

Noise Action Plan Summary 2018-2023

Managing the impact of noise on local communities

Introduction

The EU Noise Directive (2002/49/EU) and Environmental Noise (Scotland) Regulations 2006 require airports with over 50,000 movements a year to produce a Noise Action Plan. The Scottish Government's Environmental Assessment (Scotland) Act 2005 requires airports to produce a Noise Action Plan (NAP) every five years.

We recognise that it is important to keep communities and other stakeholders informed about any progress made. We are committed to reporting publicly on our performance and the effectiveness of our actions to address community concerns. With this in mind, we report on our progress against the action plan in our annual Corporate Responsibility Report (CRR). The CRR is posted on our website at edinburghairport.com/community

We have recently set up an Edinburgh Airport Noise Advisory Board (EANAB) made up of representatives of community councils and other relevant bodies. The EANAB has been established to create and maintain an impartial pathway for the community at large to engage with Edinburgh Airport in the understanding and resolution of issues relating to aircraft noise associated with Edinburgh Airport, with the primary aim of minimising the noise impact on affected or potentially affected communities.

The key themes for 2018-2023 are:

- a) continue our commitment to managing aircraft noise impacts associated with Edinburgh Airport's operations including:
 - (i) the quietest fleet practicable
 - (ii) the quietest practicable aircraft operations
 - (iii) effective and credible noise mitigation schemes
- b) continue to engage with the communities affected by aircraft noise and better understand and respond to their concerns and priorities
 - (i) influence planning policy to minimise the number of noise sensitive properties around our airport
- c) effectively manage aircraft noise
- d) build on our extensive understanding of aircraft noise to further inform our priorities, strategies and targets.

The EU's Environment Noise Directive also requires that each action plan should contain estimates in terms of the reduction in the number of people affected (annoyed, sleep disturbed or other). While this is difficult to estimate, a high-level number has been included as part of the noise action plan table on pages 4 & 5.

Existing noise management

The following outlines what methods of mitigation we apply at Edinburgh Airport.

Noise monitoring and fining

As part of our commitment to mitigate against the noise from operations at Edinburgh Airport we currently have policies and procedures in place which control, monitor, and where necessary fine aircraft operators who do not follow our procedures.

Aircraft flying to and from Edinburgh Airport are monitored by three permanent and fixed noise monitoring stations located at Cramond, Uphall/Broxburn and Livingston.

To measure the noise from individual aircraft the noise measurement parameter L_{max} is used. This is measured in decibels (dB), and is the measurement of the maximum noise level during each aircraft movement.

There are maximum allowed levels for daytime noise (06:00-23:30) and night time noise (23:30-06:00) – these are 94 dBA L_{max} and 87 dBA L_{max} respectively. Flights must not exceed these levels and airlines are fined for all exceedances. This is a voluntary policy introduced by Edinburgh Airport to mitigate against noise nuisance in our communities.

Noise and Track Keeping system

In 2017, we commissioned a project to implement a customer-focused and accessible Noise and Track Keeping system (NTK). This new NTK system developed by Casper became publicly available in Summer 2018. As well as improved analysis and reporting, this system allows members of the public to track the path of flights arriving and departing Edinburgh Airport in very close to real time. The public can now monitor flights of interest and view the

associated level of noise at the fixed-noise monitoring site nearest to them. The online tool allows members of the public to check aircraft noise levels and flight-specific information such as flight position and altitude using our own radar data.

Edinburgh Airport Noise Advisory Board

The Edinburgh Airport Noise Advisory Board (EANAB) is a recently established Board and a forum involving the airport, its neighbours and partners to ensure communities are involved, engaged and informed through open dialogue and clear data.

The EANAB has been established to create and maintain an impartial pathway for the community at large to engage with Edinburgh Airport in the understanding and resolution of issues relating to aircraft noise associated with Edinburgh Airport, with the primary aim of minimising the noise impact on affected or potentially affected communities.

EANAB forms part of the airport's wider stakeholder engagement and the independent Chair of the EANAB also sits on the airport's Consultative Committee.

Ground noise and engine running

We recognise that ground noise can also cause significant disturbance to the local community. For that reason, although not required under the Environment Noise Directive, we will continue to seek to address this through operating practices.

Engine running is an essential part of airport operations. Engines need to be tested for safety reasons and engine runs form part of the maintenance programme for aircraft. We understand that this noise can cause disturbance to local residents and therefore adopt certain measures to reduce the impact on the community. We do not allow engine testing during the night unless exceptional circumstances require us to do so. High power engine running takes place to the south east of the airfield which is the furthest location from any residential properties. Other engine testing generally takes place on the aircraft stands.

All ground engine runs are subject to prior approval by Airside Operations and ATC. Permission for ground runs outwith the following days and times will only be permitted under exceptional circumstances:

Monday to Friday 23:01-05:59
Saturday and Sunday 23:01-08:59

Continuous Descent Approaches

Arriving aircraft are encouraged to use Continuous Descent Approaches (CDA).

With a CDA an aircraft descends towards an airport in a gradual, continuous approach with the engine power cut back. By flying higher for longer and eliminating the need for the extra thrust required for the periods of level flight between steps of descent, CDAs result in reduced fuel burn and emissions and mean less noise exposure for communities under the arrivals flight path. This type of procedure can result in noise reductions of up to 5 dB.

Continuous Climb Departures

Like CDAs, Continuous Climb Departures (CCD) are encouraged due to the noise reductions and fuel savings on local communities.

The greatest benefit of continuous climb departures is the significant reduction in CO₂ emissions and the benefits this has on air quality.

Sustainable Aviation has promoted continuous climb techniques at UK airports, with the procedure being used up until 10,000ft. From 55% of departures using the technique in 2006, implementation grew to 67% in 2014. Sustainable Aviation is also promoting best practice in take-off and landing cycle operations through the publication, in partnership with others, of codes of practice. Climbing to optimum cruising altitude and out of congested airspace can reduce CO₂ per departure by 100-300 kilograms.

Noise insulation scheme

As part of the noise mapping for this NAP, new L_{eq} dBA 16hr contour maps were produced for Edinburgh Airport by our regulator the Civil Aviation Authority (CAA). These will be used to determine the eligibility of properties to assist with the installation and replacement of double-glazed windows and loft insulation.

In 2016 we increased the number of properties eligible to apply to the scheme by including the 63 dB contour. Properties within the 63 dB and greater contours may apply for assistance as detailed below.

Night noise mitigation

Noise fining

Between the hours of 23:30 and 06:00 aircraft must not exceed 87 dB L_{max} at Edinburgh Airport's fixed-noise monitoring stations, a financial penalty will be imposed on all aircraft which exceed this limit. The minimum penalty for exceeding the limit is £1,000, rising to £2,000 if the exceedance is greater than 3 dB. Further information on our noise fining policy can be found in Appendix G at the end of the full NAP document.

Engine testing

We do not allow engine testing during the night unless exceptional circumstances require us to do so. High power engine running takes place to the south east of the airfield which is the furthest location from any residential properties.

Military aircraft

Military aircraft are exempt from the noise certification criteria that apply to civilian aircraft. This is a UK Governmental exemption and UK airports' noise standards, including Edinburgh's NAP, cannot be imposed on military aircraft operations. We restrict military operations to between 07:00 and 23:00 hours with the only exceptions being for essential operations, mostly on compassionate grounds. In these cases, we may permit arrival operations only, with subsequent departure being permitted after 07:00. Military aircraft are also exempt from the terms of the EU Noise Directive (2002/49/EU).

Results of the 2018 noise mapping

Fewer people are impacted by contours exceeding 55 dB L_{den} than in previous years. Although the area (km²) within the contours has not decreased, the population within the contours affected by noise has reduced by 3,250 persons in comparison to the 2013-2018 NAP.

The contour maps provided on the Scottish noise mapping website were produced for the Scottish Government by Jacobs Ltd using the following parameters, and in determining the population affected and number of dwellings within the contours:

- OS Mastermap for the building footprints
- OS AddressBase data to determine the location of dwellings;
- a population density per household of 2.07 persons.

In addition, for population and dwellings, Jacobs Ltd have rounded to the nearest 100, and for area they rounded to nearest 1km², which is in accordance with the EU Noise Directive (2002/49/EU). The Scottish Government will publish the maps and statistics on the Scottish noise mapping website.

The UK Government says that communities become significantly annoyed by aircraft noise above 57 L_{eq} dBA. This is why contours are presented from 57 dB to 72 L_{eq} dBA in steps of 3 dB.

The latest summer 16-hour L_{eq} dBA contours for 2016 are shown in Appendix C. These show that the 57 dBA contour has increased in size compared with 2011 from 13km² to 15km², which is equal to the approximate size of the contour maps produced in 2006 of 15.1km². However, the number of people living within the 57 dBA contour has actually remained the same at 3,300 in comparison to the population data from 2011.

L_{den} contours

L_{den} contours are based on air traffic movements over the entire year. In addition, a weighting of 5 dB is applied to each of the evening (19:00-23:00) movements and 10 dB for each of the night (23:00-07:00) movements, to take into account the greater disturbance during these periods. Contours for strategic noise mapping are presented in 5 dB steps from 55 dBA to 75 dBA except for L_{night} where the contours are presented between 50 dBA and 70 dBA. The strategic contours for Edinburgh Airport are presented in Appendix B at the end of the full NAP document.

L_{night} contours

The latest 8-hour L_{night} contours for 2016 are shown in Appendix D. These show that there has been an overall decrease in the size, population affected, and number of properties within all of the contours in comparison to 2011 data.

Table 1:

Estimated areas, populations and households within Edinburgh Airport year 2016 L_{day} noise contours.

L_{day} dBA	Population	Households	Area (km ²)
>= 55	5,400	2,600	25
>= 60	1,200	600	9
>= 65	200	100	3
>= 70	0	0	1
>= 75	0	0	1

Table 2:

Estimated areas, populations and households within Edinburgh Airport year 2016
 Levening noise contours.

Levening dBA	Population	Households	Area (km ²)
>= 55	4,200	2,000	20
>= 60	800	400	7
>= 65	100	0	2
>= 70	0	0	1
>= 75	0	0	1

Table 3:

Estimated areas, populations and households within Edinburgh Airport year 2016
 L_{night} noise contours.

L _{night} dBA	Population	Households	Area (km ²)
>= 50	4,200	2,000	19
>= 55	800	400	7
>= 60	100	0	3
>= 65	0	0	1
>= 70	0	0	1
>= 75	0	0	0

Table 4:

Estimated areas, populations and households within Edinburgh Airport year 2016
 L_{den} noise contours.

L _{den} dBA	Population	Households	Area (km ²)
>= 55	13,800	6,700	38
>= 60	3,200	1,600	14
>= 65	400	200	5
>= 70	0	0	2
>= 75	0	0	1

Table 5:

Estimated areas, populations and households within Edinburgh Airport year 2016
 LA_{eq,16h} dBA noise contours.

LA _{eq,16h} dBA	Population	Households	Area (km ²)
>= 55	5,200	2,500	23
>= 60	1,100	500	8
>= 65	200	100	3
>= 70	0	0	1
>= 75	0	0	1

Table 6:

Estimated areas, populations and households within Edinburgh Airport year 2016
 LA_{eq,16h} dBA noise contours including data for the 57 dBA contour for comparison with
 2013 NAP.

LA _{eq,16h} dBA	Population	Households	Area (km ²)
>= 55	5,200	2,500	23
>= 57	3,300	1,600	15
>= 60	1,100	500	8
>= 65	200	100	3
>= 70	0	0	1
>= 75	0	0	1

Noise Action Plan: 2018-2023

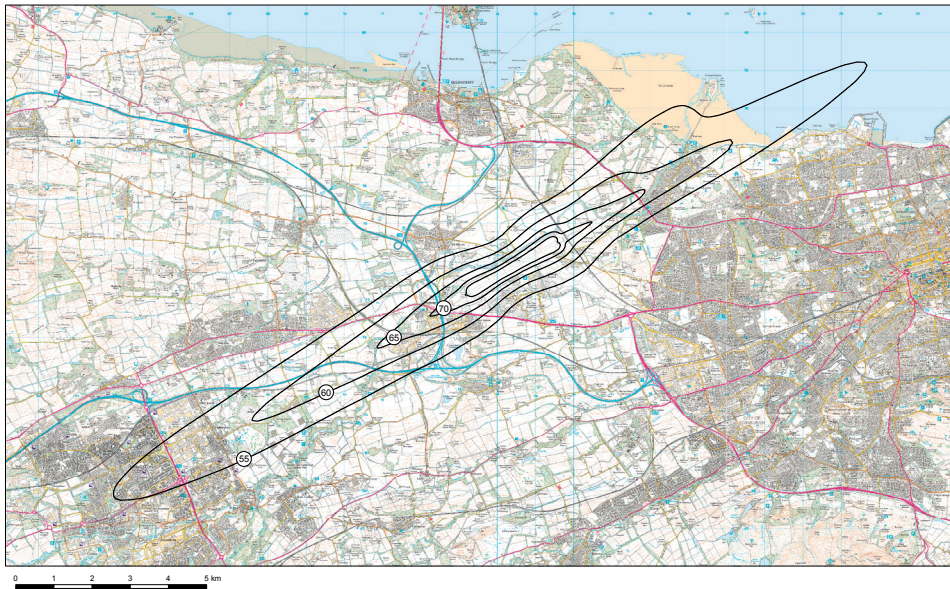
Table 9

This table outlines the actions for the 2018-2023 NAP.

Action	Impact	Timescale	Performance indicator	Approx estimate of people affected 2018
1. Demonstrate we are doing all that is reasonably practicable to minimise noise impacts				
1a. Quietest fleet practicable				
We will continue to work with airlines to promote the most efficient aircraft when introducing new business to Edinburgh	Arrivals (A) Departures (D) Ground noise (GN)	Ongoing	Track the annual percentage of Chapter 4 operations. Contours changes	13,800
We will continue to monitor air quality at Edinburgh Airport (NO _x)	Arrivals (A) Departures (D) Ground movements	2018 and ongoing	Report AQ findings within annual CRR	N/A
We will continue to review the landing fee differential at least every year	A, D, GN	2018-2023	Conditions of use document changes in charging. Change to contours. Track percentage within different charging categories	N/A
1b. Quietest practicable aircraft operations, balanced against NO_x and CO₂ emissions				
We will continue to promote a best practice guide for departures to airlines operating at Edinburgh Airport	D	Ongoing	Contour changes.	13,800
We will continue to promote CDAs and CCDs to airlines operating at Edinburgh Airport	A, D	Ongoing	Percentage of CDAs achieved. Contour changes. Report to Flight, Operations and Safety – FLOPSY meetings	13,800
We will continue to fine aircraft in breach of noise limits and increase the fine level if appropriate	D	2018-2023	Report number of infringements to both EACC and EANAB	13,800
We will continue to work with our partners in Sustainable Aviation to develop and promote low noise flight procedures through evaluation of future operational methods and implementation of best practice	A, D, GN	Annual	Website. Annual CSR	13,800
We will continue to engage with our aviation partners to seek to improve adherence to the standard airport procedures	A, D	Ongoing	Update the EACC	N/A
We will control ground running of aircraft engines. To ensure that the environmental impact of aircraft engine running on the local community is kept to a minimum, aircraft operators with maintenance commitments at the airport are expected to plan their schedule to avoid the need for ground running of engines at night from between 23:00-06:00 during weekdays and 23:00-09:00 at the weekend. Only during exceptional circumstances is engine running allowed between these times	GN	Ongoing	Number, location and duration	400
We will continue to prioritise stand allocation so as to minimise ground noise impacts	GN	Ongoing	Number of aircraft on ground noise sensitive stands during noise sensitive periods. Monitored and recorded monthly	400

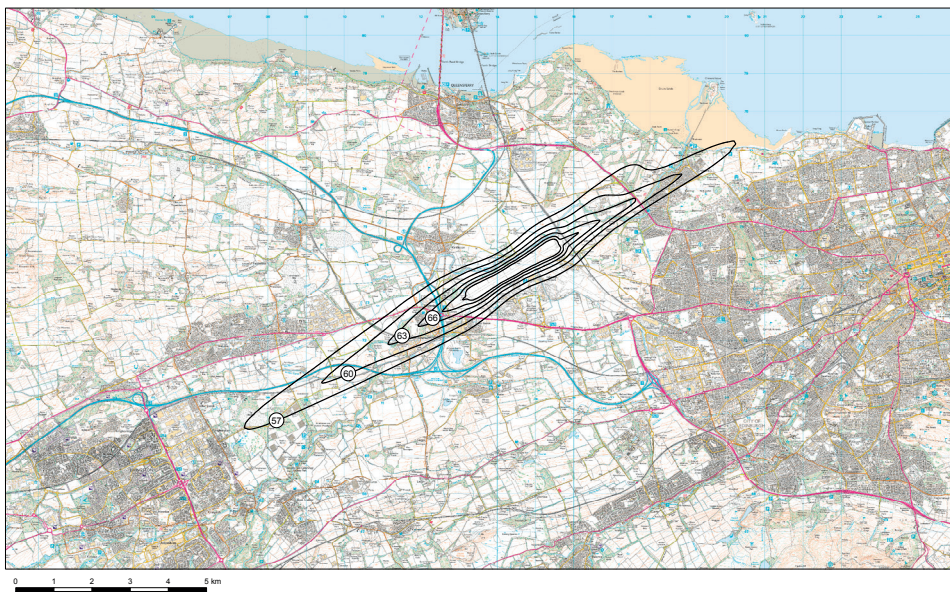
Action	Impact	Timescale	Performance indicator	Approx estimate of people affected 2018
In conjunction with our partners in Sustainable Aviation we will continue to lobby for and seek to support continual improvements in technology and operations towards the ACARE goal of 65% reduction in perceived external noise by flying aircraft by 2050 relative to equivalent new aircraft in 2000	A, D, GN	Ongoing	N/A	N/A
1c. Effective and credible noise mitigation schemes				
Night Noise, we will investigate and implement increased landing/take-off fees for the night time period, this fee will be based on aircraft noise classification. All associated monies raised will be donated to local good causes	A, D, community trust and awareness, consistent and effective management	Q2/Q3 2019	Produce and publish a Night Noise policy Q3/Q4 2019	N/A
We will continue to offer a relocation assistance scheme for those households within the airports 69 dB L _{eq} noise contour in line with government policy	A, D	Ongoing	Number of requests made	0
We will continue to benchmark our noise mitigation and compensation measures with other comparable airports	Perceived impacts	2018-2023	Publish a table	N/A
We propose to compare noise contours and the number of people exposed with other airports to understand if other noise mitigation schemes have been more successful. We will then seek to understand if this can be applied to Edinburgh	A, D, GN	2018-2023	Publish a table. Take reasonable action	13,800
We will continue to honour the Edinburgh Airport vortex scheme	Perceived impacts	Ongoing	Number of properties subjected to vortex damage	N/A
We will carry out Community based noise surveys during the summer months to further our understanding of the noise climates under our flight paths	Community trust and awareness. Consistent and effective management.	2018 yearly	Publication of survey reports on noiselab website, reports will be made available to public and EDNAB/ EACC	N/A
We will commission LA _{eq} summertime contour maps and subsequent database of eligible properties every two years	Community trust and awareness. Consistent and effective management.	2019 and 2021	Publication of LA _{eq} summertime contour maps on Edinburgh Airport Noise Lab website	13,800
2. Engage with communities affected by noise impacts to better understand their concerns and priorities, reflecting them as far as possible in airport noise strategies and communication plans				
We will launch a noise and track keeping system on our website that allows the public to investigate and monitor flights themselves, and make enquiries or complaints about our flight operations	Community trust and awareness. Knowledge and understanding of noise. A, D	Launch Summer 2018	NTK being used by the public	General public
We will continue to offer a free phone number for complaints and enquires regarding aircraft noise. Complaint data will be published in our CRR	Community trust and awareness	Ongoing	Number of contacts and method of contact	13,800
We will make quarterly noise reports available online via our Edinburgh Airport Noise Lab web pages	Community trust and awareness	Ongoing	Publication on website and the community news letter	13,800
We will provide noise insulation grants to schools who fall within our 63db or greater noise contours and work with Local Government Planning Departments to ensure that all new build schools within 63db and greater contours are built to relevant building acoustic standards	Community trust and awareness. A, D	Ongoing	N/A	N/A
We will annually review our communication material to ensure relevance and ease of understanding	Community trust and awareness	Annually		N/A

Action	Impact	Timescale	Performance indicator	Approx estimate of people affected 2018
We will review Noise Complaints Policy to ensure it is relevant to our complainants. We will continue to publish this policy on our Noise Lab and reference this in our Community Newsletter to ensure that those who want to complain, know the process. We will also log all complaints relating to aircraft operations and publish the statistics quarterly	Community trust and awareness	Quarterly	Number of callers, events, month and area	N/A
We will seek to acknowledge 100% of all complaints and enquiries within two working days and respond within five working days. Performance against this will be published at the Airport Consultative Committee	Community trust and awareness	Ongoing	Response rate tracker	N/A
We will publish a summary of consultation responses within six months of the close of this consultation	Community trust and awareness	2018-2023	Publication of feedback report	N/A
We will publish our progress against the action plan on an annual basis	Community trust and awareness	Annually	Published in CRR, reported to EANAB and % of actions complete	N/A
We will continue to direct all money raised by noise infringements to the Edinburgh Airport Community Board	Community trust and awareness	2018-2023	Number of infringements and fines raised published in the CRR	N/A
In our newsletter to the local community we will report on engine running frequency and times	Community trust and awareness	Quarterly	Number of engine ground runs	N/A
3. Influence planning policy to minimise the number of noise sensitive properties around our airport				
We will continue to engage with the local planning authority to ensure awareness of aircraft operations is considered in the development of sensitive land use	Land use planning, community trust and awareness	Ongoing	Number of interactions with the local planning authority	N/A
We will continue to commission and publish forecast L_{eq} contours for aircraft noise in future masterplans	Land use planning, community trust and awareness	Ongoing	Publication of forecast contours	N/A
4. Manage noise efficiently and effectively				
We will continue to operate and enhance our noise management systems by various means such as holding quarterly management system reviews, analysing noise data periodically and reviewing noise complaint trends	Consistent and effective management	Ongoing		N/A
5. Build on its extensive understanding of aircraft noise to inform our priorities, strategies and targets				
We will continue to work with Sustainable Aviation and local stakeholders to understand and address the interdependencies of aircraft operations management and noise	A, D, GN	Ongoing	Group participation, research funding and trial participation	N/A



EDINBURGH AIRPORT
2016 L_{den} 55-75 dB(A) Contours
 Actual Modal Split 68% W / 32% E

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EDINBURGH AIRPORT
2016 Annual Day $L_{eq,16hr}$ 57-72 dB(A) Contours
 Actual Modal Split 68% W / 32% E

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EDINBURGH AIRPORT
2016 L_{night} 50-70 dB(A) Contours
 Actual Modal Split 70% W / 30% E

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