future consultations.

Some consultees also reported that they found the draft NAP document itself difficult to read and understand, and many commented that it was too long. Whilst we had already minimised the length of the document by publishing a separate supplementary report containing much of the necessary technical information, we are mindful of these comments and we have produced an abridged summary document, which we will publish alongside the final NAP.

# 3. THE AIRPORT

East Midlands Airport is in a strategic location in the centre of the UK, roughly equidistant from the cities of Nottingham, Leicester and Derby. The area around the airport is relatively sparsely populated and as a result, the noise from aircraft operations affects fewer people than airports located in or near large conurbations.

**Flying operations began at what is now known as East Midlands Airport in 1916 and a more substantial aerodrome, RAF Castle Donington, was developed during the Second World War.**

East Midlands Airport was developed by the County Councils of Leicestershire, Derbyshire and Nottinghamshire and the City Councils of Derby and Nottingham.

The airport opened in 1965, and in its first year handled over 118,000 passengers. The airport has also grown to become a strategic logistic hub for express air freight and mail. More recently, since a dip in activity in 2009 due to the global recession, the airport has grown strongly with both passenger numbers and cargo (express air freight and mail) activity increasing steadily to around 5 million passengers and 350,000 tonnes of cargo.

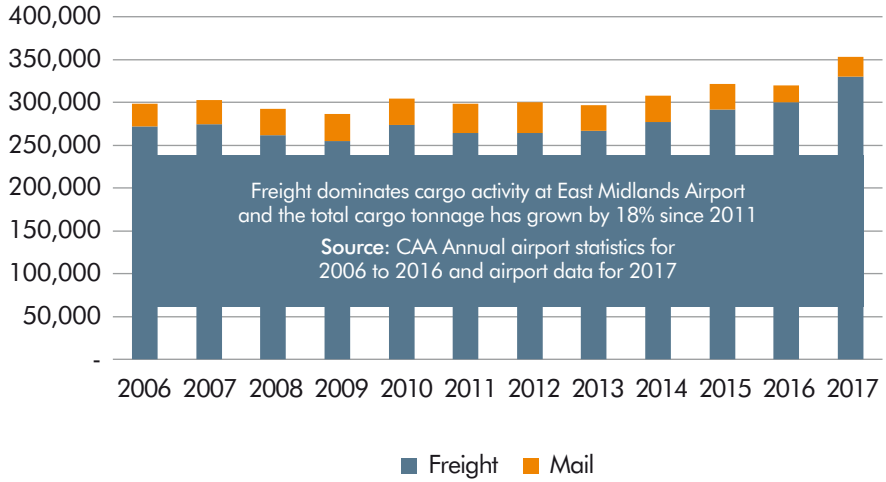
## TODAY EAST MIDLANDS AIRPORT IS:

- A significant UK regional airport, in 2017 handling 4,880,405 passengers
- The UK's largest pure cargo airport, handling 324,216 tonnes of freight in 2017
- A major UK air mail hub, handling 21,963 tonnes of mail in 2017
- The UK's leading express freight airport, with all of the major global integrated freight airlines based at the airport
- The largest single employment site in Leicestershire with some 8,000 people working on-site.

The airport's location in the centre of the UK, with direct access to the national motorway system is a major benefit to the development of the airport's passenger and cargo business. It is estimated that there are over 11 million people that live within a 90 minute drive of East Midlands Airport and 90% of England and Wales is within a four hour drive. The airport and its transport links support the continuing activity of globally significant manufacturers in the region

## ANNUAL CHANGES IN FLIGHT AND PASSENGER NUMBERS AT EAST MIDLANDS AIRPORT


## ANNUAL CARGO TONNAGE AT EAST MIDLANDS AIRPORT



such as Rolls-Royce, JCB and Toyota and provide the potential to attract or develop more. The freight activity at East Midlands Airport is significant at a national, European and inter-continental level and the airport is a major base for DHL, UPS, TNT and Royal Mail.

Aviation and the transport by air of goods, as well as passengers, are of national significance and economic importance. The value of non-EU trade annually passing through East Midlands Airport equates to some £10bn that is split 50% import and 50% export. Easy access to global air freight connectivity is critical to ensure the Midlands benefits from the Government's objectives of re-balancing the economy and promoting export-led growth.

The activities at East Midlands Airport make a significant contribution to the regional economy, particularly to the three cities of Nottingham, Leicester and Derby and to the district of North West Leicestershire. These economic benefits are in the form of passenger and cargo connectivity, economic activity (GVA – the value of goods and services produced in an economy) and in direct and indirect employment. East Midlands Airport is estimated to generate £440 million of direct, indirect and induced regional GVA each year. The Airport is the largest single employment site in Leicestershire and the most recent employment survey (2017) showed that there are 7,954 people employed on the site in 87 companies. Most airport employees live in the local area with 41% living in Derbyshire, 27% in Leicestershire and 24% in Nottinghamshire.

## AIRPORT DEVELOPMENTS

Since the publication of the last Noise Action Plan, a number of developments have been undertaken on the Airport site. These have included the completion of a significant upgrade of the passenger terminal providing an improved and extended security area and new facilities in the departure lounge, and the development of new car parks and new car park products including a Meet and Greet service.

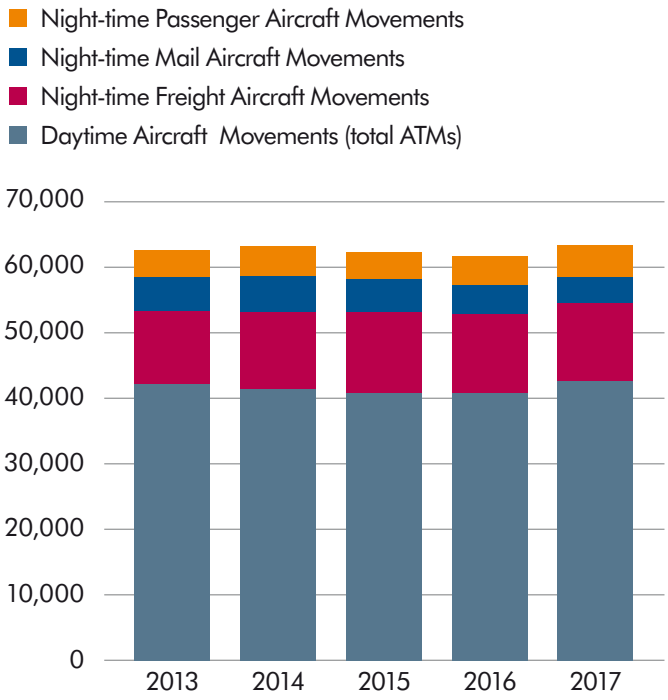
The airport's cargo operators have also made significant investments in their facilities. DHL have spent some £90m on a major extension to their freight hub, making it one of their larger global operations. UPS are investing £114m in the development of a new cargo hub that is scheduled to open in 2019. In addition, investments have been made in the Airport's core infrastructure, which in 2016 included the full re-surfacing of the runway and the installation of a new airfield lighting system.

In future East Midlands Airport has significant capacity, capability and the flexibility to grow. The airport prepares forecasts of future passenger, cargo and aircraft activity. Our forecasts show that the airport has the potential to double its activity, achieving a throughput of up to 10 million passengers a year, in the period 2030 to 2040 and a forecast cargo throughput of some 700,000 tonnes by 2040.

Aircraft movements are forecast to increase in line with passenger throughput and an airport of 10 million passengers is forecast to generate 70,000 annual passenger air transport movements. Air cargo movements are also expected to grow and a cargo throughput of 700,000 tonnes a year could generate around 42,600 cargo aircraft movements. This is a total forecast of 112,600 air transport movements compared with a total of 75,777 annual movements in 2017-18. It is anticipated that the average cargo payload per aircraft will increase. This means that the growth in cargo movements will be at a slower rate than the growth in annual cargo tonnage. The airport's long-term development plans, along with future forecasts are detailed in the Land Use Plan, part of the Sustainable Development Plan that was published following public consultation in 2015 (**www.eastmidlandsairport.com/developmentplan**).

The Government are carrying out a review of national aviation policy that is expected to be published in 2019. Following this we intend to undertake a review of our Sustainable Development Plan including the forecasts of airport growth.

## ANNUAL COMMERCIAL AIR TRAFFIC MOVEMENTS




**Source:** Published Airport Data

## AIRPORT OPERATIONS

The airport operates 24-hours a day, 365 days a year using a single runway aligned in an east-west direction. Aircraft movements comprise of commercial passenger flights (scheduled and charter), air freight and mail flights plus training and general aviation flights. Most of aircraft movements take place during the daytime and at night they are a mixture of passenger, freight and mail flights.

Departing aircraft normally take off into the wind. This means that given the prevailing winds are westerly then the usual mode of operation is for departures to the west and arrivals from the east. All departing aircraft must follow noise preferential routes (NPR's) shown in Appendix B. How the departures are split at the airport and the wider areas overflown by aircraft are shown in Appendix C. This also shows the areas overflown by arriving aircraft.

## SOURCES OF NOISE

Noise is primarily generated by aircraft as they arrive, depart and move around the airport. Other sources of noise at the airport come from activities involved in getting the passengers and cargo to and from the aircraft, from aircraft maintenance and engine tests, from construction activities at the airport and from vehicles coming to and from the airport. Over two thirds of aircraft movements at the airport occur during the day with the remaining third occurring at night time between 23:00-07:00.

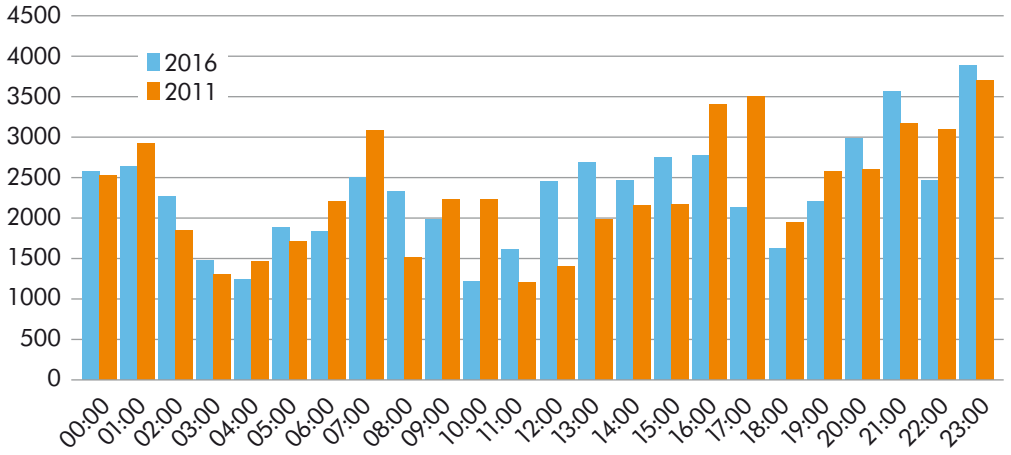
## APPROACH TO MANAGING NOISE

Information on historic, current and future noise levels at the airport are presented in this plan, along with existing, modified and new actions the airport proposes to implement.

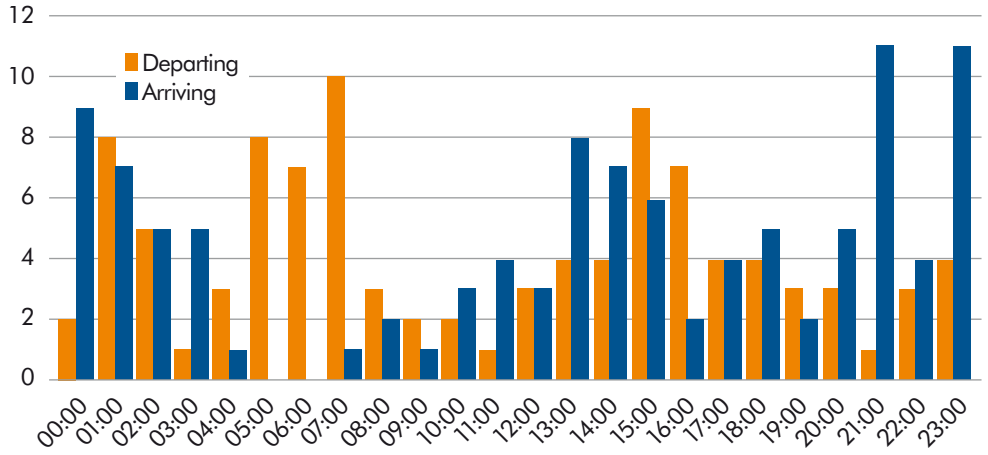
Managing these current noise effects and those arising from future growth is a key focus for the airport. Our long-term aim is to'…limit and reduce where possible, the number of people affected by noise as a result of the airport's operation and development'. We are committed to minimising the number of people affected by aircraft noise by routinely reviewing our noise-related targets and policies. We will also continue to support local communities, with a particular focus on those most affected by aircraft operations. This will include continuing our community-relations programme, noise mitigation schemes and Community Fund, which has now donated over £900,000 to local good causes.

We will continue to measure our performance against other airports and to contribute to the sustainable development of the air transport industry at a national, regional and local level. We will also support and contribute to the noise-related commitments contained within the UK's Aviation Policy Framework and emerging national aviation policy.

### ANNUAL AIRCRAFT MOVEMENTS BY HOUR 2016 vs 2011




### 2016 BUSY DAY AIRCRAFT MOVEMENTS BY HOUR (ARRIVING OR DEPARTING)



# 4. NOISE MAPPING

## WHAT ARE NOISE MAPS?

In the same way that geographical maps use contours to distinguish between high ground and low ground, noise maps use contours to identify those areas that are relatively louder or quieter.

Although noise maps provide information on noise levels and the number of people affected, their main purpose is to help authorities show the areas and populations affected and to inform plans designed to manage noise.

## HOW WERE THE MAPS CREATED?

The noise contour maps have been produced for the airport by the Department for Environment, Food and Rural Affairs (DEFRA) using the Integrated Noise Model (INM). INM is a computer model that takes account of things such as the number and types of aircraft departing and landing, where the aircraft are flying, and the time of day or night, to estimate the noise on the ground around an airport. They were provided to the airport in an 'Action Planning Data Pack'. The contents of the Action Planning Data Pack were developed to meet the requirements of the Environmental Noise (England) Regulations 2006 (as amended). This draft plan includes the details of the 2016 data pack and maps[6].

The noise contours and associated data are intended to provide a description of the current noise impact of the Airport on its surroundings and how it has changed throughout the lifetime of the Noise Action planning process.

## ARE THE NOISE MAPS DIFFERENT FROM THE NOISE CONTOUR MAPPING SEEN PREVIOUSLY?

If you compare the noise maps with the noise contour maps previously produced for us or other UK airports, you may notice some differences. The noise maps in this document have been prepared specifically to inform our Noise Action Plan. Noise contour maps are usually produced using aircraft movements for an average summer's day (mid-June to mid-September), and it has been usual to produce separate maps for the 16-hour day (07:00 to 23:00) and 8-hour night (23:00 to 07:00). The contours are presented in terms of the 'A-weighted equivalent continuous noise level' ($L_{Aeq}$). The A-weighting is designed to represent the human ear's response to sound.

Under the Environmental Noise (England) Regulations 2006, as amended, noise mapping is carried out every five years – most recently in 2016 – for an annual average day (January to December) rather than just the busy summer period. Maps are produced for each of the following time periods.

- $L_{day}$ – the level in the day, 07:00 to 19:00
- $L_{evening}$ – the level in the evening, 19:00 to 23:00
- $L_{night}$ – the level at night, 23:00 to 07:00
- $L_{den}$ – the level over 24-hours

The $L_{den}$ figures are produced by combining those for $L_{day}$, $L_{evening}$ and $L_{night}$. To take account of the fact that noise is more intrusive at night time, before the $L_{day}$, $L_{evening}$ and $L_{night}$ values are combined to produce the $L_{den}$ level, a weighting of 5dB is added to the evening values and 10dB is added to the night values.

Because of these differences, the noise maps that inform this Noise Action Plan are not directly comparable with other published noise contours.

As set out in the 'Responses to an individual's experience to aircraft noise' diagram, on page 11, we recognise that different factors affect the way noise is experienced and that people respond differently to noise. This makes it difficult to quantify the relationship between noise and annoyance. Government policy requires extra support to be provided to those living in homes which are exposed to high levels of aircraft noise (more than 69dB $L_{Aeq}$). The 2016 noise maps show that there are no properties at East Midlands Airport exposed to this level of noise.

[6] The noise data maps are produced subject to Crown Copyright 2017 –Ordnance Survey 100024198 and Environment Agency copyright and/or existing database rights 2017.

# 5. NOISE MAPPING RESULTS

The full results of the DEFRA noise mapping for East Midlands Airport are presented in Appendix D. This section summarises the results.

## SUMMARY RESULTS

The chart shows the result of the key noise levels from 2006 to 2016 for each noise metric. The results are taken from the DEFRA noise mapping results. The chart shows the 2016 result for the key noise levels for each noise metric.

Despite significant growth in aircraft activity between 2011 and 2016, the data indicates noise impacts have remained broadly unchanged.

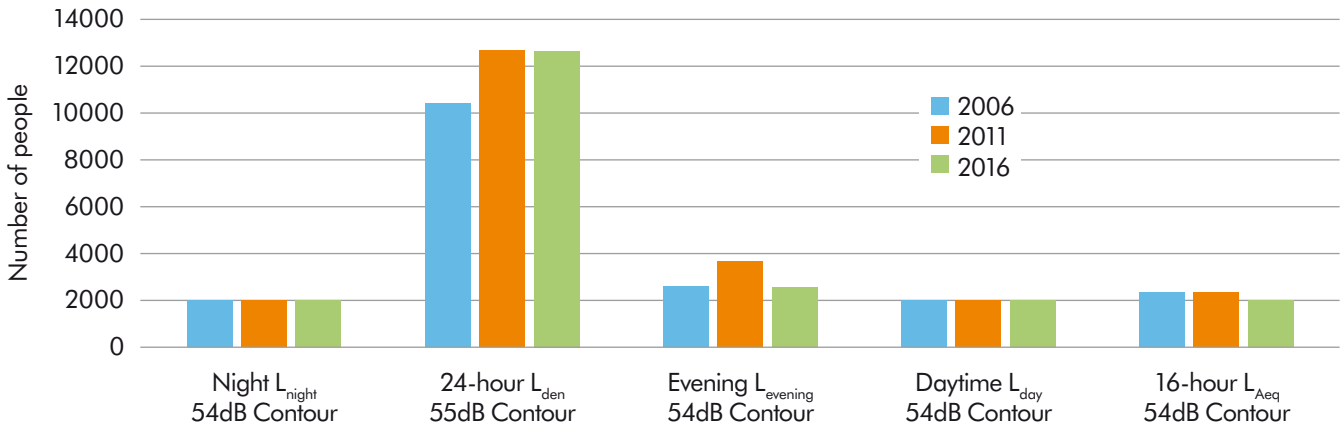
Using the lowest noise indicator (54dB 16-hour $L_{Aeq}$)[7], which is consistent with the Government's latest advice, the results show a small reduction in the number of people affected by aircraft operations in 2016 compared to previous years.

Using the 54dB night noise contour, that is closest to the agreed night-time noise limit (55dB $L_{Aeq\ 8\text{-}hour}$), the results show that there has been no change in the number of people affected in the last five years.

During the evening, mapping results indicate fewer people are now affected by aircraft noise above 54dB than in 2011.

The shape and population within each noise contour for specific noise metrics has been briefly summarised below with fuller details of the changes provided in Appendix D. In considering the results it is important to recognise that as well as the number and type of aircraft operations, how the weather changes the direction of aircraft arrivals and departures also affects the shape and therefore area of the noise contours. For this reason, the results have been interpreted as being unchanged compared to previous years if the results indicate a change in the number of people of 100 or fewer.

### DEFRA NOISE CONTOUR MAPPING – PEOPLE AFFECTED SUMMARY RESULTS




## WEIGHTED 24-HOUR CONTOUR ($L_{den}$)

The latest (2016) 55 decibel contour extends over eight kilometres to the west, reaching the west side of Melbourne. To the east, the contour extends approximately twelve kilometres from the airport and includes parts of Sutton Bonington, East Leake and the majority of Kegworth. To the north, the southern part of Castle Donington is included. The 60 decibel contour extends as far as Kings Newton to the west and includes part of the village of West Leake to the east, extending as far as the southerly edge of Castle Donington and Kegworth to the east. The 65 decibel contour takes in the Donington Park circuit to the west of the airport, whilst clipping the southern-most tip of Kegworth village to the east and the number of people exposed to noise has increased by 100 since 2011, although this remains the same number as 2006. Other than to the immediate east and west of the airport, where it extends over mainly rural areas, the 70 decibel contour largely follows the boundary of the operational area of the airport. The innermost 75 decibel contour remains almost entirely within the perimeter of the airfield. Data showing how the number of houses and people within the contour areas has changed in the last 5 years is detailed in Appendix D.

Since 2011, the 55 decibels or above $L_{den}$ contour has reduced by just under one square kilometre. Despite this reduction, there has been a small increase of 100 people included within the contour. This is due to the change in shape of the contour.

## DAYTIME (07:00 TO 19:00) CONTOUR ($L^{day}$)

The $L_{day}$ lowest 54 decibel contour has changed shape slightly in 2016 compared to 2011. It reaches the same distance east over parts of Kegworth and Sutton Bonington and extends slightly further to the west, ending about half a kilometre from

[7] This is based on the Noise Research information in Section 6 of this plan written from the UK Government Airspace Policy 2017 – https://www.gov.uk/government/publications/uk-airspace-policy-a-framework-for-the-design-and-use-of-airspace

Melbourne. It has narrowed to the north, now avoiding the southerly edge of Castle Donington. The southern edge has remained unchanged. The 57dB and 60dB contours have resulted in an additional 100 people exposed to these noise levels since 2011. The population exposed to noise above 63dB has not changed since 2006.

Data showing how the number of properties and people within the contour areas has changed in the last 5 years is detailed in Appendix D.

## EVENING TIME CONTOUR ($L_{evening}$)

The $L_{evening}$ lowest 54 decibel contour has changed shape slightly in 2016 compared to 2011, resulting in 1,100 fewer people being exposed to this noise level. The eastern tail now does not reach East Leake but includes the same areas of Kegworth and Sutton Bonington. To the west it extends to Kings Newton and has slightly narrowed to the north, now avoiding the majority of Castle Donington. The southern edge has remained unchanged. Noise exposure above 57dB has not significantly changed since 2006 with a reduction in people exposed to noise above 60dB by 200 compared to 2011.

Data showing how the number of properties and people within the contour areas has changed in the last 5 years is detailed in Appendix D.

## NIGHT TIME CONTOUR ($L_{night}$)

The lowest 48 decibel (dB) or above $L_{night}$ contour has grown by under one square kilometre since 2011. This growth has resulted in an additional 400 people within the contour between 2011 and 2016. For the 54dB or above contour, which most closely matches the agreed airport noise envelope[8], there has not been any significant change to the contour and there has been no increase in people included within the contour.

Data showing how the number of properties and people within the contour areas has changed in the last 5 years is detailed in Appendix D.

## AVERAGED DAYTIME CONTOUR (16-HOUR $L_{Aeq}$)

The area of the 54 decibel (dB) 16-hour $L_{Aeq}$ contour is one square kilometre larger in 2016 than it was in 2011, however there are 200 fewer people within it. This is due to the contour area narrowing to the north and now avoiding all but the southern tip of Castle Donington. Since 2011, the western tip has extended slightly further towards King's Newton whilst it has shortened to the east, now ending just before West Leake. The shape of the 57dB contour which extends over the Donington Park race circuit to the west and Sutton Bonington to the east, has grown by 0.7 kilometres and there has been a modest increase in the number of people now included by this of 200 since 2011. The 60dB contour has grown by 0.4 kilometres since 2011, extending slightly further east over Kegworth, with an additional 100 people now included. There has been no change in noise exposure above 63dB.

Data showing how the number of properties and people within the contour areas has changed in the last 5 years is detailed in Appendix D.

## INTERPRETATION OF RESULTS

Considering the results of the noise mapping from 2006 to 2016, a few key observations can be made:

- There has been a small reduction in the 54dB to 60dB noise exposure levels during the day with higher noise level exposure remaining unchanged;
- There has been a significant reduction in the 54dB to 57dB noise exposure level in the evening period since 2011, despite similar or slightly higher levels of activity at the airport;
- Noise exposure during the night time remained the same in the 54dB contour area, with a small increase in the number of people within the lowest 48dB to 54dB noise bands since 2011.

These results show that whilst the airport has continued to grow with passenger numbers and freight volumes increasing significantly, the noise impact has remained broadly unchanged. The airport is committed to sustaining this performance and will continue to focus its efforts on limiting and reducing noise from night flights. This is the principal objective of this Noise Action Plan.

Considering the results presented we believe our noise management process is effective. Noise generated from night flights however remains our priority and this plan sets out additional measures we plan to take to further improve how this is managed.

[8] This is the noise planning envelop for East Midlands Airport which is explained further in Section 6: Laws and Policies

MAG East Midlands Airport

"There has been a significant reduction in the 54dB to 57dB noise exposure level in the evening period since 2011."

# 6. LAWS AND POLICIES

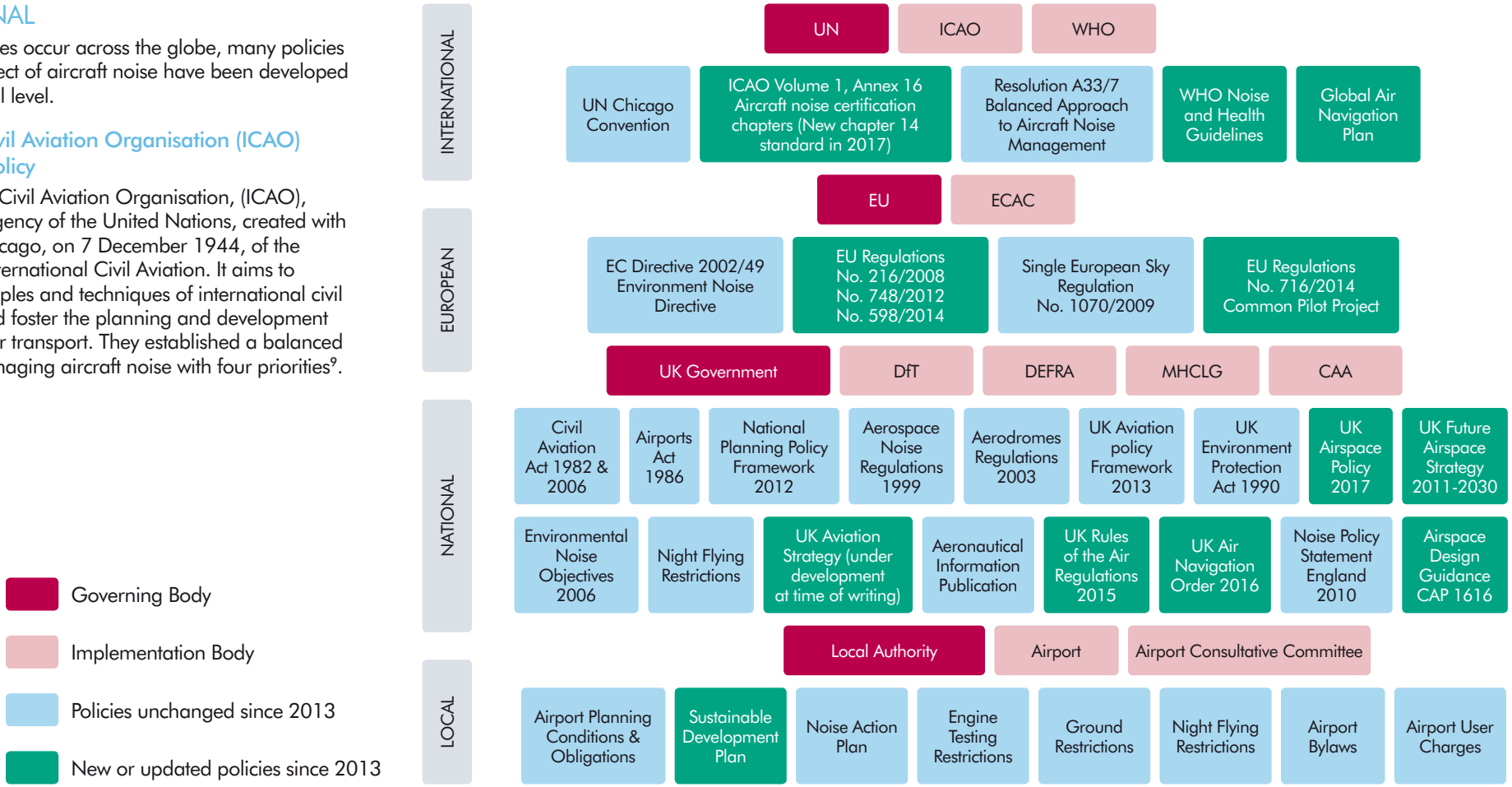
There are four main tiers of regulation which govern aircraft noise in the UK: International, European, National and local. The diagram summarises the tiers of aircraft noise regulation affecting operations at airports which are discussed in more detail in the rest of this section.

## INTERNATIONAL

As aviation activities occur across the globe, many policies to address the effect of aircraft noise have been developed at an international level.

### International Civil Aviation Organisation (ICAO) Aircraft Noise Policy

The International Civil Aviation Organisation, (ICAO), is a specialised agency of the United Nations, created with the signing in Chicago, on 7 December 1944, of the Convention on International Civil Aviation. It aims to develop the principles and techniques of international civil air navigation and foster the planning and development of international air transport. They established a balanced approach for managing aircraft noise with four priorities[9].




[9] For more information on the noise standards agreed by the ICAO balanced approach see – https://www.icao.int/environmental-protection/Pages/noise.aspx

One of ICAO's chief activities is the establishment of international standards, recommended practices and procedures regarding the technical fields of aviation, including aircraft noise. After a standard is adopted,
it is put into effect by each ICAO member state in its country.

To reduce noise at source ICAO has set progressively tighter certification standards for noise emissions from civil aircraft, known as chapters. The chapters set maximum acceptable noise levels for different aircraft during landing and take-off. For example, aircraft falling within Chapter 2 have been banned from operating within the EU since 1st April 2002, unless they are granted specific exemptions. Most civil aircraft, currently operating, fall within Chapters 3 and 4, which are quieter than the previous Chapter 2 aircraft.

All new aircraft manufactured from 31st December 2017 onwards must now meet the requirements of Chapter 14. The standard for Chapter 14 has been set at 7dB cumulative margin below that of Chapter 4. Further details regarding these standards can be found at **www.icao.int/environmental-protection/Pages/noise.aspx**

As these new aircraft are brought into service by the airlines, and the older ones phased out, the ICAO standards have consistently reduced the noise each new aircraft type make, since it started in the early 1970's.

Additionally, airlines regularly also make modifications to original aircraft to make then quieter. This makes the aircraft meet the noise requirements of later ICAO noise standards. This is the case with some of the cargo operators at East Midlands who's aircraft comply with the Chapter 14 standard, despite the aircraft originally being certified as Chapter 4 aircraft.

The main elements of the 'balanced approach' were incorporated into UK law as part of the Aerodrome (Noise Restrictions) (Rules and Procedures) Regulations 2003 and the principles are followed in the development of this Noise Action Plan.

## ICAO BALANCED APPROACH TO AIRCRAFT NOISE MANAGEMENT

**1. Reduction of noise at source**

- Develop and introduce quieter aircraft – sets lower noise limits on new aircraft, currently known as 'Chapters'. Chapter 14 is the most recent
- Modify current aircraft to make them quieter

**2. Land use planning and management**

- Controlling how land can be used and managed to discourage or prevent building of new housing and noise sensitive facilities (for example schools and hospitals) in noisy areas near the airport

**3. Noise abatement operational procedures**

- Quieter descents
- Quieter climb outs
- Alternative routes to and from the airport

**4. Operating restrictions**

- Set restrictions on aircraft operations if the earlier measures can not meet agreed noise limits (for example, night restrictions or gradually withdrawing the noisier types of aircraft)

### Global Air Navigation Plan[10]

The ICAO Global Air Navigation Plan (GANP) is an overarching framework that includes key civil aviation policy principles to assist ICAO Regions, sub regions and States with increasing capacity and improving efficiency of the global air traffic management system.

### World Health Organisation Noise and Health Guidelines[11]

The World Health Organisation published night noise guidelines for Europe in 2009. These guidelines collated research into the health effects of noise disturbance at night, including from aircraft and made recommendations to governments on managing night noise levels. It is anticipated that an update to these guidelines will be published before the end of 2018 and we will take these into account as we implement this plan.

## EUROPEAN AIRCRAFT NOISE POLICY

The European Union (EU), through the European Civil Aviation Conference (ECAC), has issued various directives relating to the management and control of aircraft noise standards. Member States apply the requirements of the directives by incorporating them into national legislation.

The relevant directive and regulations for aircraft noise management are:

### Environmental Noise Directive (2002/49/EC)

The Environmental Noise Directive has two main aims.

- To define a common approach to avoiding, preventing or reducing the harmful effects, including annoyance, of being exposed to environmental noise.
- To provide a basis for developing community measures to reduce noise from major sources, particularly road and rail vehicles and networks, aircraft, outdoor equipment, industry, and mobile machinery.

This is the overarching directive that created the specifications for how to produce this Noise Action Plan.

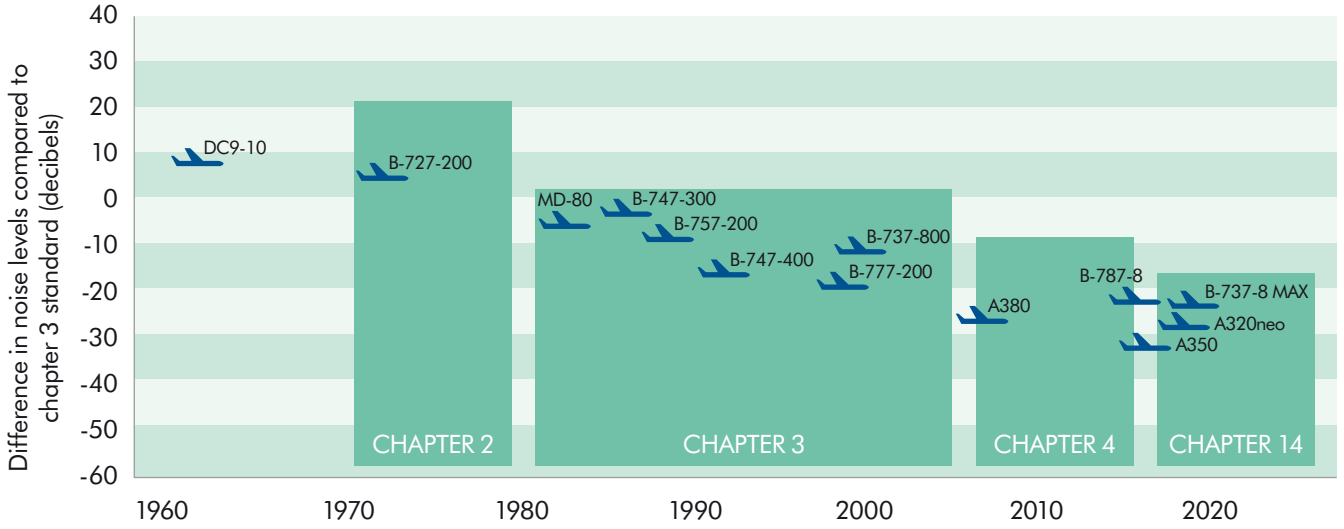
### EU Regulation No. 598/2014

This has replaced EC Directive 2002/30 and EU Directive 2006/93/EC. The regulation covers the establishment of rules and procedures relating to the introduction of noise-related operating restrictions at European Union airports within a Balanced Approach.

### Single European Sky Regulation[12]

Currently the average flight in Europe is 49 km longer than necessary. Since the 1990's the European Union has been working to improve the efficiency of air traffic management systems across Europe through the Single European Sky programme. This is now aligned with the ICAO GANP approach.

DOWNWARD TREND IN THE NOISE CERTIFICATION OF AIRCRAFT




**Source:** Data gathered from ICAO noise database – http://noisedb.stac.aviation-civile.gouv.fr/

[10] See https://www.icao.int/airnavigation/Pages/GANP-Resources.aspx
[11] See http://www.euro.who.int/en/health-topics/environment-and-health/noise
[12] See https://ec.europa.eu/transport/modes/air/single_european_sky_en

### Advisory Council for Aeronautics Research in Europe (ACARE)

Established in 2001, ACARE is a roadmap outlining the strategic goals which should be taken if Europe is to meet society's needs for aviation as a public mode of transport as well as noise and emissions reduction requirements in a sustainable way. Their 2050 goal for noise is for the perceived noise emission of flying aircraft to be reduced by 65% relative to the capabilities of typical new aircraft in 2000[13].

The UK aerospace industry is making good progress towards this target with further information available in the Sustainable Aviation progress reports[14].

## NATIONAL AIRCRAFT NOISE POLICY

The UK Government published its current Aviation Policy Framework (APF) in March 2013[15]. This set the Government's overall noise objective to:

'…limit and where possible reduce the number of people in the UK significantly affected by aircraft noise.'

The APF specifically highlights the higher costs on communities from aircraft noise at night. Section 3.36 states:

'In recognising these higher costs upon local communities, we expect the aviation industry to make extra efforts to reduce and mitigate noise from night flights through use of best-in-class aircraft, best practice operating procedures, seeking ways to provide respite wherever possible and minimising the demand for night flights where alternatives are available.'

This policy is now being reviewed through an Aviation Strategy consultation which is expected to be complete in 2019. This new strategy will set the strategic objective for UK aviation and its sustainable development.

In addition, during the review of Airspace Policy in 2017, the Government stated a broader overall policy on aircraft noise as:

'…to limit and, where possible, reduce the number of people in the UK significantly affected by aircraft noise as part of a policy of sharing benefits of noise reduction with industry in support of sustainable development. Consistent with the Noise Policy Statement for England, our objectives in implementing this policy are to:

- limit and, where possible, reduce the number of people in the UK significantly affected by the adverse impacts from aircraft noise;
- ensure that the aviation sector makes a significant and cost-effective contribution towards reducing global emissions; and
- minimise local air quality emissions and, in particular, ensure that the UK complies with its international obligations on air quality.

At the time of producing this Noise Action Plan, the airport's noise policy meets and goes beyond the legal requirements set out in the APF. The airport will continue to review its policy as new information and national policy developments are set.

Further relevant UK legislation for aircraft noise is detailed below:

### The Environment Protection Act 1990

Section 79(6) of the Environmental Protection Act 1990, as amended, specifically exempts aircraft noise from the general noise nuisance controls which exist under that legislation.

### The Civil Aviation Acts 1982 and 2006

The 1982 Act gave the UK government powers to introduce noise controls to limit or mitigate the effect of noise and vibration from aircraft landing or taking off at designated airports, defined as Heathrow, Gatwick and Stansted. These powers were widened by the 2006 Act, which permits any airport authority to establish a 'noise control scheme' which may limit the numbers or types of aircraft that can be used in any given period. It also gives airport authorities the power to introduce charges and penalties designed to encourage the use of quieter or less-polluting aircraft.

### Airports Act 1986

This Act gives the Secretary of State powers to limit the number of occasions on which aircraft may land or take off at an airport and schemes to allocate airport capacity.

### The Environmental Noise (England) Regulations 2006 (as amended)

These regulations turn EU directive 2002/49 (Environment Noise Directive) into UK law. The regulations state that for the purpose of producing noise maps at 'non-designated airports' (including East Midlands Airport), the airport operator is considered to be the competent authority. The plans must:

- be drawn up for places near the airport that fall within the 55dB(A) $L_{den}$ contour or the 50dB(A) $L_{night}$ contour on noise maps;
- be designed to manage noise levels and effects, including reducing noise if necessary; and
- aim to protect quiet areas in agglomerations against an increase in noise.

Once prepared and adopted, the Noise Action Plans must be reviewed and, if necessary, revised, at least every five years and whenever a major development takes place that affects the noise climate around the airport.

[13] See https://www.acare4europe.org/sria/flightpath-2050-goals/protecting-environment-and-energy-supply-0
[14] See https://www.sustainableaviation.co.uk/progress-reports/archive/
[15] See page 11 – https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/153776/aviation-policy-framework.pdf

## The Air Navigation Order 2016

This overarching law defines requirements for certifying aircraft, regulations for how pilots must operate aircraft in the UK and rules for how air traffic control must be arranged and managed. It was last reviewed and updated in 2016[16].

## The Aerodromes (Noise Restrictions) (Rules and Procedures) Regulations 2003

These regulations turn EU Directive 2002/30 into UK law. They apply to major airport operators with over 50,000 civil jet aircraft movements a year and reflect the adoption of the ICAO balanced approach to managing aircraft noise. Additionally, the regulations define procedures which airports should follow when considering operating restrictions based on aircraft noise.

## Aeroplane Noise Regulations 1999

These regulations define the noise certificate requirements for both propeller and jet aeroplanes registered in the UK. It ensures that no aircraft can land or take off in the UK without a valid noise certificate. The regulations are based on the noise certification standards and limits issued by ICAO, (e.g. Chapter 3 and 4 aircraft). They also provide a list of aircraft that are exempt from the ICAO noise certification.

## Airspace Policy

The policy for how UK airspace is designed and how aircraft operate within it was reviewed in 2017[17]. This was to establish a framework for how UK airspace can be improved to accommodate predicted future growth in aviation whilst addressing noise, emissions and flight delay issues. During the consultation the Government focussed on the need for an airspace framework which ensured a greater focus on industry and communities working together to find ways to manage noise impacts. To support this the Government implemented a range of proposals including:

- **A new Secretary of State Call in Power** on airspace modernisations that are of national importance, providing high level direction and a democratic back-stop on the most significant airspace modernisation decisions;
- **Important changes to aviation noise compensation policy**, to improve fairness and transparency. This includes bringing compensation policy for airspace modernisations in line with policy on changes to aviation infrastructure and considering locally agreed compensation for increased overflight due to an airspace modernisation;
- **The creation of an Independent Commission on Civil Aviation Noise (ICCAN)** – The body will help ensure that the noise impacts of airspace modernisations are properly considered and give communities a greater stake in noise management. ICCAN will be set up as a new non-departmental public body of the DfT. It is expected that this body will be operational in early 2019.
- **A new requirement for options analysis in airspace modernisation**, to enable communities to engage with a transparent airspace modernisation process and ensure options such as multiple routes are considered.
- **New metrics and appraisal guidance to assess noise impacts** and their impacts on health and quality of life. This will ensure noise impacts are considered much further away from airports than at present.

This came into effect in January 2018 and it will form part of an overall modernisation strategy, which is currently subject to consultation (CAP1690)[18]. The new approach seeks to ensure that modern standards for regulation are met and that the decision making process is fair, transparent, consistent and proportionate.

This new approach is intended to deliver modern airspace arrangements that meet the UK's obligations under the Single Skies and the ICAO GNAP. At EMA, we will begin to formulate our local plans in 2018/19, in conjunction with NATS and other airports in the Midlands and North of England we expect to consult on them thereafter. The new process (CAP1616) requires a minimum of two years to complete a change and we would anticipate that our changes will be completed and implemented by 2024.

## National Planning Policy Framework

The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how it expects those policies to be applied by local authorities. The NPPF sets out the approach to Local Plan policy and says that when considering planning applications for developments that could be affected by noise and those which could generate noise, authorities should aim to do the following:

- prevent noise arising because of new developments having a major negative effect on people's health and quality of life;
- keep other negative effects which noise from new developments has on people's health and quality of life to a minimum;
- recognise that developments will often create some noise and a business, to grow, should not have unreasonable restrictions placed upon it because of changes in land use that have arisen since their business was established;
- identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

[16] See http://www.caa.co.uk/Blog-Posts/The-revised-Air-Navigation-Order/
[17] See https://www.gov.uk/government/publications/uk-airspace-policy-a-framework-for-the-design-and-use-of-airspace
[18] See https://consultations.caa.co.uk/policy-development/draft-airspace-modernisation-strategy/
[19] See https://www.gov.uk/government/publications/noise-policy-statement-for-england

This policy has simplified and replaced much more detailed guidance that was provided in previous national policy on planning and noise in Planning Policy Guidance Note 24. Sustainable Aviation continue to work closely with the Government to develop more detailed planning guidance for Local Authorities and we welcome this initiative.

### Noise Policy Statement England (NPSE)

The Noise Policy Statement for England (2010) sets out the long-term vision of government noise policy[19]. A policy vision was set in this document to:

'Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development.'

A number of objective and principles were set to achieve this vision which are taken into account in this Noise Action Plan. The NPSE also introduces two key concepts:

- The Lowest Observed Adverse Effect Level (LOAEL). This is the level above which adverse effects on health and quality of life can be detected
- The Significant Observed Adverse Effect Level (SOAEL). This is the level above which significant adverse effects on health and quality of life occur.

The first aim of the NPSE states that significant adverse effects on health and quality of life should be avoided while also taking into account the guiding principles of sustainable development.

The second aim of the NPSE refers to the situation where the impact lies somewhere between LOAEL and SOAEL. It requires that all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development. This does not mean that such adverse effects cannot occur.

### Noise Research

In the Government's response on Airspace Policy they acknowledged the evidence from a 2014 Survey of Noise Attitudes[20] which showed that sensitivity to aircraft noise has increased, with the same percentage of people reporting to be highly annoyed at a level of 54dB $L_{Aeq}$ 16-hour as occurred at 57dB $L_{Aeq\ 16\text{-}hour}$ previously. The research also showed that some adverse effects of annoyance can be seen to occur down to 51dB $L_{Aeq}$. In acknowledging this the Government stated they will adopt a risk based approach so that airspace decisions are made in line with the latest evidence and consistent with current guidance from the World Health Organisation. This will be include setting a lowest observed adverse effect level (LOAEL)[21] at 51dB $L_{Aeq\ 16\text{-}hour}$ for daytime, and 45dB $L_{Aeq}$ 8-hour at night. The Government expect that these metrics will ensure that the total adverse effects on people can be assessed and airspace options compared.

Further noise research is also expected to be carried out during the period of this Noise Action Plan. This is to improve understanding on health and quality of life outcomes in areas affected by aircraft noise and how this can be clearly evidenced with frequency-based noise metrics and to better understand how aircraft noise effects on communities in rural and urban areas may vary.

### Sustainable Aviation

Launched in 2005, Sustainable Aviation[22] is a long-term strategy for the UK aviation industry. It brings together airlines, airports, manufacturers and air traffic service providers. Its main aim is to make sure the industry can develop sustainably over the long term and we have signed up to the strategy and will continue to contribute to its work and play our part in achieving its commitments, particularly those about controlling aircraft noise.

In 2013, Sustainable Aviation launched its' Noise Road-Map and has regularly reported on progress since. The Road Map has been conceived around the four elements of the ICAO's 'balanced approach', adding communication and community engagement. The Road-Map looks at how the aviation industry can manage aircraft noise between now and 2050. It also acts as a toolkit for airports to introduce measures to reduce the effect of noise impact from aircraft operations.

## LOCAL AIRCRAFT NOISE POLICY

### Sustainable Development Plan 2015

Since 2003 the Government has required airport operators to produce master plans which set out their approach to developing the airport. Planning authorities will take these plans into account when preparing regional and local policies and making planning decisions. The latest Sustainable Development Plan[23] for East Midlands Airport and was published in 2015. It is supported by four detailed plans covering community, surface access and the economy, land use and environment.

Our 2015 Environment Plan sets our aim to make the best use of natural resources and minimise the environmental impact of our operations. We will also continue to integrate environmental management into our business processes to ensure that the best environmental practice is carried out. This builds on our long term environmental programme within which East Midlands Airport became the first airport in the UK to obtain certification to the ISO14001 environment standard. The chapter on noise in the Environment Plan is consistent with and compliments the 2013-2018 Noise Action Plan. The objectives for managing aircraft noise are included in the Environment Plan (part of the Sustainable Development Plan). The long-term aim is to limit and reduce where possible, the number of people affected by noise as a result

[20] See http://publicapps.caa.co.uk/modalapplication.aspx?appid=11&mode=detail&id=7744
[21] This is the level above which adverse effects on health and quality of life can be detected
[22] See http://www.sustainableaviation.co.uk/
[23] See http://www.eastmidlandsairport.com/about-us/development-plan/

of the airport's operation and development. The Sustainable Development Plan will be reviewed in 2019 – 2020 and this Noise Action Plan will be included as part of the updated Environment Plan.

## Planning Policy

We work closely with local planning authorities when they are preparing their local development plans. This supports the balanced approach and helps to make sure that local planning policies are in line with guidance set out in the National Planning Policy Framework. Such policies can be found in the North West Leicestershire, South Derbyshire and Rushcliffe Borough Council Local Plans. In 2017 North West Leicestershire District Council adopted their latest Local Plan which made the following statement about noise in the context of permitted growth of East Midlands Airport;

"The growth of East Midlands Airport will be supported provided development that gives rise to a material increase in airport capacity or capability…incorporates measures that will reduce the number of local residents affected by noise as a result of the airport's operation, as well as the impact of noise on the wider landscape;"

## Airport Planning Conditions

Planning permission was granted by North West Leicestershire District Council in 2011 for the construction of a 190m extension to the runway. The extension works have been formally commenced and this has triggered a number of environmental and community obligations. These include legally formalising the Sound Insulation Grant Scheme and the establishment of a night noise envelope. The planning condition relating to night noise requires that the area enclosed by the 55dB $L_{Aeq\ (8\text{-}hour)}$ night noise contour shall not exceed 16km². This legal night noise limit is a key part of the airports noise controls and is referred to as a night noise envelope throughout this Noise Action Plan. The Airport provides an annual monitoring report to the District Council and the night noise contour remains well within the noise envelope limit.

## Aeronautical Information Package (UK AIP)

This includes specific controls for managing aircraft noise at individual UK airports in line with international and national standards and controls. These controls cover aspects such as Continuous Descent Approaches (CDAs), Noise Preferential Routes (NPR's), noise abatement procedures and night flight restrictions. A copy of the UK AIP for East Midlands Airport detailing the Noise Abatement Procedures can be found at **http://www.nats-uk.ead-it.com/public/index.php.html**

## Airport Charges

At East Midlands Airport we have introduced differential charges to incentivise the use of quieter and cleaner aircraft. These are available on the airport website in a document entitled "Fees and Charges"[24].

## Airport Independent Consultative Committee

The East Midlands Airport Independent Consultative Committee (ICC) is made up of 35 members representing local authorities, community groups and user groups. It meets every four months to consider the airport's performance and any matters of concern. The Committee has two sub-groups with the Monitoring, Environment, Noise and Track group (MENT) being the group which looks at the noise performance of the airport.

[24] See http://www.eastmidlandsairport.com/about-us/fees-and-charges/

# 7. NOISE CONTROLS

At East Midlands Airport we have a long track record of developing policies and taking action to minimise our effect on the environment. In relation to aircraft noise we will continue to work closely with our airline customers and our air traffic controllers so that together we can develop this work to provide real and lasting benefit.

The national policy for aircraft noise is summarised in Section 6. This policy has continued to evolve since the last Noise Action Plan.

**In particular, the Government has introduced a new policy aim that seeks to ensure that local communities benefit from the introduction of more modern and quieter aircraft 'as part of a policy of sharing benefits of noise reduction with industry in support of sustainable development'.**

Also, Government introduced a new night noise policy for the designated airports; 'to limit or reduce the number of people significantly affected by aircraft noise at night, including through encouraging the use of quieter aircraft, while maintaining the existing benefits of night flights'. Whilst it does not apply directly to East Midlands Airport, this new policy is useful context for the airport's Noise Action Plan.

We welcome the current Government's review of aviation strategy and their further exploration of ways to improve the reporting and management of aircraft noise. When estimating where local communities are most likely to be 'significantly affected' by aircraft noise, policy is increasingly giving greater weight to the lower 54dB $L_{Aeq\ 16\text{-}hour}$ contour, rather than the 57dB $L_{Aeq\ 16\text{-}hour}$ contour, which has been used for many years. Given the range of different responses to aircraft noise, summarised in Figure 1, policy suggests that considering noise impact at this lower noise level should be part of a broader risk based approach. These broader policy developments have informed the development of this draft plan.

## REVIEW OF EAST MIDLANDS AIRPORT'S LONG-TERM OBJECTIVES

Currently our long-term noise aim is to 'limit and reduce where possible the number of people affected by noise as a result of the airport's operation and development'. The airport has reviewed this approach considering the policy changes summarised above and we believe it is still appropriate and in line with existing and emerging Government policy. We do however plan to expand our environmental objectives in support of this wider aim.

In developing our long-term environmental strategy, we have adopted a balanced approach, as required by the ICAO regulatory framework and recognised the increasing need to work collaboratively with others to explore options to minimise noise from aircraft operations.

We have revised our Long-Term Environmental Objectives in relation to aircraft noise as follows:

- Continue to ensure that the area of the 55dB ($L_{Aeq\ 8\text{-}hour}$) summer noise contour does not exceed 16 square kilometres;
- Encourage and incentivise the use of quieter aircraft and;
- **NEW**: Optimise aircraft operating procedures at the airport to minimise noise and;
- **NEW**: Work with local planning authorities to discourage new noise sensitive development in areas affected by aircraft noise and;
- **NEW**: Continually improve how we work in collaboration with communities, regulators and industry partners to explore options to reduce.

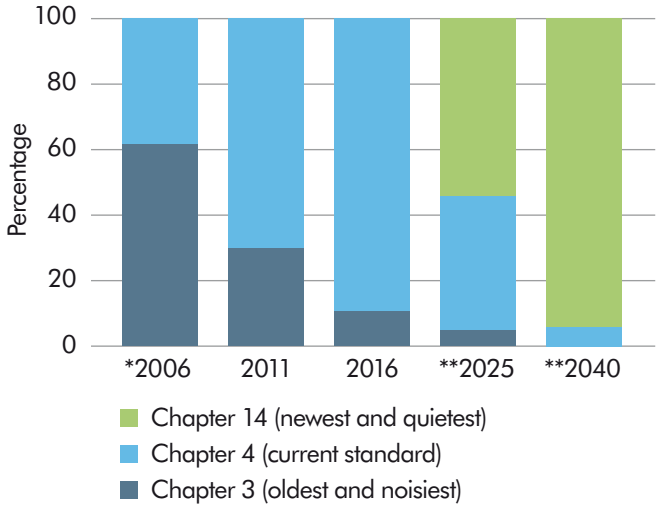
## CURRENT PERFORMANCE

This section summarises the airport's performance against our two critical noise controls. Further details of the progress we have made since the publication of our last Noise Action Plan can be found in Appendix E.

Our aim for 100% of night flights to be operated by aircraft complying with the requirements of ICAO Chapter 4.

The percentage of aircraft operations at night that meet the requirements of Chapter 4 continues to increase rising from 70% in 2011, to 89% in 2016 and 96% in 2017. As can be seen from the chart below, this rate of phase out is faster than was forecast when we produced the Sustainable Development Plan. Creating the right incentives to address the remaining operations by aircraft that do not meet the requirements of Chapter 4 is important and in our actions, NAP 3 and NAP 5, we have brought forward actions to ensure that the cost to airlines to operate these older and noisier aircraft increases. We anticipate that these measures will eliminate all such operations within the lifetime of this Noise Action Plan.

NIGHT MOVEMENTS BY AIRCRAFT NOISE CHAPTER




*Based on 35 weeks of 2005 data and used as a proxy for 2006

**Forecasts from the EMA Sustainable Development Plan

Secondly, our commitment, formalised in a planning condition on an extension to the airport's runway set by North West Leicestershire District Council, that our 'night noise envelope' (based on the 55dB $L_{Aeq\ 8\text{-}hours}$) will not exceed an area of 16 square kilometres. The airport is operating well within this limit, and annual reports on compliance with this planning condition are submitted to the local planning authority and the airport's Independent Consultative Committee.

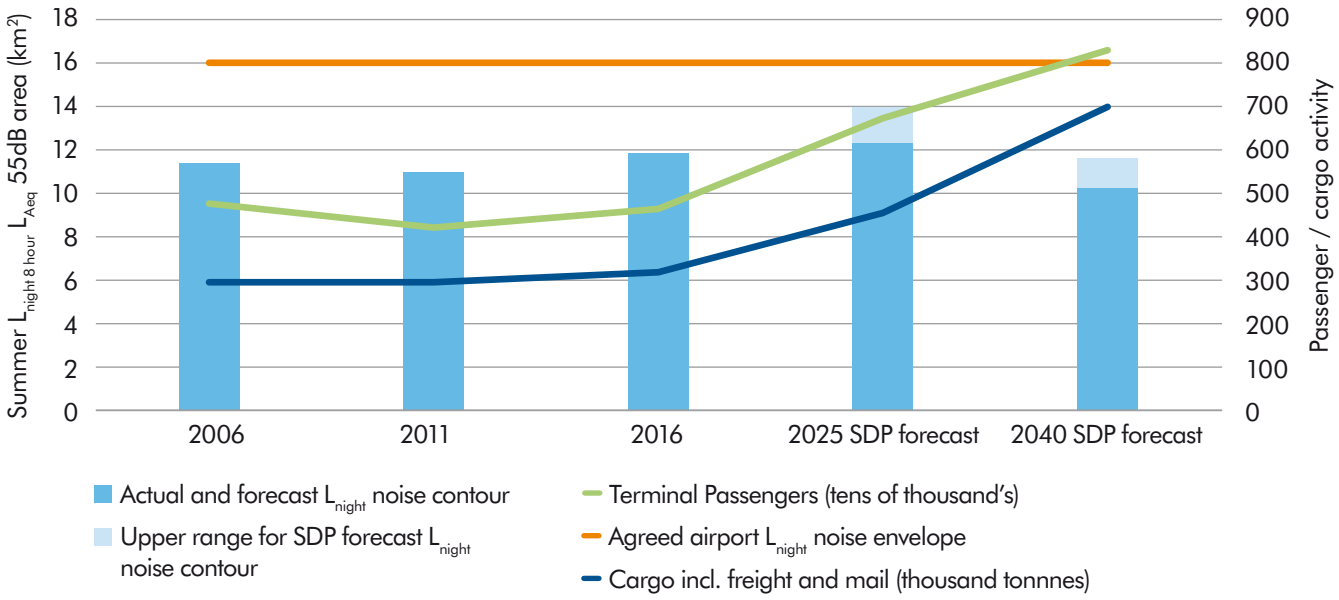
Airport growth has been delivered sustainably, with only a slight increase in the noise contour area of 0.5km² during the last 10 years. We also have entered into a legal agreement with North West Leicestershire District Council (under Section 106 of the Town and Country Planning Act) to formalise the requirement for, and the operation of, the airport's Sound Insulation Grant Scheme.

The future growth of aircraft activity will remain within the noise envelope at all times. In 2013, the forecast we prepared to inform our Sustainable Development Plan indicated that there would be some growth in the contour area in the next few years and that, in the longer term, the transition to quieter Chapter 14 aircraft would return the contour to today's levels and then further reduce its size below today's level. We will prioritise actions that create the right incentives for airlines to switch to quieter aircraft. We expect these measures will make sure this transition is as fast as can be practically achieved and that any increase in the noise contour is kept to a minimum. We will update our assessment of the future noise contour when we next update our Sustainable Development Plan.

This new Noise Action Plan sets out 36 measures. In combination, we believe that these measures will ensure the we deliver against our new environmental objectives.

Appendix H of the Supplementary Information details the impact area of each action, the number of people affected, the expected costs and benefits of each action, it's performance indicator and reporting mechanism and the timescales for delivery.

## PERFORMANCE (ACTUAL AND FORECAST) AGAINST AGREED NIGHT NOISE ENVELOPE



## PROPOSED EAST MIDLANDS AIRPORT NOISE CONTROLS FOR THE 2019-2023 PLAN

Reflecting the results summarised above, we propose the following actions.

## ACTION STATUS KEY

New action

Modified action from previous Noise Action Plan

Retained action from previous Noise Action Plan

| ACTION STATUS | CONTROL | ACTION |
|---|---|---|
| | **NAP 1: Night Noise Envelope** | Monitor, manage and annually report on performance against the airports 55dB $L_{Aeq}$ (8-hour) summer night time noise contour, aiming to progressively reduce it and ensuring it does not exceed 16km$^2$. |
| | **NAP 2: Chapter 4 operations** | Introduce new actions to ensure that the cost to airlines to operate older and noisier aircraft increases to accelerate progress towards our target of 100% of night flights to be by aircraft meeting the requirements of Chapter 4. We will publicly report the progress we have made. |

## COST BENEFIT ANALYSIS

By limiting and in future years potentially reducing the number of people exposed to significant noise levels, the benefits from these actions will accrue over time. These benefits are largely due to the progressive introduction of different aircraft, which are more modern and quieter. These benefits can be delivered whilst simultaneously realising substantial forecast growth in activity and the socio-economic benefits that will result. The associated costs could vary widely depending on the new aircraft purchases made by the airlines, they will though be substantial and in the order of tens of millions, although these costs are not only incurred to meet noise regulations. The costs associated with preparing annual airport noise contours and the ongoing airport noise monitoring and reporting resources will continue be absorbed by the airport.

# 8. NIGHT NOISE

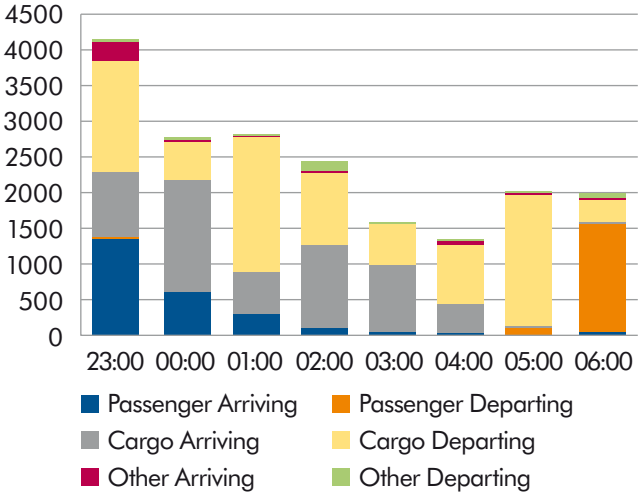
As noted in the early sections of this draft Noise Action Plan, the Airport recognises that night time noise from aircraft operations is often the most intrusive. So, it is important that our controls for night noise strike a difficult balance between the economic and social benefits that night operations bring to the East Midlands region and the wider UK and the local disturbance they create.

## CURRENT PERFORMANCE

This section summarises the airport's current noise controls and reviews relevant performance in recent years. Further details can be found in Appendix E.

The chart shows what sort of night flights occur at the airport each hour. In 2016 there were 19,100 flights between 23:00 and 07:00. The majority, just under 14,000 of these were cargo flights with passenger flights accounting for just over 4,000. The remaining flights were a mix of positioning, military and emergency flights.

### 2016 EMA NIGHT FLIGHTS BY PURPOSE AND HOUR




The level of noise generated by each aircraft as it departs is measured by noise monitors positioned at a number of fixed points beneath the departure flight paths. The airport has set limits for the noise levels recorded at these points, which are published in the airport Schedule of Charges. For flights that generate noise levels above published limits we issue the airline with a financial penalty known as a noisy aircraft penalty. The size of the penalty depends on the level of the noise recorded. The maximum level of noise a departing aircraft is permitted depends on the maximum take-off weight of the aircraft – limits for smaller aircraft types are lower.

Aircraft departing between 23:00 to 07:00 (Winter) and 22:00 to 06:00 (Summer) are required to operate within a maximum noise limit (measured at a distance of 6.5 km from start of the take off run). The maximum noise limits are defined as follows.

| DEFINITION LIMIT | (DB(A)) |
|---|---|
| Aircraft with a maximum take off weight (MTOW) of 300 tonnes or greater | 92 |
| Aircraft with a MTOW greater than 100 tonnes but less than 300 tonnes | 87 |
| Aircraft with a MTOW of 100 tonnes or less | 83 |

Aircraft that exceed a maximum noise limit will be subject to a penalty of £750 sterling for an infringement of 1 decibel or less and an additional penalty of £150 sterling for each decibel thereafter.

The money raised from the penalties is donated to the East Midlands Airport Community Fund. Since 2013, there has only been one aircraft which has exceed the limits.

To ensure that our night noise penalty scheme remains relevant and appropriate, we propose some revisions. We propose to reduce the maximum noise limit for departing aircraft less than 100 tonnes from 83dB to 81dB. Aircraft exceeding this maximum limit will pay £750 for the first decibel over the limit and a further £150 for each additional decibel over the limit. All noise monitoring results will be adjusted to take account of the discrepancy in the 'real' monitoring position and the 'ideal'. The limits will be set to provide a realistic but challenging limit for Chapter 4 aircraft. This means that the headline limit will change for aircraft below 100 tonnes but the limits for medium (200-300 tonnes) and large (greater than 300 tonnes) will remain unchanged. The effectiveness will be reviewed by periodic reports to the ICC.

Another aspect of our night-period noise controls is a system of classifying aircraft according to their 'quota count'. This classification system is published by the Government, it gives each aircraft a 'quota count' depending on the noise it generates on take-off and when landing (based on the noise levels measured at the time that aircraft was first introduced). There are seven categories of quota count and these double with each increase of three decibels. Aircraft are given a quota count (QC) as follows.

| CERTIFIED NOISE LEVEL (DECIBELS) | QUOTA COUNT |
|---|---|
| More than 101.9 | QC16 |
| 99 to 101.9 | QC8 |
| 96 to 98.9 | QC4 |
| 93 to 95.9 | QC2 |
| 90 to 92.9 | QC1 |
| 87 to 89.9 | QC0.5 |
| 84 to 86.9 | QC0.25 |
| Less than 84 | None |

We have placed restrictions on the use of aircraft with higher quota counts. Aircraft with quota counts of QC8 or QC16 can not be scheduled to operate between 23:00 and 07:00 and will only be allowed to take-off in exceptional circumstances. These flights are charged at the highest night supplement rate and are also subject to an additional noise surcharge of £5,000 or £10,000 for QC8 or QC16 aircraft respectively. We donate all the money from these surcharges to the East Midlands Airport Community Fund. These restrictions have contained the use of the noisiest aircraft as since 2013, only one aircraft has taken off in exceptional circumstances and incurred this charge.

To ensure the noisiest aircraft continue to be discouraged from operating at night, we propose to introduce a new surcharge which will apply to QC4 aircraft. This will include departures of Boeing 747-400 and McDonnell Douglas DC-10 aircraft. We also propose that all proceeds from the charge continue to be donated directly to the Airport Community Fund.

Flights between 23:30 and 06:00 are subject to additional charges based upon the QC category of the aircraft. In the case of passenger flights, this is a 25% surcharge applied to aircraft that do not meet at least QC2 on departure. For cargo flights – arrivals and departures – the surcharge is based upon both the weight and the QC category of the aircraft. Cargo flights departing between 21:00 and 23:30 and between 06:00 and 07:00 are subject to additional charges based upon the weight of the aircraft.

The continued use of relatively small numbers of noisier aircraft types can have a significant effect on our performance indicators for noise. We know that often, it is these aircraft which also cause the most disturbance for our local communities. Our Sustainable Development Plan sets set the objective to achieve 100% Chapter 4 operations at night. In this Noise Action Plan we set a further ambition that by 2040 all aircraft operating at night will comply with the new ICAO Chapter 14 noise regulations. We will work with our airlines in achieving this and report progress to MENT and the ICC.

To further reduce noise disturbance to local communities at night, aircraft taking off in a westerly direction (Runway 27) are expected to use an 'intersection departure', entering the runway from taxiway Whiskey. This moves the aircraft further from the village of Kegworth, reducing the local noise impact.

## FUTURE PERFORMANCE

The 2015 Sustainable Development Plan sets out future forecasts for growth in flights and it indicates cargo activities could generate around 42,600 aircraft movements by 2040 [see section 2 for more details]. The airport is committed to ensuring this growth occurs within existing legal noise limits for night flights (our noise envelope). We also want to see that aircraft operating at night are as quiet as technology and operations allow. To achieve this we will:

- continue to review the effectiveness of our noise related charges to ensure night noise is minimised.
- explore opportunities through the airspace modernisation process to minimise noise during arrival and departure operations.

## PROPOSED EAST MIDLANDS AIRPORT NIGHT NOISE CONTROLS FOR THE 2019-2023 PLAN

Based on the results of the noise mapping and changes to our night noise envelope, we want to improve the effectiveness of our noise controls at night. Reflecting this we propose the following actions.

### ACTION STATUS KEY

- New action
- Modified action from previous Noise Action Plan
- Retained action from previous Noise Action Plan

| ACTION STATUS | CONTROL | ACTION |
|---|---|---|
| | **NAP 3: Noisy aircraft penalty** | Apply correction factors to the monitored noise results to take account of the fixed noise monitors not being at the ideal position of 6.5km from the start of the aircraft take off run. This is to enable the most accurate recording and the implementation of noise penalties.<br><br>Reduce the maximum noise limit for departing aircraft less than 100 tonnes from 83dB to 81dB. By April 2019 Aircraft exceeding this maximum limit will pay £750 for the first dB over the limit and a further £150 for each additional dB over the limit. The noise limits for other aircraft will remain the same. |
| | **NAP 4: QC4, QC8 and QC16 surcharges** | Maintain the existing ban on scheduled QC8 and QC16 aircraft operating at night. By April 2019, introduce a new noise surcharge of £2,500 per QC4 aircraft departure between 23:00-07:00. This is in addition to the existing noise surcharges for any QC8 and QC16 night departures approved under exceptional circumstances. Recognising the practical challenges faced by airlines which may need to upgrade their fleets, for scheduled services this charge will be phased in over the course of the Noise Action Plan. For ad-hoc operators the charge will be effective in full from April 2019.<br>All proceeds from the charge are to be donated to the Airport Community Fund. |
| | **NAP 5: Review effectiveness of noise related charges to incentivise the use of Chapter 14 compliant aircraft at night** | Review our existing noise charges and change them where required to incentivise the operation of aircraft in the daytime wherever possible and to ensure that, where night time operations are necessary, they are undertaken by quieter aircraft types. The principles we propose to inform the review are:<br><br>1. Night-time operations should incur a premium,<br>2. Chapter 3 aircraft that continue to operate at night should incur a premium,<br>3. Chapter 14 aircraft that operate at night should receive an incentive.<br><br>It is proposed that the review is completed within 12 months and the effectiveness of the revised arrangements is reviewed at the end of the Plan (i.e. 2023). During the review we will continue to apply noise-related supplements to flights that operate during the night, detailed in the Airport Schedule of Charges. |

## COST BENEFIT ANALYSIS

Benefits from these actions are likely to improve over time as quieter aircraft are introduced. It is anticipated that additional costs may result for operators following the review of noise charges as well as through the introduction of the QC4 surcharge. Precise amounts will vary depending on the operators' performance and how quickly they switch to quieter aircraft. Other costs associated with the ongoing airport noise monitoring and reporting resources will be absorbed by the airport.

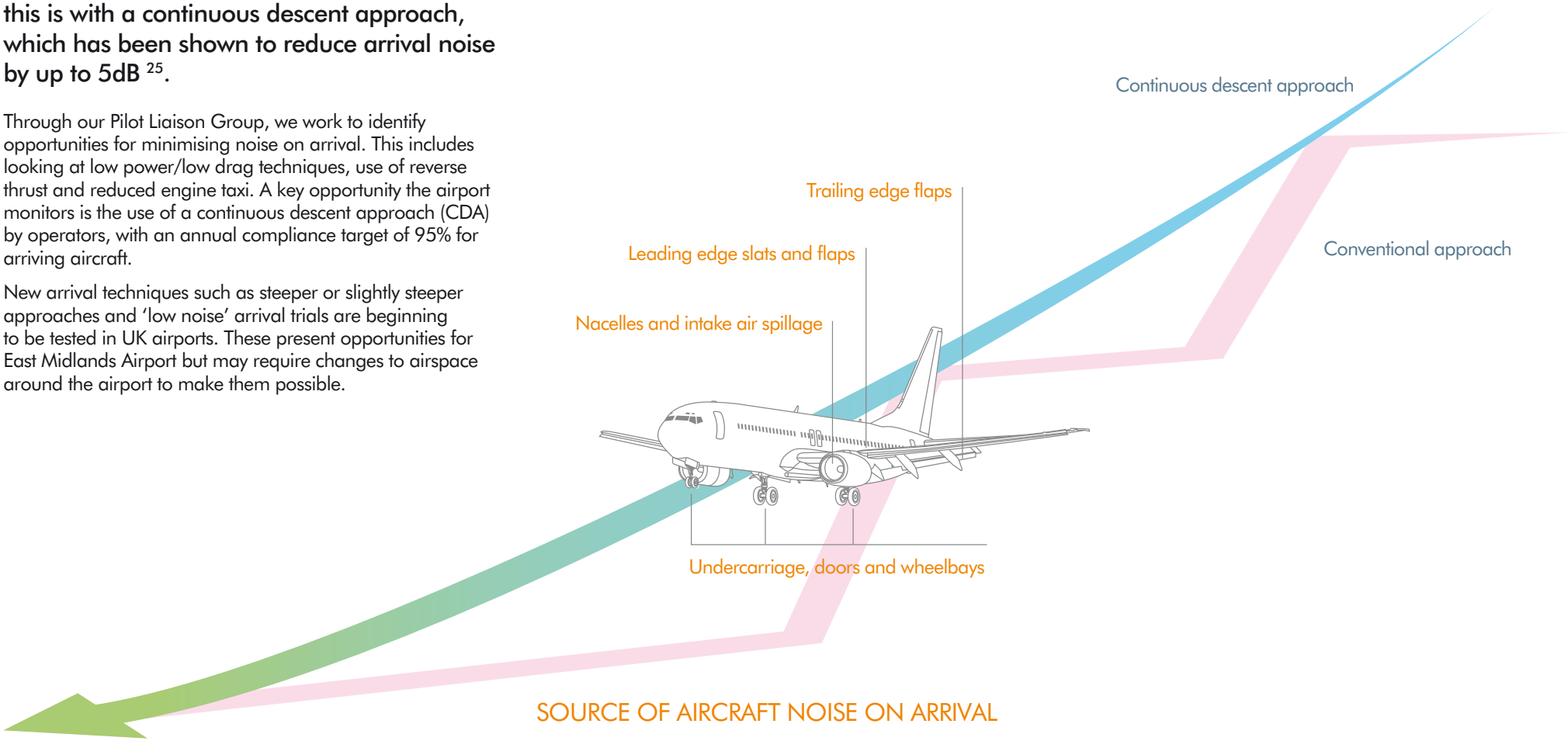
# 9. ARRIVING AIRCRAFT

Noise from arriving aircraft is mainly generated from how the air flows over the structure of the aeroplane. This is because the engines are normally operating at quite a low thrust setting. The noise increases the lower the aeroplane is and the closer it gets to the airport. It also increases as the pilot lowers the landing gear and flaps, in readiness for landing.

**Our actions seek to minimise noise from arriving aircraft whilst meeting all flight safety requirements. The primary method of doing this is with a continuous descent approach, which has been shown to reduce arrival noise by up to 5dB [25].**

Through our Pilot Liaison Group, we work to identify opportunities for minimising noise on arrival. This includes looking at low power/low drag techniques, use of reverse thrust and reduced engine taxi. A key opportunity the airport monitors is the use of a continuous descent approach (CDA) by operators, with an annual compliance target of 95% for arriving aircraft.

New arrival techniques such as steeper or slightly steeper approaches and 'low noise' arrival trials are beginning to be tested in UK airports. These present opportunities for East Midlands Airport but may require changes to airspace around the airport to make them possible.




[25] See page 5 of the Noise from Arriving Aircraft (2006) Code of Practice https://www.sustainableaviation.co.uk/goals/noise/

## CURRENT PERFORMANCE

This section summarises the airport's arrival noise performance in recent years. Further details can be found in Appendix E.

CDA performance has reduced by 3% since 2013. This is due to the following reasons:

- The changing mix of aircraft using the airport – in late 2012 a new home-based operator started flying smaller propeller aircraft. During increased traffic periods and to maintain flight safety requirements, some jet aircraft are given speed control and/or extensions to their arrival track to fit in with these new aircraft. This has led to some aircraft levelling off for longer than the maximum distance specified in the CDA criteria
- Operators that use the airport infrequently – pilots that do not regularly fly to the airport are less familiar with the CDA requirements and some can struggle to achieve the criteria
- Avoidance of severe weather – to maintain safety pilots will stop landing approaches and fly around severe weather. In doing so some aircraft will level off and therefore fail to meet the CDA criteria.

The airport has raised awareness about the drop in performance through the Pilots Liaison Group and will continue to work with operators to improve future performance. Emerging work on a new 'Low Noise Arrivals' technique offers a good opportunity for improvements and will be closely monitored by the airport and encouraged in future.

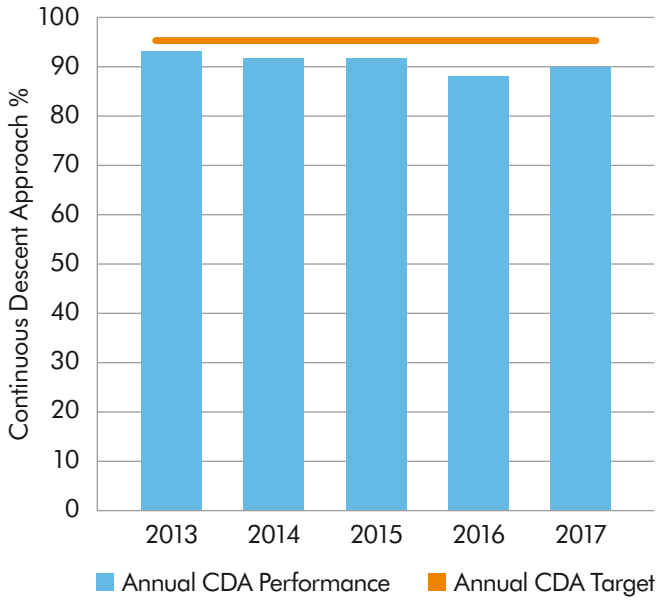
Regarding the use of reduced engine taxi, this procedure has been discussed with operators through our Pilots Liaison Group. To meet flight safety requirements, engine manufacturers require the pilots to run all the aircraft engines for a minimum period before take-off and after landing.

Due to the short taxi times there is only very limited ability to carry out reduced engine taxi at East Midlands Airport.

Whilst this action has been met, currently there is limited scope for application at East Midlands Airport. We will continue to monitor developments in this area.

Our actions on the use of reverse thrust and ground power have also been met.

### CONTINUOUS DESCENT APPROACH PERFORMANCE AGAINST TARGET




## PROPOSED EAST MIDLANDS AIRPORT ARRIVING AIRCRAFT ACTIONS FOR THE 2019-2023 PLAN

It is clear that some extra focus is required to improve continuous descent approach performance at the airport. Airspace modernisations are also planned to take place during the next five years to both the north and south of the airport. These are expected to require changes to the existing arrival routes to the airport.

The use of satellite navigation technology to design specific arrival routes is something the airport wants to explore with our communities. Options to be considered include steeper and curved approaches. Whilst at this time technology to support curved approaches has not received regulatory approval, we will monitor developing technology and techniques closely and if it is practical to do so, we will consider the option of curved approaches. Reflecting the performance so far, along with our knowledge of planned changes and emerging opportunities, we propose the following actions.

## ACTION STATUS KEY

New action

Modified action from previous Noise Action Plan

Retained action from previous Noise Action Plan

| ACTION STATUS | CONTROL | ACTION |
|---|---|---|
| | **NAP 6: Continuous descent approach** | Improve our CDA performance to achieve a target of 98% for arrivals by 2023. This will include a review of the continuous descent approach criteria once the Sustainable Aviation 'low noise arrival' study is complete (anticipated in 2019) |
| | **NAP 7: Steeper approaches** | Work with airlines, air traffic control and regulators to evaluate the feasibility and noise benefits of steeper approaches by 2023. Then, if proven, take forward an airspace modernisation proposal with the operators and communities' support. |
| | **NAP 8: Specified arrival routes** | Starting in early 2019, explore with the communities the options for specified arrival routes to the airport using new satellite based navigation technology, seeking to reduce noise impacts. Then, if proven, take forward an airspace modernisation proposal with the operators and communities' support and implement by 2023. |
| | **NAP 9: Low power, low drag approaches** | Work with operators to improve compliance with the published low power, low drag procedure. This includes reviewing operating instructions following the outcome of the Sustainable Aviation 'Low Noise Arrival' work anticipated in 2019. |

## COST BENEFIT ANALYSIS

Benefits of the new actions will need to be determined through the options analysis process as detailed in the CAA Airspace Design Guidelines. The new actions proposed will incur a cost both from a staff resource provision and charges incurred in applying for an airspace modernisation. Additional costs can be expected from the technical design of options and consultation exercises on the options with stakeholders. In proposing the actions, the airport anticipates that the benefits will exceed the costs but acknowledges this requires further work.

# 10. ON THE GROUND

This section refers to aircraft ground movements, once they have left the runway. Our previous Noise Action Plan did not separately consider these operations. Previous actions on aircraft ground movements will be reviewed under their previous sections.

At present there are a number of regulations in place to reduce ground noise at the airport. These are published in the AIP and cover the use of reverse thrust on landing, engine testing and the use of the aircraft auxiliary power unit (APU). Emerging opportunities to reduce noise from aircraft ground operations are also being explored.

Sustainable Aviation has a code of practice for reducing the environmental impacts of ground operations[26]. This promotes minimising the use of the APU in favour of ground based power and use of reduced engine aircraft taxi. Much of this work offers opportunities to reduce noise as well. At the time of writing the UK aviation industry is also exploring two areas which give opportunities to reduce ground noise.

- Working together to improve the aircraft turnaround. This is a collaborative piece of work, led by MAG, with airport, ground handling, airline and air traffic staff. The aim is to minimise the emissions and noise from aircraft turnarounds.
- Optimising ground taxi times. This is again collaborative work between the airport, airlines and air traffic staff to reduce delays, emissions and noise for aircraft whilst taxing to and from the runway.

We will continue to learn from best practice and work being carried out elsewhere and will continue to work with our local stakeholders to see how this can be best implemented.

Minimising night noise from vehicle movements at the airport is a further opportunity we intend to explore in this Noise Action Plan.

## PROPOSED EAST MIDLANDS AIRPORT 'ON THE GROUND' ACTIONS FOR THE 2019-2023 PLAN

Reflecting the performance so far, plus our knowledge of emerging opportunities, we propose the following actions.

### ACTION STATUS KEY

- New action
- Modified action from previous Noise Action Plan
- Retained action from previous Noise Action Plan

| ACTION STATUS | CONTROL | ACTION |
|---|---|---|
| | **NAP 10: reduced-engine taxi** | Continue to promote the use of reduced engine taxi at the airport where it is practical and beneficial to do so. |
| | **NAP 11: Use of Aircraft Ground Power** | Work with our industry partners to identify and encourage quieter ways to service aircraft, for example through the use of alternatively fuelled vehicles and equipment. |
| | **NAP 12: Use of intersection departures** | We will continue to promote and encourage the increased use of intersection departures, especially from Runway 27 at night to reduce ground noise for local communities. |
| | **NAP 13: Review effectiveness of ground noise procedures** | We will carry out a review into the effectiveness of our ground noise procedures and explore options for how these can be improved by end 2020. |
| | **NAP 14: Night time vehicle noise** | We will work with our business partners to identify and implement measures to minimise noise from vehicle movements on the airport at night. This will be informed by consultation with our immediate community representatives and be established by the end of 2019. |

## COST BENEFIT ANALYSIS

The benefits of the modified actions are anticipated to be limited to those communities very close to the airport that are affected by ground noise. We will assess this benefit based on changes to ground noise complaints received and specific feedback from the community. Costs for the aircraft operators are expected to be small and could result in financial savings if the auxiliary power units use is reduced. Costs to provide new or modified ground equipment are likely to be significant but staff training costs are expected to be relatively small. The airport anticipates that the work being conducted by Sustainable Aviation will provide more details, enabling a more detailed cost benefit assessment in future.

[26] See http://www.sustainableaviation.co.uk/wp-content/uploads/2015/09/Departures-Code-of-Practice-June-2012.pdf

# 11. DEPARTING AIRCRAFT

Noise from departing aircraft is generally the most intrusive for people living near the airport. The largest source of departure noise is from the aircraft engines which are operating close to their maximum on take-off and initial climb out.

There are two main ways to reduce the level of departure noise heard by people near the airport.

1. Direct the aircraft away from areas of population using agreed noise preferential routes (NPRs). Each NPR is designed as a corridor with a centre line and an area of tolerance each side with the maximum width known as a 'swathe'. All flights operating within the swathe are determined to be on track. The number of flights following our NPRs has become a very important performance indicator for us. We routinely report performance against this indicator to airlines, air traffic control and our Independent Consultative Committee, and publish these reports on our web site.
2. Climb the aircraft as quickly as possible. The ability to do this can be limited by how busy the airspace is around the departing aircraft.

Additional operational techniques are also used to help reduce departure aircraft noise for those living near the airport. At East Midlands Airport we make the use of a westerly preferred runway direction (that is, aircraft approaching to land from the east and taking off to the west) and use of intersection departures from Runway 27 at night. This requires that aircraft taking off on Runway 27 at night, where it is safe to do so, access the runway at an intersection point – Taxiway Whiskey – further away from the village of Kegworth to help reduce aircraft departure noise at night. Finally, with support from MENT, the airport has introduced tighter controls on training flight circuits at the airport.

In recent years aircraft flight and navigation systems have become increasingly clever. In a similar way to today's cars, aircraft now make increased use of satellite information for navigation and have computers constantly monitoring and optimising the engines and flight controls. Air traffic control systems have also become increasingly sophisticated with automated communication with the aircraft. These developments have created many opportunities to improve aircraft departure routes and rates of climb. The most popular opportunities are:

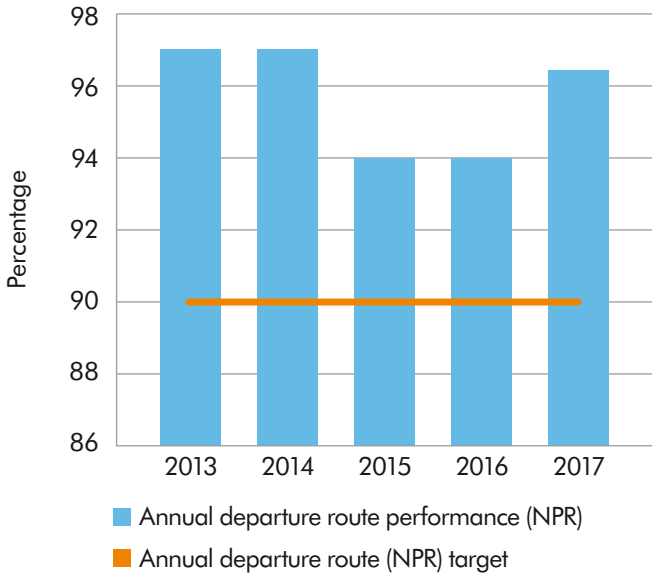
1. Performance based navigation (PBN) routes. These use precise satellite navigation points along a route for the aircraft navigation system to follow and significantly improve the consistency and accuracy with which aircraft fly the stipulated route.
2. Continuous climb departures. These are designed to enable aircraft to keep climbing after take-off until they reach their cruise altitude with an aim to make the aircraft higher, quicker and therefore quieter. The extent to which this can be achieved is affected by the numbers and types of other aircraft operating in the area.
3. Noise optimised aircraft departures. Some modern aircraft systems can now be designed to minimise the noise the aircraft makes at specific points along its departure route. These points can be areas of population or other noise sensitive areas for local communities.

## CURRENT PERFORMANCE

This section summarises the airport's departure noise performance in recent years. Further details can be found in Appendix E.

Excellent departure track keeping performance has been achieved over the last five years. With the advent of highly accurate satellite based navigation systems on aircraft, we will now be able to review and potentially improve track keeping and reduce the width of the NPR swathe, as part of a broader modernisation of our airspace arrangements.

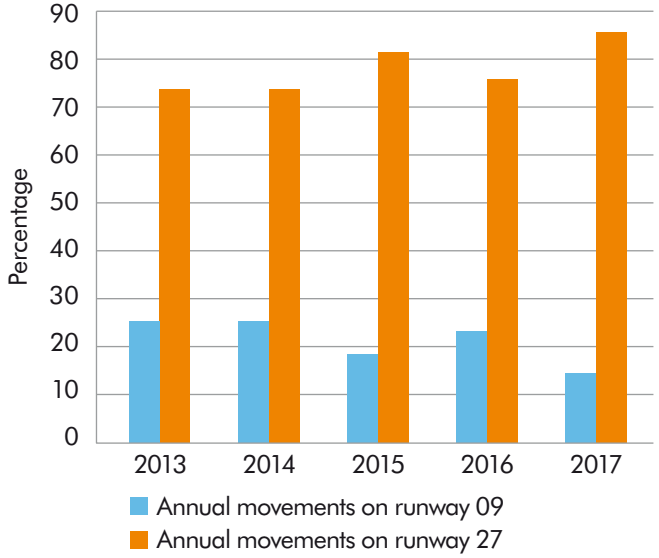
### DEPARTURE ROUTE PERFORMANCE AGAINST TARGET



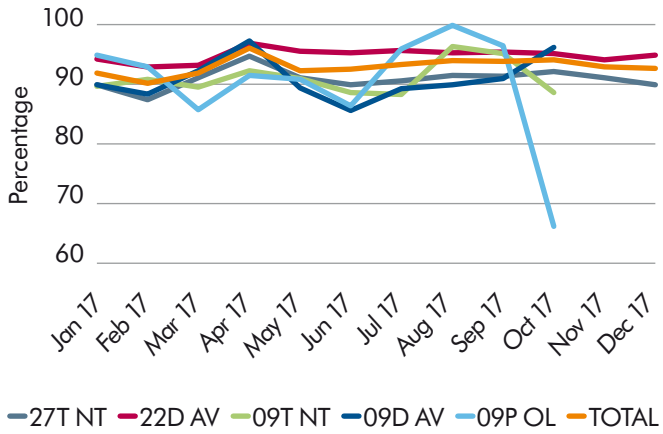
We have also succeeded in prioritising the use of Runway 27 for westerly departures in the last five years. In our 2015 Environment Plan, we reported that by continuing to specify the preferred runway direction as westerly the airport has been able to reduce the number of easterly operations by a third[27].

The airport is also achieving good levels of continuous climb performance by departing aircraft. The performance is now monitored by the airport's noise monitoring system and a new report has been produced.

## AIRCRAFT MOVEMENTS BY RUNWAY DIRECTION




## CONTINUOUS CLIMB OPERATIONS BY DEPARTURE ROUTE (2017)



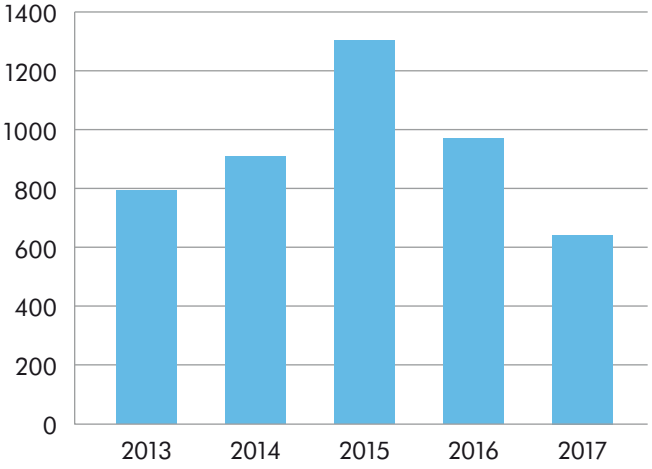

The early results tell us that around 90% of aircraft achieve a continuous climb operation (CCO); this is relatively high and reflects the fact that airspace around East Midlands Airport is relatively uncongested. We will continue to monitor and report our performance and explore opportunities that broader airspace modernisation may provide to improve it further.

The airport has worked to improve the management of training flights since 2001. Commercial training flights are only allowed Monday to Friday, excluding Bank Holidays and only between 08:00 and 21:00 in winter and 07:00-20:00 in summer, with limits on which operators can carry them out. In 2016, the airport met with local parish councils to discuss community concerns. It became clear that arrangements for training circuits to the south of the airport could be improved.

This was done, and improvements were noted by the local parish councils. An improved monitoring system for training flights was also set up in the airport noise monitoring system in 2017 with reports now shared with operators and with MENT. The airport will continue to monitor and report on training flights including the number of those which overflew defined villages to MENT and remains open to explore how these can be better managed in future.

Finally, we have continued to encourage and monitor the use of intersection departures on Runway 27 at night. This requirement is published in the UK AIP noise abatement section for East Midlands Airport and is now a standard operating practice followed by operators. Whilst we will continue to monitor performance, we do not propose to keep it as a separate action in the new Noise Action Plan.

## NUMBER OF TRAINING FLIGHTS




[27] See page 29 of the Environment Plan, part of the Airport's Sustainable Development Plan – http://www.eastmidlandsairport.com/about-us/development-plan/

## PROPOSED EAST MIDLANDS AIRPORT DEPARTING AIRCRAFT ACTIONS FOR THE 2019-2023 PLAN

Reflecting the performance so far, plus our knowledge of emerging opportunities, we propose the following actions.

### ACTION STATUS KEY

- New action
- Modified action from previous Noise Action Plan
- Retained action from previous Noise Action Plan

| ACTION STATUS | CONTROL | ACTION |
|---|---|---|
| | **NAP 15: Departure track keeping** | Increase our departure 'on-track' keeping performance target to 98% by 2023 at the latest. Continue to monitor and report performance. |
| | **NAP 16: Explore options to improve the effectiveness of NPR's** | Work with stakeholders, local authorities and the ICC to identify priorities for changing the route or reducing the width of the airport NPR's to minimise people overflown. This is to create a priority list of noise reduction options based on the community view of the most noise sensitive areas first. This will form the basis of an airspace modernisation options analysis proposal and be implemented as soon as possible in a priority order agreed between the airport and ICC. With the aim for all changes to be complete by early 2022. |
| | **NAP 17: Continuous Climb Departures (CCD)** | Explore with airlines and air traffic control, the opportunities to increase use of continuous climb departures through airspace modernisation. Prioritise with communities and seek to implement airspace modernisations as required as soon as possible and be complete by early 2022.<br>Continue to monitor and report CCD performance. |
| | **NAP 18: Off track departure fines** | We will seek to extend our system of noise fines to penalise airlines that persistently fail to meet the requirements of our departure flight paths. Within the first year of this updated NAP, we will work with stakeholders to ensure that any changes to our penalty systems are fair to all parties and deliver the right incentives. |
| | **NAP 19: Noise study into preferential runway use policy** | We will undertake a study to understand the noise effects of our policy into the preferential use of runway 27 by 2020. |

## COST BENEFIT ANALYSIS

Benefits of the new actions will need to be determined through the options analysis process as detailed in the CAA Airspace Design Guidelines. The new actions proposed will incur a cost both from a staff resource provision and charges incurred in applying for an airspace modernisation.

Additional costs can be expected from the technical design of options and consultation exercises on the options with stakeholders. In proposing the actions, the airport anticipates that the benefits will exceed the costs but acknowledges this requires further work.

# 12. MITIGATION AND COMPENSATION SCHEMES

Despite the application of the techniques and actions discussed so far, the airport accepts that there are areas around the airport still affected by aircraft noise. This is where the airport has developed a range of mitigation and compensation measures for the noise.

At the airport, noise mitigation is provided through the provision of grants for installing noise insulation for the buildings most affected by noise. Additional compensation is provided through funding support for local community projects.

At East Midlands Airport our Community Fund[28] is designed to support projects across a wide 'area of benefit' around the airport as shown. This area also covers most locations the airport currently receives noise complaints from as shown in Appendix F.

## CURRENT PERFORMANCE

The East Midlands Airport Community Fund was established in April 2002 and since then over £925,000 has been awarded to over 1,180 projects, to bring lasting benefit to the communities around the airport.

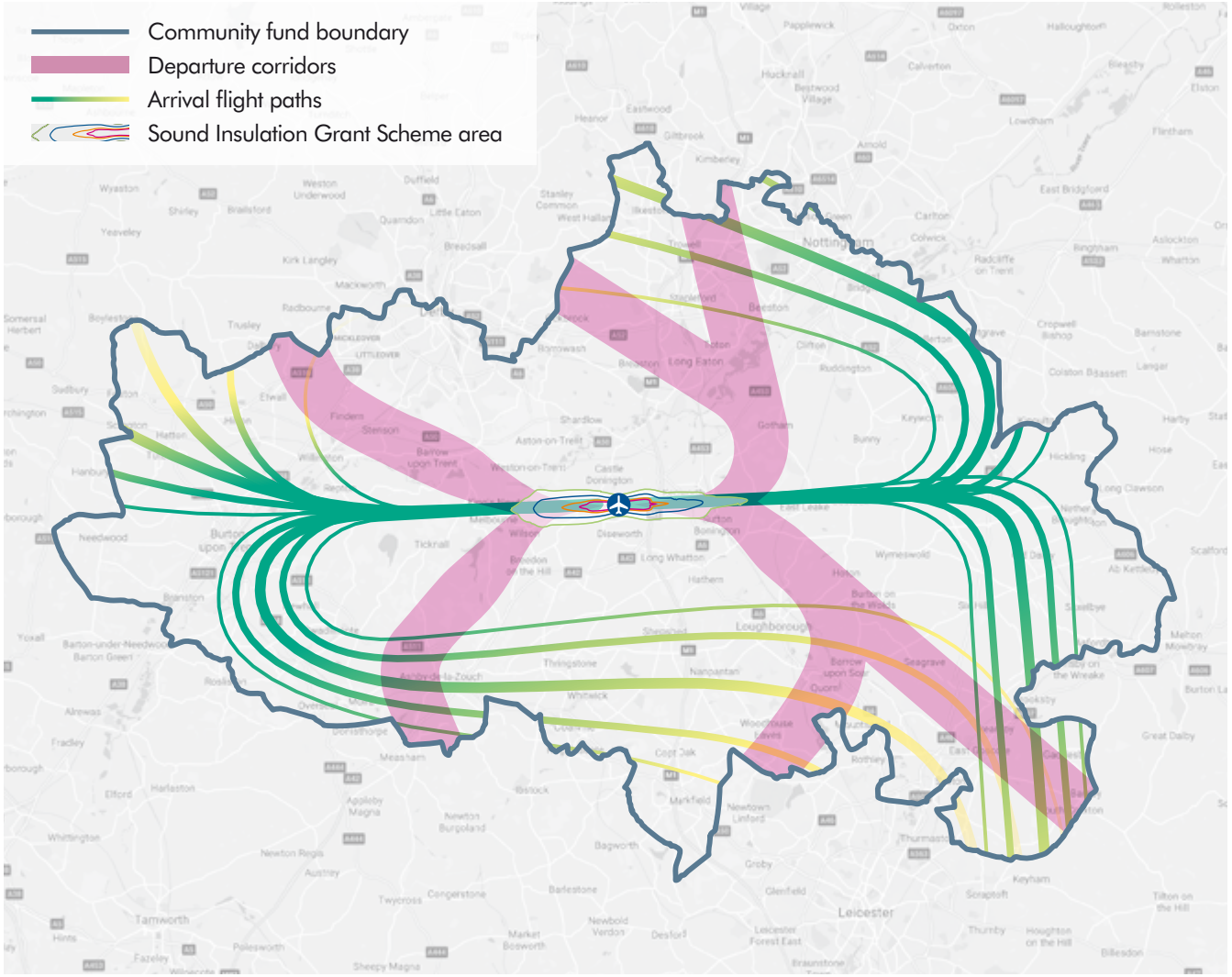
The Community Fund is managed independently by a Community Fund Committee that meets six times a year and is open to community groups within a defined 'area of benefit' that meet certain criteria.

The Fund is currently supported by an annual donation of £50,000 from the airport and through the fines imposed when aircraft exceed our noise limits. The Community Fund awards grants to support eligible projects that have a long-lasting community, social, educational or environmental benefit and can award a maximum of £2,000 per application.

In 2016-17 a total of 78 groups were awarded £79,122. Of these there were:

- 24 groups from Leicestershire benefitted from £27,632 in funding
- 27 groups from Nottinghamshire benefitted from £23,279 in funding
- 22 groups from Derbyshire benefitted from £23,587 in funding
- 5 groups in Staffordshire benefited from £4,624 in funding.

The airport is committed to continuing to provide both the SIGS and Community Fund.




[28] For more information please visit our website – http://www.eastmidlandsairport.com/community/supporting-the-local-community/

## SOUND INSULATION GRANT SCHEME

The scheme covers those in the most heavily impacted areas around the Airport and is based on a noise footprint. The boundary of the scheme is shown below. All dwellings within the shaded area may be eligible for a grant. The map is for guidance only and if you are unsure of your eligibility please contact our Managing Agent.

Any building (or part of a building) which is being used as a domestic dwelling may be eligible for a grant provided that:

- It is within the boundary of the scheme
- It was built before January 2002.

Not all dwellings are suitable for the installation of acoustic insulation. Dwellings that may be unsuitable include:

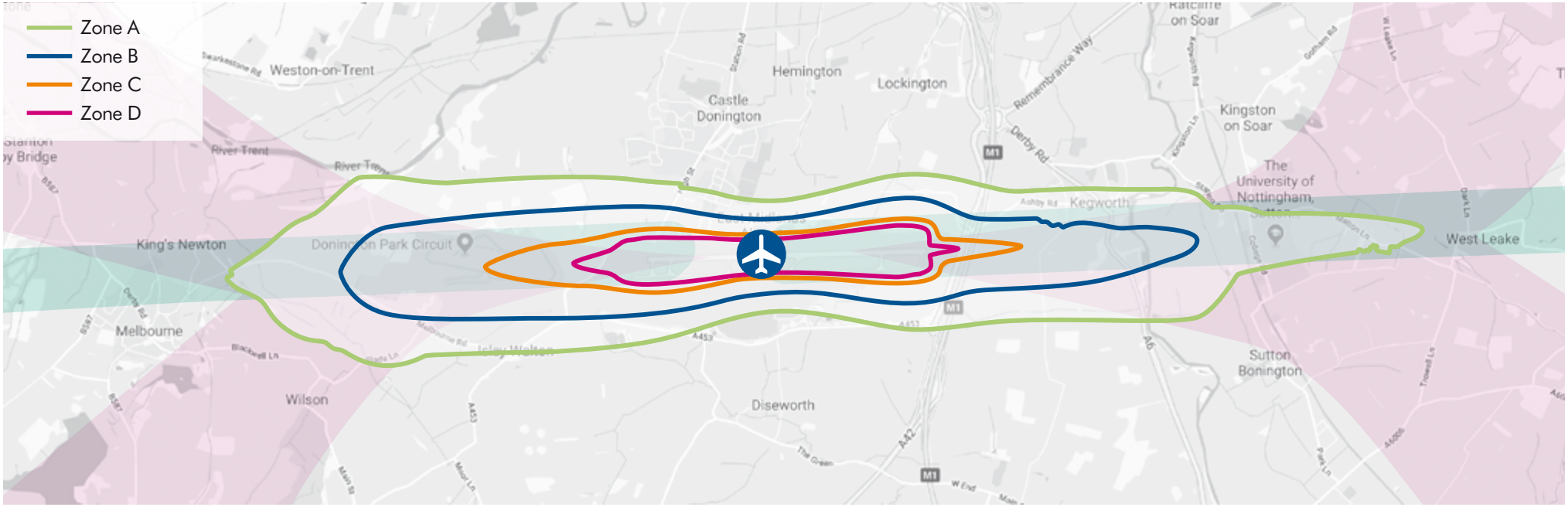
- Houses which are not of standard brick construction
- Individual rooms built into roof space which do not have standard brick walls.

The Scheme is designed to offer greatest support to those who experience the greatest noise impact.

The plan below shows the areas within which grant awards are available. Within these areas the maximum grant award is as follows:

**Zone A £3,000 Zone B £5,000 Zone C £10,000**

Applications are dealt with in the order that they are received, with the exception of those in **Zones C** and **D**, which will be afforded a greater priority. The Managing Agent will be able to advise you on the progress of your application.



## CURRENT PERFORMANCE

This section summarises the airport's mitigation performance in recent years. Further details can be found in Appendix E.

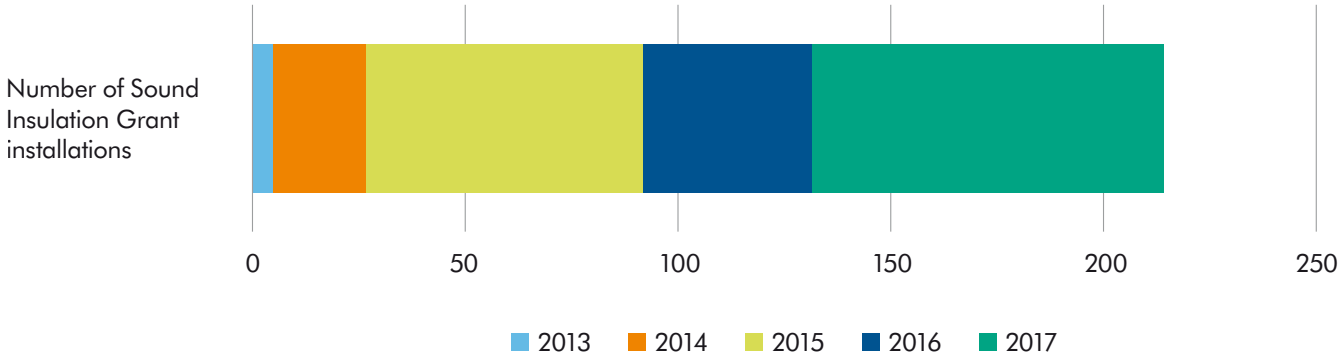
East Midlands Airport introduced our Sound Insulation Grant Scheme (SIGS) in 2002 to offer financial support for the sound insulation of the properties most affected by aircraft noise. It was expanded in 2007 following a consultation as part of the airport's 2006 Master Plan. The current SIGS (2007) is based on noise contours for night-time aircraft movements in the summer period of 2001; this considers dwellings that were exposed to average night time noise levels (LEQ) of at least 55dB and/or are regularly exposed to single aircraft noise events of at least 90dB at night.

Due to the efforts of the airport and our airlines, including ongoing investment in newer and quieter aircraft, the airport's noise contours (which were used to establish SIGS boundaries) are now considerably smaller than they were in 2001. To illustrate this, the area affected by average night time noise greater than 57dB in summer 2001 was 12.19km$^2$ – in 2015 this area had reduced to 8.6km$^2$. This means that despite the reduction in our noise footprint the airport has not reduced the size of the area which benefits from the scheme.

The scheme is split into four zones: Zone A contains those dwellings exposed to average night noise levels of between 55dB and 60dB, Zone B contains those exposed to average night time noise levels of between 60dB and 66dB, Zone C contains those exposed to average night time noise levels of between 66dB and 69dB and Zone D contains those exposed to average night time noise levels exceeding 69dB.

Since 2013 over 200 buildings have benefited from sound insulation grants.

### GROWTH IN SOUND INSULATION GRANT INSTALLATIONS



## PROPOSED EAST MIDLANDS AIRPORT MITIGATION SCHEME ACTIONS FOR THE 2019-2023 PLAN

Reflecting the performance so far, plus our knowledge of emerging opportunities, we propose the following actions.

## ACTION STATUS KEY

- New action
- Modified action from previous Noise Action Plan
- Retained action from previous Noise Action Plan

| ACTION STATUS | CONTROL | ACTION |
|---|---|---|
| | **NAP 20: Sound Insulation Grant Scheme** | Continue to operate a Sound Insulation Grant Scheme to provide support to those people that are most exposed to aircraft noise at night. |
| | **NAP 21: Community Fund** | Continue to donate all the money raised as a result of our environmental penalties to the East Midlands Airport Community Fund. The airport will continue to carry out regular reviews of the Community Fund the ensure it remains effective. |

## COST BENEFIT ANALYSIS

Costs associated with reviewing the Community Fund are anticipated to be relatively small, involving some meetings and reviews of best practice. Benefits of the work are primarily to ensure the Community Fund continues to be perceived as effective in meeting its objectives. The airport will be more able to assess the costs and benefits once a review has been completed.

MAG East Midlands Airport

"At the airport, noise mitigation is provided through the provision of grants for installing noise insulation for the buildings most affected by noise."

# 13. MONITORING AND REPORTING

To ensure that progress is made in tackling aircraft noise, MAG has invested £1 million in a sophisticated aircraft noise and tracking system across its three airports, including East Midlands Airport.

**The airport's system monitors and reports on noise from aircraft and checks and records the path of every aircraft arriving at or taking off from the airport. As well as recording individual events, it helps us understand trends, compare performance and it provides robust data for noise modelling. The airport invests in the system to ensure it is continually improved to meet best practice.**

In 2006, East Midlands Airport was the first European airport to make WebTrak, an online tool which enables local residents to see air traffic in the vicinity of the airport, widely available. We will continue to develop the ability to monitor and report on aircraft noise and are committed to improving the ways in which that information is shared with others.

## CURRENT PERFORMANCE

The noise monitoring system was upgraded in 2016. This enabled the system to produce a range of new, detailed noise reports.

- Details of noise complaints
- Summaries of aircraft track keeping
- Summaries of continuous descent approaches
- Reports of the loudest aircraft events over the noise monitors
- Details of training flights.

These are now regularly shared with ICC MENT and in our discussions with operators. Many reports are also now shared on the airport website including noise reports for the villages of Kegworth and Castle Donington and annual noise contour maps[30], as well as NPR (Noise Preferential Route) compliance and CDA (Continuous Descent Approach) compliance

The airport has recently reviewed the fixed noise monitoring sites which resulted in a correction to data from the monitored noise results to take account of the fixed noise monitors not being at the ideal position of 6.5km from the start of the aircraft take off run. This change was discussed and adopted following the January 2018 ICC MENT.

We believe there may be opportunities to improve our noise reports to enhance our discussions with operators and the community in future. Further details of our performance can be found in Appendix E.

[30] See http://www.eastmidlandsairport.com/community/environment/managing-our-environment/reporting-and-resources/ for more information.

## PROPOSED EAST MIDLANDS AIRPORT MONITORING AND REPORTING ACTIONS FOR THE 2019-2023 PLAN

Reflecting the performance so far, plus our knowledge of emerging opportunities, we propose the following actions

### ACTION STATUS KEY

- New action
- Modified action from previous Noise Action Plan
- Retained action from previous Noise Action Plan

| ACTION STATUS | CONTROL | ACTION |
|---|---|---|
| | **NAP 22: Peak noise events report** | Establish and share a new report that identifies the noisiest 10% of aircraft night operations by mid 2019. This report will be used to challenge performance with operators and explore options to reduce noise. |
| | **NAP 23: Preferred runway direction** | Where conditions allow we prefer aircraft to operate in a westerly direction. Regular reports on runway usage will continue to be produced. |
| | **NAP 24: Training Flights Report** | Monitor and report performance to identify trends and any compliance issues. Address issues as necessary. |
| | **NAP 25: Low noise arrivals report** | We will review the current continuous descent approach (CDA) reporting procedures in light of a Sustainable Aviation 2018 'Low Noise Arrivals' study. Implement changes where agreed and report progress by end of 2019. |
| | **NAP 26: Initiate a 'Quiet flight performance' reporting system** | Establish and publish a new airline noise performance report by mid 2019, based on a range of key noise criteria, including complaints received, continuous descent arrivals, continuous climb departures, adherence to noise limits, departure track keeping and percentage of Chapter 4 and 14 aircraft in the operator's fleet. An annual award for the highest performing airline is also proposed. This effectiveness of this report will be reviewed on a regular basis with the ICC and prior to producing the next Noise Action Plan. |
| | **NAP 27: Identify smarter ways to work with industry partners in reducing noise** | We will review the effectiveness of the Pilot Liaison Group at East Midlands Airport. Specifically looking at identifying the root causes of common environmental impacts and to evaluate and manage potential solutions. Any revisions to the terms of reference for the group, including how it will work with the ICC, will be agreed by mid 2019. |
| | **NAP 28: Review community noise monitor programme** | Review and agree a programme for community noise monitoring in consultation with the ICC by end 2019. This includes installing an additional noise monitor at Melbourne ahead of any possible changes to airspace. |

## COST BENEFIT ANALYSIS

We anticipate that the benefits from the new actions will be improved decision making and performance management for aircraft noise. The costs are expected to be relatively small but include provision of staff time and expertise to produce and analyse the reports and continual investment in maintaining and updating the airport's Noise Monitoring System.

# 14. EFFECTIVE COMMUNICATION

Working with our neighbours, local communities, colleagues, customers and on-site businesses is an important part of our business. We fully recognise the importance of carefully listening and discussing any noise concerns with our stakeholders.

**At East Midlands Airport we have a long-term commitment to make a positive difference to the quality of life in our local community and we pride ourselves on being one of only 36 UK companies to have been awarded the prestigious Business in the Community 'Community Mark' excellence standard.**

As well as being a good neighbour, we believe that supporting local and regional groups and charities is important to our long-term success. In 2015 we published our Community Plan as part of our Sustainable Development Plan[31]. The plan sets out in detail where we intend to focus our Community Relations activity to support the future growth and development of the airport.

In addition to meeting publicly appointed representatives from parish councillors to members of Parliament, the airport holds regular community outreach events across the local area, conducts regular surveys to seek feedback on our community activities and publishes news on our work via the website and newsletters. The airport also has a programme called 'Inspiring Young People' and we are keen to explore how our work on tackling aircraft noise could be better shared with this audience in future.

East Midlands Airport is proud of our role in raising achievement and aspirations in our local communities. Supporting young people's learning is vital if we are to ensure our workforce of the future, and we do this through our 'Inspiring Young People' programmes. Over 3,000 young people each year visit our Aerozone, which was launched in 2010 as a dedicated on-site education centre that provides young people from foundation level all the way to College and University with an opportunity to get a real insight into life at the airport.

In addition, we work with over 2,000 young people each year through education outreach activities such as career fairs, employability sessions, mock interviews and careers talks at school assemblies. This is all made possible through our colleagues, who volunteer their own time to talk local young people about the world of work, raising the aspirations of our future generations. There is a wealth of evidence that shows that the more encounters young people have with employers, and experiences of the workplace, the less likely they are to become NEET (not in employment, education or training). We continue to develop stronger lasting partnerships with key schools and colleges, continuing to help close the gap between the world of education and the world of work.

There is a clear benefit to our region when we employ local people, and our dedicated Airport Academy is now in its fourth year, helping unemployed people in the region develop their workplace skills and get back into work. Last year our Airport Academy gave 222 local unemployed people vital skills, confidence and experience and a level 2 Customer Service NVQ qualification. As a result of their time in the Academy 159 went on to secure employment and 127 did some work experience within our business, many of which resulted in offers of employment.

We know that skills are not the only barrier to employment. For many, reliable transport is an issue and for this reason we have worked tirelessly for over 15 years to deliver a good quality and reliable transport infrastructure with improved sustainable travel choices for both passengers and employees. Through our ongoing partnerships throughout the East Midlands Enterprise Gateway area, we're working with other local businesses. As part of a joint strategy we have already seen recent improvements to Shepshed, Coalville, Clifton and Ilkeston and continue to seek transport solutions for target employment areas including Woodville, Newhall, Swadlincote and Burton-upon-Trent.

In addition to the activities above, the airport also regularly carries out a community survey and distributes a community flyer.

Where individuals are specifically annoyed by noise from airport operations we have invested in a dedicated noise complaint system where every complaint is recorded and investigated, with responses provided to the individual within 10 days. This data is regularly shared with community representatives at the Independent Consultative Committee environmental monitoring sub-group MENT. This provides a valuable forum to explore noise concerns and discuss potential solutions.

For further information on any of this work please contact our Community Relations Team:

Community Relations
East Midlands Airport
Building 34
East Midlands Airport
Castle Donington
Derby
DE74 2SA

Telephone: **01332 818414**
Email: **community@eastmidlandsairport.com**
Website: **www.eastmidlandsairport.com/community**

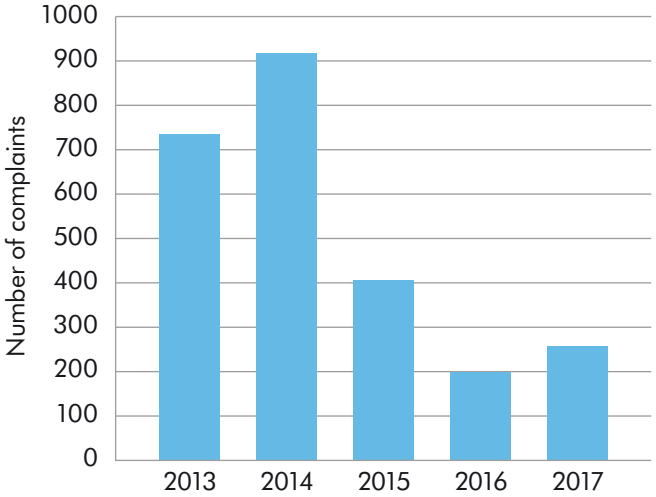
[31] See http://www.eastmidlandsairport.com/community/environment/managing-our-environment/reporting-and-resources/ for more information.

## CURRENT PERFORMANCE

The airports community work has continued to develop over the last five years. Some key highlights are provided below and expanded on in Appendix E.

- Throughout 2013-2018 the airport has regularly kept in touch with local people, responding to community concerns and supported a wide range of community activities. The East Midlands Airport Community Fund was established in 2002 and since then over £925,000 has been awarded to over 1,180 projects to bring lasting benefit to communities around the airport.
- 25 outreach events were held between April 2015 and December 17 with a further six planned in 2018.
- The latest noise complaint trend data indicates that the number of complaints has significantly declined since 2014 with less than 5 complaints now received for every 1,000 air transport movements at the airport.
- We are also seeing less multiple complaints per person, dropping from 4.8 complaints per person in 2013 to 1.8 complaints per person in 2017.
- 100% of complaints are investigated and responded to within 10 working days.
- We have produced the Community Flyer three times a year in summer, autumn and winter. It is also available on the airport's web-site.
- The headline responses from our 2017 Community Survey are:
  - 69% felt growth at EMA is good for our local communities
  - 85% felt jobs at EMA are vital for our local communities
  - 37% felt there was a noticeable increase in EMA community involvement and activity in the past 3 years
  - 36% felt their relationship with EMA had improved, whilst 11% felt it had deteriorated
  - 80% thought that EMA was a good and trustworthy neighbour and
  - 83% thought EMA was a responsible business
  - 89% thought EMA was a desirable place to work.

### NOISE COMPLAINT TRENDS




## PROPOSED EAST MIDLANDS AIRPORT EFFECTIVE COMMUNICATION ACTIONS FOR THE 2019-2023 PLAN

Reflecting the performance so far, plus our knowledge of emerging opportunities and the number of new noise actions presented so far in this plan, we have proposed to increase the number of actions in this section.

## COST BENEFIT ANALYSIS

We anticipate that the benefits from the new actions will provide improved understanding of community concerns about aircraft noise and the work being undertaken by the airport to address these. The costs are expected to be relatively small but include provision of staff time and expertise to produce and analyse the surveys and flyers, organise the outreach events, prepare information materials, host airport visits and address noise complaints. Additional costs are expected in maintaining and updating the airport's Noise Monitoring System and website.

## ACTION STATUS KEY

New action

Modified action from previous Noise Action Plan

Retained action from previous Noise Action Plan

| ACTION STATUS | CONTROL | ACTION |
|---|---|---|
| | **NAP 29: Stakeholder reference groups** | Establish new stakeholder reference groups as and when necessary to inform any airspace modernisation proposals, as we seek to modernise airspace arrangements. These will include the airport, operators, air traffic and community representatives to develop options and, where relevant, take forward airspace modernisation proposals to reduce noise. Agree the terms of reference for these groups with the ICC by early 2019. |
| | **NAP 30: Continually improve noise complaint and enquiry process** | Regularly review the airport process for handling noise complaints and enquiries to improve the transparency and effectiveness of the system. This will include consultation with the ICC. First review to be complete by mid 2019 with agreed actions implemented by end 2019. |
| | **NAP 31: Provide and regularly review effective engagement with communities** | Continue to provide regular opportunities to engage with local people to understand their concerns and respond effectively to them, to include community outreach events and a community newsletter. Develop and review the effectiveness of our engagement programme regularly through benchmarks like the BITC Community Mark and our own annual Community Impact surveys. |
| | **NAP 32: Carry out regular Community Survey** | Carry out an annual community survey to collect views on how effectively the airport is managing aircraft noise issues as well as other issues. Results from the survey will be shared with the ICC, operators, air traffic control and community groups and used to inform any future noise actions. |
| | **NAP 33: Noise related community investment** | Provide specific information on aircraft noise related community investment as an appendix to the annual airport Community Investment Report. This will aim to clearly show how noise fines are used to support the communities affected. |
| | **NAP 34:Provide educational and skill development material on aircraft noise** | Develop educational material on aircraft noise management. This will include facilitating visits to the airport and information materials and is proposed to support our 'Inspiring Young People' programme. |
| | **NAP 35: Noise Action Plan Progress Report** | We will produce at least two reports to the ICC summarising progress made by the airport against this Noise Action Plan. First report to be produced by mid 2020. |
| | **NAP 36: Improve access to noise information on the airport website** | Review and implement changes by mid 2019 to improve the accessibility of noise information on the airport website. |

# 15. CONSULTATION RESPONSES

## FORMAL RESPONSES

The airport received over 250 responses to our consultation, of which 30 came from key stakeholders and a further 223 from local residents across 29 different villages and towns.

We have received 30 formal responses from:

### Airlines

- West Atlantic UK Ltd
- UPS
- DHL

### Community Groups

- Melbourne Civic Society
- Packington Communication Group (PCG)
- Kings Newton Residents Association (x 2)
- WINGS Response
- People Against Intrusive Noise (PAIN) Response
- Campaign to Protect Rural England Nottinghamshire
- Save Aston Village Environment (SAVE)

### Parish Councils

- Castle Donington Parish Council
- Melbourne Parish Council (x2)
- Kegworth Parish Council
- Lockington cum Hemington Parish
- Sutton Bonington Parish Council
- Breedon on the Hill Parish Council
- Weston-on-Trent Parish Council

### District/Borough Councils

- Erewash Borough Council
- Charnwood Borough Council
- South Derbyshire District Council
- Rushcliffe Borough Council
- North West Leicestershire District Council

### County Councils

- Leicestershire County Council
- Nottinghamshire County Council

### Other

- East Midlands Chamber
- South Derbyshire MP (Heather Wheeler)
- Elected Member, Melbourne Division (Linda Chilton)

## GENERAL PUBLIC RESPONSES

We have received 223 responses, summarised as follows:

| AREA OF RESPONSE | NUMBER OF RESPONSES |
|---|---|
| Aston on Trent | 3 |
| Breedon on the Hill | 3 |
| Burnaston | 1 |
| Castle Donington | 2 |
| Coalville | 1 |
| Derby | 1 |
| Diseworth | 2 |
| East Leake | 10 |
| Findern | 1 |
| Ilsey Walton | 2 |
| Kegworth | 13 |
| Kings Newton | 33 |
| Littleover | 1 |
| Long Eaton | 3 |
| Long Whatton | 3 |
| Melbourne | 66 |
| Normanton on Soar | 4 |
| Packington | 17 |
| Repton | 3 |
| Sawley | 2 |
| Shardlow | 5 |
| Stanton by Bridge Resident | 1 |
| Stretton | 1 |
| Sutton Bonington | 8 |
| Swadlincote | 1 |
| West Leake | 1 |
| Weston-on-Trent | 4 |
| Willowby on the Wolds | 1 |
| Wilson | 26 |

## SUMMARY OF RESPONSES

In reviewing individual responses there were a number of similar comments or areas of overlap in comments on specific topics. These have been grouped into the key themes.

## KEY THEMES RAISED

The key themes raised in the consultation process have been summarised below.

- Broad support was expressed for the socio-economic benefits the airport generates.
- Concerns that the consultation documents were 'large and hard to understand' and the consultation process 'wasn't well publicised'.
- Challenge from some consultees that the draft NAP does not meet legal requirements and 'lacks ambition'.
- Concern that the Noise Action Plan lacked ambition to limit and reduce noise from night flights including restricting nosiest aircraft types from operating.
- Concerns that future forecasts indicate night noise will increase rather than reduce
  - Specific concerns about the increase in number of flights, not just their noise level, felt that the plan did not address a proposed increase in noise incidents.
- Request to see clearer and smarter timescales for the proposed actions.
- Request to strengthen targets on operational performance including training flights and concerns about the need to change airspace arrangements and 'flight paths'.
  - Numerous specific requests to avoid overflying specific areas, to change 'flight paths' and to reduce the size of the area flown over by further concentrating aircraft in a narrower swathe.
- Various requests for new or different presentation of night flight information and charts and a request for easier to read maps.
- Concern and a need for clarification around the wording relating to existing night time scheduling ban for QC8 and QC16 aircraft.
- Request for the airport to improve the way it shares information on aircraft noise through its website and public engagement activity.
- A range of specific suggestions for extra information, text changes to the Noise Action Plan, request for meetings and installation of additional noise meters.

## RESPONSE TO COMMENTS RAISED IN THE CONSULTATION

The airport is grateful to for all of the response received. The comments that were received have resulted in many improvements to this final Noise Action Plan. The changes made include:

- Publication of a shorter, summary document to accompany the final Noise Action Plan, to improve accessibility. As well as this detailed Noise Action Plan for those working closely with the subject we have also developed a short summary for a wider audience. We hope this addresses the concerns raised by some respondents and makes the plan easier to understand.
- Clarification of how this Noise Action Plan meets legal requirements including more information on the specific policies in the EU END and UK Government noise policies. We have added or clarified a number of entries throughout the Noise Action Plan (mainly sections 6 and 7) to clarify the legal requirements and how it addresses them.
- Additional and better information on night flights at the airport. Additional charts and text to explain how we aim to continually improve the management of night flights is provided in sections 3 and 8 of the final Noise Action Plan
- An ongoing communications plan to engage with stakeholders, including residents who responded, to the draft Noise Action Plan. The airport will be responding to all those who got in touch during the consultation and a number of improvements have been made to sections 13 and 14 of the Noise Action Plan as a result.
- The airport has adopted of many of the specific recommendations we received from the consultation in the final Noise Action Plan including:
  - An agreement to install additional noise monitoring in the village of Melbourne.
  - A proposal to extend our system of noise fines to penalise airlines that persistently fail to fly our departure flight paths accurately.
  - Addition of timescales to many of the actions in the plan.
  - Clarifying our ongoing commitment to continue to ban night time scheduling for QC8 and QC16 aircraft.

- The provision of maps and figures to offer greater clarity. The airport has sought to provide better quality map images in the final plan as well as discussed with MENT options for better presentation of figures and graphs. The airport remains open to further suggestions for how this can be improved further and intends to provide better information on this plan and related noise information through the East Midlands Airport website.
- Providing of a greater level of detail around the process of Airspace modernisation required in order to review flight paths and noise preferential routes.
- A proposal to enhance future noise reporting.
- Applying learning from this consultation process to future consultations, including the comments we received on the editable PDF.
- An agreement to engage and establish a programme for considering and delivering airspace modernisation as soon as possible. At the MENT meeting, after the consultation closed, the airport and MENT agreed to work together in establishing stakeholder reference groups for managing airspace modernisation proposals as a matter of urgency. The airport is aiming to have these groups established early in 2019 and will work with MENT to ensure they capture specific community views for each arrival and departure route being considered.

Whilst it is not possible to include all of the comments we received in the final NAP, we propose to publish a separate detailed table that captures all of the comments we received and our response to them.

# 16. CONCLUSION

This Noise Action Plan has been developed to meet our aim to limit and reduce where possible, the number of people affected by noise because of the airport's operation and development.

**Since 2011 passenger numbers have increased by 16% growth and cargo by 18%, with only a 3% increase in flights. Over the same period noise, as assessed by the DEFRA noise maps, has remained broadly unchanged and well within agreed limits.**

We remain committed to working towards our aim and in particular, given the relatively high number of night flights at East Midlands Airport, to focussing on actions to improve our management and reporting of aircraft noise at night.

The further measures we propose in this Noise Action Plan include:

- The introduction of a new noise surcharge for QC4 aircraft at night
- A more stringent noise penalty scheme
- A commitment to explore the introduction of a fine for departing flights that persistently fly outside of the noise preferential routes from the airport
- A commitment to review our charging structures to incentivise the operation of quieter aircraft types
- Review and improve our noise reporting with a new 'Quiet Flight Performance' report.

It is also clear that there are a number of opportunities which have developed since our last action plan such as performance based navigation and low noise arrivals. Both opportunities are expected to require changes to how the airspace around the airport is used and will require detailed discussion with the communities likely to be affected by this. Supporting these actions, we are committed to maintaining our well-established noise monitoring and reporting and our community relations programme.

The airport is keen to ensure community views on any changes to arrival and departure routes are properly considered and welcomes MENT support for our 'Stakeholder Reference Groups' proposal.

We also believe there is an opportunity to develop and provide educational and skill development material on aircraft noise management. This will include facilitating visits to the airport and information materials and is proposed to support our 'Inspiring Young People' programme.

The airport is grateful for the many comments received during our consultation on this plan and many of the suggestions made have been incorporated into this final plan.

As the airport continues to develop we are committed to continually reviewing our performance, to meet our noise aim and to deliver many of the social and economic benefits to the East Midlands region that are described and set out in our Sustainable Development Plan.

This Noise Action Plan will be introduced from January 2019. The airport will work with our industry partners to deliver on our actions. We will also provide progress reports to ICC and MENT during the course of the next five years to ensure our we remain on track to achieve our aims.

# 17. CONTACT US

The Noise Action Plan is an important document for East Midlands Airport. We have a range of stakeholders who have an interest in the airport and their views and comments are an important part of our planning process.

## We are committed to being open in sharing our plan and that it reflects the views of the airport's users and neighbours.

For further information on any of this work please contact our Community Relations Team:

Community Relations
East Midlands Airport
Building 34
East Midlands Airport
Castle Donington
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**http://www.eastmidlandsairport.com/community/local-environmental-impacts/noise/noise-action-plan/**

# GLOSSARY OF TERMS

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| **AIP** | The UK Aeronautical Information Publication |
| **ANOMS** | Airport Noise Operations Monitoring System, Stansted Airport's specific NTK system |
| **APF** | UK Aviation Policy Framework – Published in 2013 this is the current UK aviation policy |
| **APU** | Auxiliary Power Unit. A power unit located on the aircraft to provide power to essential systems whilst on the Ground |
| **ATC** | Air Traffic Control |
| **ATM** | Air Transport Movement |
| **CAA** | UK Civil Aviation Authority |
| **CCD/CCO** | Continuous Climb Departure/Continuous Climb Operation – The same technique to climb aircraft continuously to reduce noise |
| **CDA** | Continuous Descent Approach |
| **dB(A)** | A unit of sound pressure level, adjusted in accordance with the A weighting scale, which takes into account the increased sensitivity of the human ear at some frequencies |
| **Decibel (dB)** | The decibel (dB) is a logarithmic unit of measurement that expresses the magnitude of a physical quantity relative to a specified or implied reference level. Its logarithmic nature allows very large or very small ratios to be represented by a convenient number. Being a ratio, it is a dimensionless unit. Decibels are used for a wide variety of measurements including acoustics, and for audible sound A-weighted decibels (dBA) are commonly used |
| **DEFRA** | Department for Environment Food and Rural Affairs (UK Government) |
| **DfT** | Department for Transport (UK Government) |
| **ECAC** | European Civil Aviation Conference |
| **EMA** | East Midlands Airport |
| **END** | EU Environment Noise Directive |
| **EPNdB** | Effective Perceived Noise measured in Decibels. Its measurement involves analyses of the frequency spectra of noise events as well as the maximum level |
| **EU** | European Union |

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| **GANP** | ICAO Global Air Navigation Plan |
| **GPU** | Ground Power Unit |
| **GVA** | Gross value added is the measure of the value of goods and services produced in an area, industry or sector of an economy |
| **ICAO** | International Civil Aviation Organization |
| **ICC** | East Midlands Airport Independent Consultative Committee – the formal body in charge of liaison between East Midlands Airport and our neighbouring communities |
| **ICCAN** | Independent Commission on Civil Aviation Noise |
| **ILS** | Instrument Landing System |
| **$L_{Aeq}$ 16-hour** | The A-weighted average sound level over the 16-hour period of 07:00-23:00 |
| **$L_{day}$** | The A-weighted average sound level over the 12-hour day period of 07:00-19:00 hours |
| **$L_{den}$** | The day, evening, night level, Lden is a logarithmic composite of the Lday, Levening, and Lnight levels but with 5dB(A) being added to the Levening value and 10dB(A) being added to the Lnight value |
| **$L_{eq}$** | Equivalent sound level of aircraft noise in dBA, often called equivalent continuous sound level. For conventional historical contours this is based on the daily average movements that take place in the 16-hour period (07:00-23:00 LT) during the 92 day period 16 June to 15 September inclusive |
| **$L_{evening}$** | The A-weighted average sound level over the 4-hour evening period of 19:00-23:00 hours |
| **Lmax** | Maximum A-weighted sound level |
| **Lnight** | The A-weighted average sound level over the 8-hour night period of 23:00-07:00 hours |
| **$L_{OAEL}$** | Lowest observed adverse effect level (in this plan this relates to aircraft noise). This is the level above which adverse effects on health and quality of life can be detected |
| **MAG** | Manchester Airports Group – Owner of East Midlands Airport |
| **MENT** | The Monitoring, Environment, Noise and Track sub-committee of the East Midlands Airport Independent Consultative Committee |
| **NAP** | Noise Action Plan |

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| **NATS** | Formerly known as National Air Traffic Services Ltd. NATS is licensed to provide en-route air traffic control for the UK and the Eastern part of the North Atlantic, and also provides air traffic control services at several major UK airports, including Heathrow, Gatwick and Stansted |
| **NEET** | Not in employment, education or training |
| **Noise Contour** | Map contour line indicating noise exposure in dB for the area that it encloses |
| **Noise Envelope** | This is the legal night noise limit agreed through planning permission for the airport. It states the airport LAeq 8-hour summer night noise contour will not exceed 16km$^2$ |
| **NPR** | Noise Preferential Route |
| **NPSE** | Noise Policy Statement England |
| **NTK** | Noise and Track Keeping monitoring system. The NTK system associates radar data from air traffic control radar with related data from both fixed (permanent) and mobile noise monitors at prescribed positions on the ground |
| **PBN** | Performance based navigation – A technique using satellite navigation information to improve the accuracy of aircraft flight paths |
| **PLG** | The Pilot Liaison Group – An East Midlands Airport forum for the airport, pilots and air traffic to discuss performance issues and opportunities |
| **QC** | Quota Count – In 1993 a new Quota Count system was introduced based on aircraft noise certification data. Each aircraft type is classified and awarded a quota count (QC) value depending on the amount of noise it generated under controlled certification conditions. The quieter the aircraft the smaller the QC value |
| **RNAV/PRNAV** | Area Navigation/Precision Area Navigation using GPS coordinates |
| **SDP** | East Midlands Airport Sustainable Development Plan |
| **SID** | Standard Instrument Departure route |
| **SIG(S)** | Sound Insulation Grant (Scheme) |
| **SOAEL** | The Significant Observed Adverse Effect Level. This is the level above which significant adverse effects on health and quality of life occur |
| **SoS** | UK Secretary of State |
| **Sustainable Aviation** | A UK aviation industry initiative aiming to set out a long-term strategy for the industry to address its sustainability issues |

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