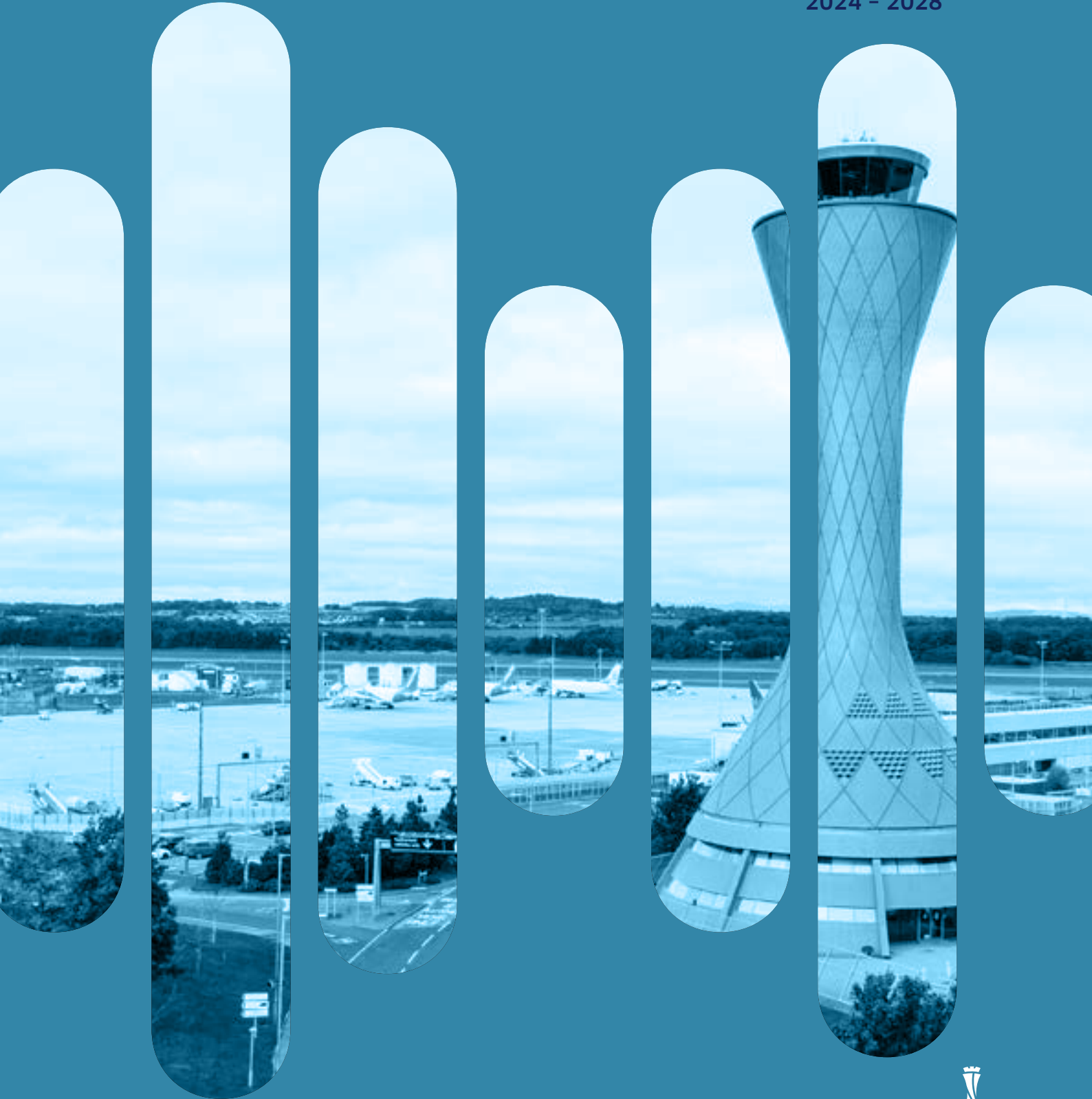


Edinburgh Airport

# Draft Noise Action Plan

2024 - 2028



Edinburgh Airport 

POWERED BY VINCI AIRPORTS 

GLOBAL INFRASTRUCTURE PARTNERS 

# Contents

	<b>Glossary</b>	<b>04</b>
	<b>Foreword</b>	<b>06</b>
<b>01</b>	<b>Executive Summary</b>	<b>08</b>
<b>02</b>	<b>Purpose and scope of the Noise Action Plan</b>	<b>12</b>
<b>03</b>	<b>Existing Noise Management</b>	<b>18</b>
	ICAO Balanced approach – Noise Abatement, Operational Procedures, Reduction of noise at Source and land-use planning and management and Working with our Communities	19
	Airspace Modernisation	21
	Current Noise and Carbon reduction measures	22
	ICAO balanced approach – Land use Planning and Management	23
	ICAO Balanced approach – Operational Procedures, Restrictions and Noise Abatement	24
	ICAO Balanced approach – Operational Procedures and Restrictions	27
	ICAO Balanced approach – Reduction of noise at source – Additional measures introduced since Round 3 NAP 2018 – 2023	30
	ICAO Balanced Approach – and Working with our Communities	35
<b>04</b>	<b>Background to aircraft noise and regulation</b>	<b>38</b>
	Sources of airport noise	40
	Guide to legislative controls	44
	International Regulations and controls	44
	European regulation	45
	UK Regulation	46
	Scottish regulation and Local Authority regulations	47
	CAA Regulations	50

<b>05</b>	<b>Description of the airport Location and Airspace</b>	<b>52</b>	<b>07</b>	<b>Evaluation and implementation of the 2018 – 2023 Noise Action Plan</b>	<b>80</b>
	Land Use	54		Performance indicators for the Action Plan	82
	Future Plans	55		Late running flights are increasing night flying	83
	Infrastructure Development	56		There are signs OTP will improve this year	84
	District Heating Network	57	<b>08</b>	<b>Proposed new noise management measures</b>	<b>96</b>
	Runway Rehabilitation	57		Health and Quality of life	110
	Surface Access Strategy	58		New Noise Insulation Scheme – proposed Policy Details	111
	Cargo & Distribution	58		Insulation Scheme	112
	Global Air Park	58		Benchmarking against other UK Airport insulation Schemes	113
	Electric Vehicle Forecourt	59	<b>09</b>	<b>Draft Noise Action Plan: 2023 – 2028 – full action list</b>	<b>114</b>
	Support Facilities	59	<b>10</b>	<b>Costs of Noise Management</b>	<b>134</b>
	Flight and Passenger Profiles	59		The cost of Noise Management	136
	Overview of Flights per hour	60	<b>11</b>	<b>Further Information</b>	<b>138</b>
	2019 Runway and SID split table	61		Draft Noise Action Plan Appendices	143
	Current arrival and departure flight paths, and movements per hour	61		<b>Appendix A</b> ENDS required Mapping	144
	Air Quality	63		<b>Appendix B</b> Supplemental Mapping	156
	Water Quality	63		<b>Appendix C</b> Current Insulation Scheme process and copy of Policy	161
	Sustainability and Greater Good	65		<b>Appendix D</b> Current noise fining procedures	163
	Move towards RNAV technology	67		<b>Appendix E</b> AQ/Water Quality monitoring reports	163
	Airspace Change Project (ACP)	67		<b>Appendix F</b> Noise Enquiries Policy	164
<b>06</b>	<b>Results of the 2019/2021 strategic noise mapping</b>	<b>70</b>		<b>Appendix G</b> Edinburgh Airport Noise Advisory Board (EANAB)	167
	Strategic Mapping	72		<b>Appendix H</b> Noise Lab and site links	168
	Scottish Mapping Contractor – Noise Consultants Ltd (NCLtd)	73		<b>Appendix I</b> To70 reports	168
	Lden, LAeq and Lnight Mapping and Population tables	74		<b>Appendix J</b> Arriving and Departing Aircraft	171
	2019 Population and Dwelling and Contour Area statistics comparison of Round 4 2019 and Round 3 2018 – 2023 NAP – NCLtd Data tables	76			

# Glossary

Term	Description of meaning
<b>AAL</b>	Above Aerodrome Level
<b>ACP</b>	Airspace Change Programme
<b>AIP</b>	Aeronautical Information Publication
<b>APF</b>	Aviation Policy Framework
<b>ATC</b>	Air Traffic Control
<b>CAA</b>	Civil Aviation Authority
<b>CACI</b>	2021 population database (updated from the 2011 Census)
<b>CCO/CCD</b>	Continuous Climb Operation/Continuous Climb Departure
<b>CDA/CDO</b>	Continuous Descent Approach/Continuous Descent Operation
<b>CNOSSOS-EU</b>	Common noise assessment methods in Europe (CNOSSOS-EU)
<b>dB(A)</b>	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
<b>DfT</b>	Department for Transport (UK Government)
<b>CED</b>	Chief Executive's Directive
<b>EACC</b>	Edinburgh Airport Consultative Committee
<b>EANAB</b>	Edinburgh Airport Noise Advisory Board
<b>END</b>	Environment Noise Directive
<b>ERCD</b>	Environmental Research and Consultancy Department of the Civil Aviation Authority
<b>FLOPSC</b>	An Airport Bi-monthly meeting of ATC, Operations, Environment, Noise and Airline Base Captains to discuss flight, operations and security at EDI
<b>ICAO</b>	International Civil Aviation Organisation
<b>ILS</b>	Instrument Landing System
<b>LAeq 16-hour</b>	Equivalent continuous sound level, A weighted and measured over a 16 hour period
<b>Lday</b>	The A-weighted long-term average sound level as defined in ISO 1996-2: 1987, determined over all the day periods of a year, 07:00-19:00

<b>Lden</b>	Lden dB contours are based on air traffic movements over the entire year. In addition, an arbitrary weighting (or penalty) 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 at night.
<b>LAeq</b>	Equivalent continuous sound level or LAeq is defined as the level of hypothetical steady sound which, over the measurement period, would contain the same (frequency-weighted) sound energy as the actual variable sound. LAeq can be measured over any scale in practice.
<b>Levening</b>	The A-weighted long-term average sound level as defined in ISO 1996-2: 1987, determined over all the evening periods of a year, 19:00 – 23:00
<b>Lmax</b>	Lmax is the highest value of the time-weighted sound pressure level, which occurs during the measurement period as the Aircraft passes over that point on the map
<b>Lmax Footprint</b>	This type of mapping shows the average Lmax noise contour of one aircraft type travelling on one flight path
<b>Lnight</b>	The A-weighted long-term average sound level as defined in ISO 1996-2: 1987, determined over all the night periods of a year; 23:00 – 07:00
<b>100% Mode Contour</b>	100% mode contours portray averaged noise impacts based on single direction runway usage rather than actual or forecast runway usage over an average summer day or night
<b>mppa</b>	Million passengers per annum
<b>NAP</b>	Noise Action Plan
<b>NATS</b>	A map which shows contour lines indicating noise exposure in dB for the area that it encloses
<b>NDB</b>	Non-Directional Beacon. An NDB is a single aerial transmitter which transmits directional information to an aircraft. Should the ILS be out of service, a Non-Directional Beacon (NDB) approach is used.
<b>Noise Contour Map</b>	
<b>NPR</b>	Noise Preferential Routes
<b>NTK</b>	Noise and Track Keeping monitoring system
<b>Nx Contours</b>	Nx contours indicate the number of aircraft noise events exceeding a certain maximum sound level (Lmax) at a given location. For example, N70 contours show the number of events exceeding 70 dBA Lmax.
<b>PAN</b>	Planning Advice Note
<b>SID</b>	Standard Instrument Departure Route. The SID is the flight path that an aircraft fly
<b>SEPA</b>	Scottish Environment Protection Agency
<b>Sustainable Aviation+B19B 57A2:B59A13: B5A3:B59</b>	A UK aviation industry initiative aiming to set out a long-term strategy for the industry to address its sustainability issues

# Foreword

Edinburgh Airport is Where Scotland Meets the World, and as Scotland's busiest airport it provides connections to countries all over the world. That connectivity enhances our global standing and our influence, enabling the best of Scotland to be taken all over the globe, and enhances our own economy by opening our doors to an international community of 7 billion people.

The economic impact of the airport is an important part of what we do. We are a facilitator to many other sectors and industries, and that manifests itself in an economic impact of £1.4 billion Gross Added Value generated by the airport, according to a BiGGAR Economics report in early 2020. In terms of employment, around 7,500 people are employed across the Edinburgh Airport campus and the airport itself supports 28,000 jobs across the country.

Although all of this is positive, it does come with its own issues – particularly for local communities surrounding the airport. We are acutely aware of the noise that aviation generates, and it is a complex and emotive issue that invokes passionate discussion.

Technological advancements in aviation are being made every day and new aircraft are more fuel efficient and quieter than ever before. But we know that noise will never be completely eliminated, which is why we work to mitigate noise as much as possible.

Part of our Greater Good sustainability strategy is about how we provide a sustainable future for the airport, and how we find a balance between further growth and our positive contribution to the economy, as well as our want and need to be a good neighbour that works to improve its approach to the environment and meet its responsibility to the communities closest to us.

The draft Noise Action Plan (NAP) you are reading sets out our approach to meeting that challenge. It is presented as required by the Environmental Noise (Scotland) Regulations 2006 and will replace the 2018 – 2023 NAP.

The 2024 – 2028 draft NAP will now be the basis for a consultation period that seeks to engage with our surrounding communities and invite views on how we can mitigate and reduce the effects of noise generated by aviation at Edinburgh Airport. Only by engaging with and understanding the views of all of our stakeholders can we set out a final course of action that is both informed and considered.

We look forward to this consultation period and gaining a greater understanding of how our neighbours perceive noise at Edinburgh Airport and how, where possible, we can work together to minimise its impact.



# Executive Summary

This document outlines why we have a Noise Action Plan (NAP), sets out progress against the 2018 - 2023 NAP actions and outlines our actions for 2024 - 2028.

# 01

Edinburgh Airport is one of the fastest growing airports in the UK. In 2023, we broke an annual record for passengers at any Scottish airport with confirmation of over 14.4 million people flying through the airport.

We cannot completely eliminate the noise caused but we aim to manage and reduce our impact on our neighbouring communities, wherever possible through planning, monitoring and mitigation.

The 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 every five years. Due to delays in the production of Strategic mapping this round of NAP (Round 4) will cover the period 2024 - 2028, this will allow Scotlands strategic mapping rounds going forward to align with those of the rest of the UK.

## The key themes for 2024 - 2028 are:

**A**

continue our commitment to managing aircraft noise impacts associated with Edinburgh Airport's operations including:

- the quietest fleet practicable
- the quietest practicable aircraft operations
- 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:

- 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

**E**

Introduction of an improved noise insulation scheme

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](https://edinburghairport.com/community).



In 2017 we set up an Independent community noise Board - Edinburgh Airport Noise Advisory Board (EANAB), made up of representatives of community councils and other relevant bodies. 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.

By prioritising noise management activities on the most effective actions, we believe we can ensure maximum benefits for noise-affected communities.

To produce the contour maps that are used in this 2024 - 2028 NAP, we used population data that was produced for the Scottish Government by NCLtd and supplied to Edinburgh Airport. The parameters used in the production of this data are detailed in Section 7 in and Appendix A.



# Purpose and scope of the Noise Action Plan



# 02





## Purpose

Although the UK is no longer a member of the European Union (EU) we have been instructed that the Scottish Government will still follow the legislation as detailed below and as such Edinburgh Airport must follow the Noise Action Planning (NAP) process as in previous rounds of strategic noise mapping and Noise Action Planning.

The EU Noise Directive (2002/49/EU) and Environmental Noise (Scotland) Regulations 2006 (as amended) require airports with over 50,000 movements a year to produce a noise action plan every five years. Details of the legislation, contour maps and noise action plans for road operators, rail providers, relevant airport operators and large urban areas can be found at: [noise.environment.gov.scot/](https://noise.environment.gov.scot/)

People have different levels of sensitivity to noise, and we recognise that noise from aircraft operations is a concern for the communities around the airport. We engage with local communities in a number of ways and this NAP is just one of them.

## Scope

This NAP seeks to manage all noise on the airfield. This goes further than the EU Noise Directive (2002/49/EU) which just considers noise created by aircraft from the start of take-off and noise from aircraft turning off the runway after landing. We believe that the impact of noise should be considered more holistically and while noise from the landing and take-off cycle may affect specific communities more than others, we will also propose actions to mitigate impact of noise from aircraft taxiing or having their engine running on the airfield.

The scope of the action plan does not include noise from airport construction activities or noise from road and rail traffic associated with the airport.

While Construction works are temporary and not covered by the above legislation we do always communicate with our closest neighbours when noisy works are ongoing onsite, to ensure we limit any disturbance to them and keep them informed during the lifespan of any project.

Noise from major road and rail routes in the vicinity of Edinburgh Airport is covered by the Scottish Government NAPs separately from this document and available via links on the Scottish Noise Mapping website detailed in Section 12 – Further Information of this document.

One of the key outputs of NAP is Lden noise contours for 2019 and 2021 along with detail of the area, population and number of households within each of the contour bandings.

For this round of contour mapping and NAP we have included two separate and distinctive years of mapping. We and all others carrying out this round of noise contour mapping and action planning, have been instructed by the Scottish Government that we must use 2021 annual traffic data for the production of our Strategic Noise Mapping. However, as you may be aware, in 2021 due to both international and local Covid restrictions, lockdowns and closure of borders, the Aviation industry suffered significant reduction in both passenger numbers and indeed the number of aircraft flying to and from airports.

This significant reduction in aircraft movements proportionally affects the contour mapping produced for 2021, and the number of properties and occupants disturbed by noise within each of those contours.

To counteract this decrease, and to ensure we use the worst-case scenario rather than the best in our noise management plans, we have decided that although we will provide the 2021 mapping and data tables as instructed by the Scottish Government, we will not use this data to inform the noise mitigation and management for this action plan. In its place we will use the annual traffic data from 2019 which provides data on the year where we saw our highest number of Flight Operations and passenger numbers to date, however we have included with in this document as LAeq summertime mapping for 2023 which provides clarity on the changes that a reduction in business passengers has brought.

We think this is the fairest way of managing noise and ensures that as our traffic movements again increase, we have considered this within our noise management and mitigation plans.

The contour maps and associated contour population data tables within this NAP were prepared by the Environmental Research Consultancy Department (ERCD) a section of the Civil Aviation Authority (CAA) 2019 and 2021 contours, and by Noise Consultancy Ltd (NCL) Consultants, who are employed by the Scottish Government to carry out strategic noise mapping, the noise mapping provided online by the Scottish Government is interactive and is available via the following link: [Home | Scotland's Noise \(environment.gov.scot\)](https://noise.environment.gov.scot/)

The 2021 and 2019 contours are provided within Appendix A. Contour maps must be prepared using a year's full-year data and the 2021, 2019 data for production of the NC Ltd contours were submitted to the Scottish Government 2023.

The split of runway direction and usage is determined as an average over the year being mapped. Detail on the runway split is provided at the bottom of each ERCD contour map.

To further inform our communities on noise we have included supplemental mapping within the appendix, although this is not required by either EU Noise Directive (2002/49/EU) or Environmental Noise (Scotland) Regulations 2006 (as amended), it will assist in understanding noise levels within the areas of our communities closest to Edinburgh Airport and below our flight paths, this mapping and explanations of what that mapping represents can be found within Appendix B.

It should be noted that the use of 2019 data does not take into account the changes to Aircraft Fleet or the reduction in aircraft movements which have shown to have decreased within 2023 summertime LAeq contours in comparison with that of 2018.

In Section 05, we explain the difference between the commonly used contour metrics, with further technical descriptions available within the glossary.

Important considerations - Strategic noise maps have been produced using the European Commission's common noise assessment methods (CNOSSOS-EU). This is a new method of producing strategic noise maps for the entirety of Scotland, meaning the previous three rounds are not comparable to this round. CNOSSOS sets out three main aspects of its modelling method:

## Source •••••

The noise source emission describes the sound power emitted by the source of a variety of factors. For example, in the case of road traffic, this would include traffic volume and speed, road temperature, road gradient and road surface.

## Propagation •••••

Propagation defines how noise levels attenuate/reduce due to aspects such as the distance along a propagation path (source to receiver), air absorption, terrain elevation, screening effects from buildings and barriers, meteorological effects and the influence of ground cover.

## Receiver •••••

The receiver points methodology details on dwelling facades, how the number of people and dwellings should be attributed to the noise exposures calculated at the facade receivers and how the area exposed to the noise should be determined from the calculated noise grids.

The analysis was completed using several in house, open source, and commercially available software tools, and was delivered by Noise Consultants Limited, acting on behalf of the Scottish Government.

# Existing Noise Management

ICAO Balanced approach – Noise Abatement, Operational Procedures, Reduction of noise at Source and land-use planning and management and Working with our Communities.



# 03



At Edinburgh Airport it is important to us that we do all that we can to limit the impact of our operations on the communities living under or alongside our flight paths, while still providing Scotland and the UK as a whole with the service and opportunities that an international company bring.

While we cannot eliminate the noise produced by aircraft noise we can and do implement measures to monitor, mitigate and manage noise from our operations. In this section of our NAP 2024 - 2028 you will find information data and links to how we currently implement this.

The main overarching ICAO policy on aircraft noise is the Balanced Approach to Aircraft Noise Management, adopted by the ICAO Assembly in its 33rd Session (2001) and reaffirmed in all the

subsequent Assembly Sessions (reference: ICAO Resolution A39-1 Appendix C). Detailed guidance on the application of the Balanced Approach is provided in the ICAO Doc 9829, Guidance on the Balanced Approach to Aircraft Noise Management.

The Balanced Approach consists of identifying the noise problem at a specific airport and analysing various measures available to reduce noise through the exploration of various measures which can be classified into four principal elements, described in Graphic 01.

The goal is to address noise problems on an individual airport basis and to identify the noise-related measures that achieve maximum environmental benefit most cost-effectively using objective and measurable criteria.

## Airspace Modernisation

The UK is undergoing a nationwide airspace modernization program due to outdated flight paths designed decades ago. This modernization is essential to handle the increasing demand for air travel sustainably. Sponsored by the Civil Aviation Authority and the Department for Transport, Airspace Modernisation Strategy, CAP 1711, aims to enhance efficiency, punctuality, reduce CO<sub>2</sub> emissions and noise, and ensure capacity to meet future airspace demands. It encompasses modernizing both airport and en route airspace networks. Aligned with ICAO's Global Air Navigation Plan, the strategy is detailed in the UK Airspace Modernisation Strategy documents. The Airspace Change Organising Group (ACOG) offers more insights into the benefits of this modernization, with Edinburgh Airport collaborating closely with Glasgow Airport and our parent Air Traffic Control Centre at Prestwick in order to develop integrated plans across the Scottish and broader UK network.

We have developed design principles for this airspace change in collaboration with key stakeholders, and we have submitted these to the CAA. The CAA passed us at the Stage 1, and Stage 2 Gateways of CAP 1616 Airspace Change Process, and we are now at Stage 3 of the CAA's process.

More information on our Airspace Change application and the process will become available in due course and available via our dedicated ACP website:

<https://airspacechange.edinburghairport.com/about/>

Graphic 01: The five principal elements of the Balanced Approach to Aircraft Noise Management





The Section below details how we manage, measure and monitor noise in alignment with ICAO's Balanced approach.

### Current Noise and Carbon reduction measures

Graphic 01: The five principal elements of the Balanced Approach to Aircraft Noise Management



#### Working with our Communities -

- 5 Fixed Noise monitoring Stations
- NTK Noise Lab accessible data and information
- Edinburgh Airport Noise Advisory Board (EANAB)
- Edinburgh Airport Consultative Committee (EACC)
- Noise insulation scheme
- Monitoring and Reporting
- Noise Enquiry handling and Policy
- and response targets

#### Operating Restrictions

- Night noise mitigation - stricter noise limits/higher fines
- Noise Preferential Routes (NPR)

#### Land Use Planning and Mitigation

- Noise insulation scheme
- Work with Local Authority Environmental and Planning Depts on Land-use planning

#### Quieter Planes

- Edinburgh Airport Noise rating charges
- Carbon Emissions Charges
- Environmental Rebates
- Zero Emissions Prize
- Participation in Industry Groups

#### Quieter Procedures -

- Airspace Modernisation
- Noise monitoring and fining
- Noise and Track Keeping system
- Continuous Climb Departures (CCD)
- Continuous Descent Arrivals - (CDA)
- Restrictions on Engine testing - Ground Runs

### ICAO balanced approach - Land use Planning and Management

#### Engaging with and cultivating partnerships with Local Authorities

Presently, we collaborate with local authorities to ensure that during the submission of relevant planning applications, we engage with local Environmental Health Officers. This ensures they have access to current data and information to facilitate the implementation of suitable conditions for noise mitigation.

Our objective is to further strengthen this partnership and enhance the sharing of pertinent data and noise contour mapping to enable local authorities to factor in the local noise climate when responding to planning application relating to the development of new noise sensitive properties within close proximity to the airport and below our current or future flight paths.

#### Noise insulation scheme

Edinburgh Airport Noise Insulation Scheme provides assistance with insulation to property owners whose property's lie within the LAeq summertime noise contour mapping 63dB and

greater contours. Summertime mapping is used to ensure that the loudest and busiest period of our operations year is used in determining who should be eligible to claim assistance and represents the worst-case scenario rather than best. It maps the period 16th June - 15th September, 07:00 - 23:00 hrs.

This type of LAeq summer mapping is different from the LAeq contour mapping detailed on subsequent pages of this document, each type of mapping is used for different reasons and in different ways, the glossary at the beginning of this document and Appendix A & B provide further detail on the varying types of contour mapping.

Figure 01 below shows the current (2023 data) contours on which this scheme is based. Within our previous NAP 2018 - 2023 we planned on renewing these contours on a bi-annual basis, this was put on hold during Covid lockdowns as to do so would have involved basing the next contour map on 2020 data, which we feel would have unfairly penalised householders for the temporary reduction in flight operations due to Covid.

As part of this draft NAP we propose updating our Insulation Scheme, further detail on this can be found in Section 09.

Figure 01



Our Noise Contour mapping is commissioned from ERCD, information on the ANCON Contour mapping programme used and managed by ERCD is available via the link below and within Appendix A and B.

<https://www.caa.co.uk/consumers/environment/noise/features-of-the-ancon-noise-modelling-process/>

#### Current Insulation Scheme

Edinburgh Airport Noise Insulation Scheme provides assistance with double glazing and loft insulation to properties which lie within the 63dB and greater noise contours of the airport, (an electronic version of this map is provided on our Noise Lab website) for properties which presently have single glazed windows installed we will provide 100% of the replacement costs, if the property already has double glazed window units installed, we would pay 50% of the cost of new double glazed units, providing the property has not received help of this manner in the past. We currently pay a 100% towards loft insulation for eligible properties. Enquiries and claims can be made via the noise Lab or by contacting the Environmental Noise Advisor: [noise@edinburghairport.com](mailto:noise@edinburghairport.com)

Further information and our policies and procedures are available on the noise lab and within Appendix C.

## ICAO Balanced approach – Operational Procedures, Restrictions and Noise Abatement

#### Noise monitoring and fining

Edinburgh Airport currently has a policy of voluntarily following the legislation set down by the UK Government for fining for excessive noise from Aircraft take-offs at Gatwick, Heathrow and Stanstead airports. We think it only fair that noise limits set out for the largest of the UK airports should be followed wherever possible.

We currently have four fixed noise monitors located in Broxburn, Livingston, Cramond Manse and Cramond Primary which are used for the fining of aircraft and for a variety of other noise monitoring and reporting purposes such as the commissioning of contour mapping. In addition to this in 2018 on the introduction of our new noise and track system we acquired three mobile noise monitors which are used for community noise monitoring programmes.

The level of the fine is dependent on the level of the infringement. Two different noise thresholds are used, one for daytime and one for nighttime. All money raised from noise fines is placed into the Edinburgh Airport Community Fund for distribution to local good causes.

Current noise thresholds in place, aircraft which exceed the following limits are fined:

# 94dB

Lmax noise level during the day (06:00 – 23:30)

# 87dB

Lmax noise levels at night (23:30 – 06:00)

# 90.1dB

and above (i.e. over 3dB over the limit) = £2,000

# 87.1 – 90.0dB

(i.e. up to and including 3dB over the limit)  
= £1,000





### Noise and Track Keeping system (NTK) – Placement of noise monitors

In January 2024, a second monitor was installed in the Cramond area at Cramond Primary School. This monitor is not employed in aircraft fine enforcement but rather will in future years aid in enhancing the precision of our noise contour mapping, crucial for identifying areas eligible for Insulation Scheme assistance. Additionally, the monitor offers valuable insights to the community, and we are collaborating closely with the school to integrate it into Science, Technology, Engineering, and Mathematics (STEM) learning initiatives.

The noise levels are measured by our noise monitors located in Cramond, Broxburn and Livingston. The noise monitors in Cramond and Broxburn are located 6.5km from start of roll (the point in the runway where a flight begins

its departure), and measure both arriving and departing aircraft noise.

The noise monitors are positioned in accordance with guidance from the Department of Transport which is based on a detailed scientific study carried out by the CAA.

If aircraft are correctly following our procedures for arriving and departing, they should not exceed the permitted levels and will not incur a fine.

If an aircraft does exceed these limits, we will investigate the occurrence whether an enquiry from our communities has been made or not.

### Noise Preferential Routes (NPR)

Noise Preferential Routes are corridors, extending one mile in each direction from the centre of the SID line, which aircraft are expected to fly when departing from the airport. NPRs are not a statutory control but are used to reduce noise disturbance on our local communities.

Departing aircraft are required to follow the NPR until they reach an altitude of 3,000ft. When they reach 3,000ft they can depart these routes and fly towards their destination. Since July 2015, to alleviate noise intrusion in the Uphall area, we raised this height/turn level to 4,000ft for jet aircraft.

On occasion, and to ensure aircraft safety, aircraft may be permitted to deviate from the NRP. The most common reason for this is difficult weather conditions.

### Engine testing – Ground Runs

We do not allow engine testing during the night unless exceptional circumstances require us to do so.

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.

All ground engine runs are subject to prior approval by Airside Operations and ATC. Permission for medium and high-power ground runs during 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

In order to help our community better understand our engine running requirements, we included a specific action within our NAP 2018 – 2023 to report on the frequency, duration and times of engine running. This information is available to view on our Noise Lab web pages and is updated on a Quarterly basis.

### Fixed Electrical Ground Power (FEGP) & Auxiliary Power Units (APU)

Beginning in 2017 there have been two installation phases of Fixed Electrical Ground Power (FEGP), whilst a third phase will be completed in 2024. FEGP is a mains electricity connection enabling aircraft to be powered whilst on stand. FEGP is a more environmentally friendly alternative to diesel powered Ground Power Units (GPU) or aviation fuel powered Auxiliary Power Units (APU). Upon completion of the third phase 34 parking positions at the Airport will be equipped with FEGP.

## ICAO Balanced approach – Operational Procedures and Restrictions

### Continuous Descent Arrivals – CDA

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

When an aircraft carries out a CDA the aircraft descends towards the airport runway 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, Ground Noise.

This type of procedure can result in noise reductions of up to 5 dB.

In 2006 a multiagency study and report on CDA's and the possible benefits was commissioned their findings are detailed below in the attached document.

The ability of an aircraft to carry out a CDA may be affected by many things including other air traffic in the sky around and above Edinburgh Airport, weather, the type of Aircraft that is being flown and the Airlines own policies and procedures for arrivals.

Noise from Arriving Aircraft an Industry Code of Practice: [www.sustainableaviation.co.uk/wp-content/uploads/2019/10/ACOP-v2-2006.pdf](http://www.sustainableaviation.co.uk/wp-content/uploads/2019/10/ACOP-v2-2006.pdf)

**Continuous Climb Departures (CCD)**

Departing aircraft are encouraged to use Continuous Climb Departures (CCD).

Edinburgh Airport works closely with Sustainable Aviation to improve noise and air quality around Edinburgh Airport. Sustainable Aviation launched in 2005 to bring together major UK airlines, airports, manufacturers, air navigation service providers and key business partners to work together to find collaborative ways of improving environmental performance and creating a balanced debate to ensure sustainable growth of the airline industry.

Sustainable Aviation and partners have set a range of goals and commitments covering climate change, noise and local air quality.

Continuous Climb Departures (CCD) are encouraged due to the potential for noise and Air Quality improvements for local communities.

The greatest benefit of continuous climb departures is the significant reduction in CO<sub>2</sub> emissions and the benefits this has on air quality.

Edinburgh Airport promotes the use of continuous climb techniques at Edinburgh Airport with the average monthly achievement figures reaching 100% for the majority of the year.

Climbing to optimum cruising altitude and out of congested airspace can reduce CO<sub>2</sub> per departure by 100-300 kilograms and reduce the impact of noise on communities slightly further from the airfield by ensuring aircraft are at higher altitudes when they pass over densely populated areas such as Livingston.

Edinburgh Airport reports on airline CDA CCO on a monthly basis and tables are available to view online via our noise lab. The airlines consistently hit our internal targets as can be seen below.

Sustainable Aviation also promotes best practice in take-off and landing operations through the publication, in partnership with others, of codes of practice.

Further information on CCDs and the scientific reasoning behind the use of these and other procedures can be found on Sustainable Aviation's website: [www.sustainableaviation.co.uk/goals/noise/](http://www.sustainableaviation.co.uk/goals/noise/)

Table 01

Target		2019	2020	2021	2022	2023
75%	CDA	86.50%	83.1	80.58	82.75	85.17
90%	CCD	100.00%	99.5	100	99.92	99.83

**Flight Profiles and our work with To70**

EANAB Aviation and Noise Subgroup, To70 and Edinburgh Airport are currently investigating how the Departure profiles of aircraft may impact communities under our flight paths.

Operations require careful balancing, using a reduced thrust setting during aircraft take-off can lower NO<sub>x</sub> emissions by compared to full thrust.

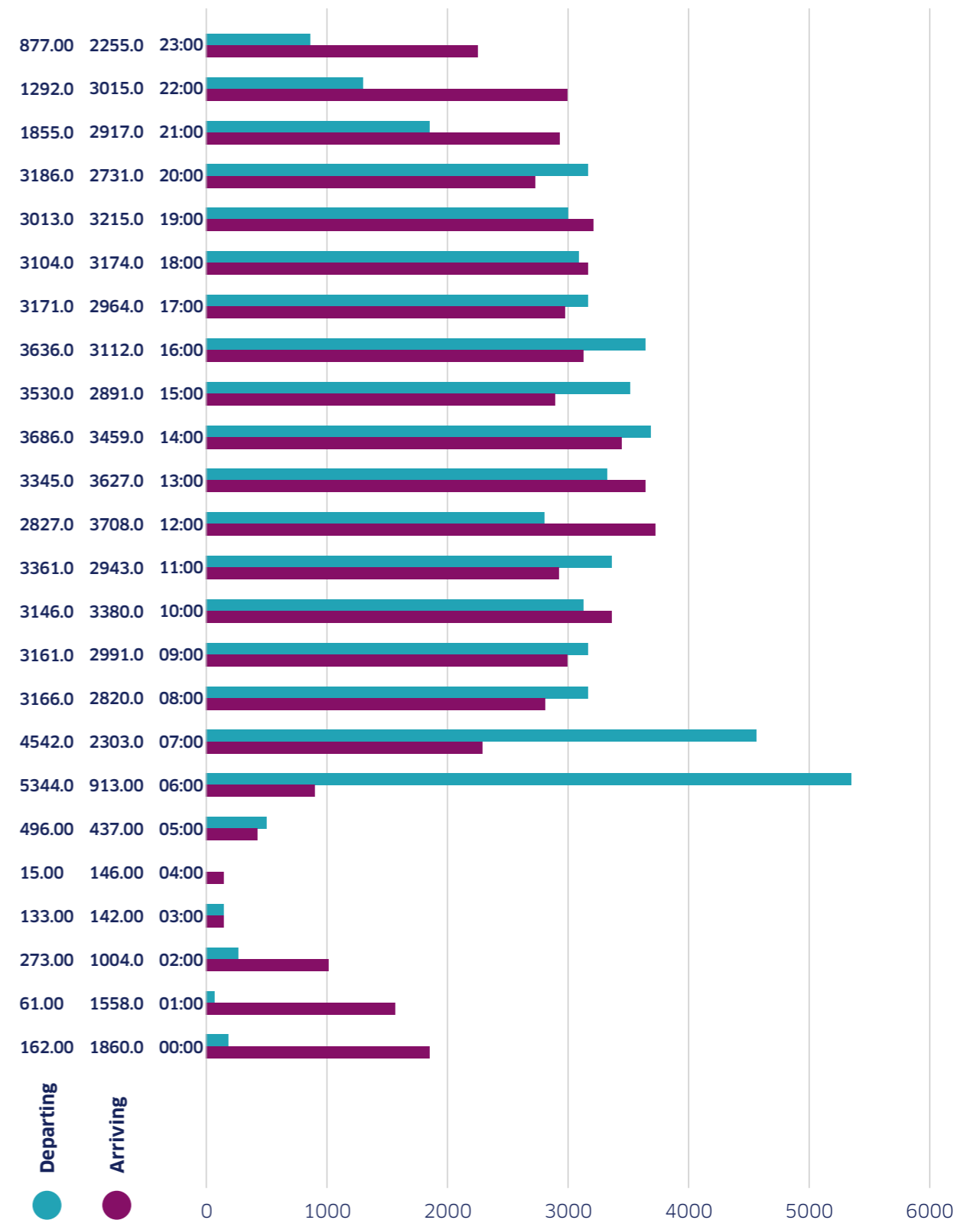
While this approach benefits the area around the airport by reducing emissions, it may cause a slight increase in noise for residents further from the airport along the departure flight path, as the aircraft ascends at a shallower angle. Work on this will continue and will be published on the EANAB website once concluded. Previous work carried out by To70, EDI and EANAB AAN may be downloaded from the EANAB website.

**Night noise mitigation**

As part of our ongoing commitment to reducing the impact of our operations on our closest neighbours, we currently impose noise controls and limits during the hours of 23:30 to 06:00.

Graphic 02

**Flights per hour 2023**





**Noise fining**

Between the hours of 23:30 and 06:00 aircraft must not exceed 87 dB Lmax 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 D.

**ICAO Balanced approach – Reduction of noise at source – Additional measures introduced since Round 3 NAP 2018 – 2023**

**Environmental Incentives Scheme, and changes to fleet mix**

Since 2019 we have introduced a number of initiatives to encourage Airlines to introduce newer and cleaner aircraft to Edinburgh Airport, each of the incentives detailed below are available in further detail within our *Conditions of Use*.

**Edinburgh Airport Noise rating charges** were introduced in April 2019 and are assessed and payable as set out in Edinburgh Airports Conditions of Use – Condition 10 (Schedule of Charges) and is based on the season, actual time of arrival or departure and the noise performance of the aircraft. The noise performance of an aircraft is assessed as set out in the Conditions of Use and is based on certified noise levels at each of the ICAO noise certification measurement points (flyover, 16 lateral and approach) and the arithmetic sum of the differences between certified levels and the Chapter 3 noise limits at the certification points; the ‘cumulative margin’.

**Carbon Emissions Charges**

The Carbon Emission Charge was introduced in 2023 and is calculated based on aircraft engine emissions per movement during the landing and take-off cycle (LTO). This charge is applied to every Landing and Take-Off.

**Zero Emissions Prize**

As part of its Greater Good strategy and in order to incentivise the use of alternative methods of propulsion in aviation Edinburgh Airport introduced a Zero Emissions Prize from 1st April 2022.

This prize will provide a reward for the first airline that brings the first zero emissions commercial scheduled flight in Scotland to Edinburgh Airport. The prize will entitle this airline to one year of fully waived aeronautical charges (Passenger Charge, Weight Charge on Departure and Aircraft Parking Charges), for the route operated by the airline using the zero emissions aircraft. Additionally, Edinburgh Airport will waive charges for testing and trial flights for zero emission aircraft wishing to land and take-off from Edinburgh Airport.

**Impact of Environmental Charging schemes**

In 2023 we recovered to approximately 97% of the 2019 passenger traffic, however an increase in aircraft passenger capacity resulted in 13% fewer aircraft movements than we had in 2019. Delivering growth on fewer aircraft movements while decreasing our impact on neighbouring communities. In 2024 we expect passenger traffic to be at an all-time high but aircraft movements to be around 9% lower than in 2019.

The introduction of the above schemes has already made changes to the aircraft fleet mix flying to and from Edinburgh Airport we have highlighted some of the changes that have already taken place below and plans which some of our largest carriers have for the introduction of newer aircraft. Recent issues with Boeing and the availability of new aircraft will impact on the introduction of newer aircraft to EDI and other airports across Europe.

Table 02

	Charge (£)	Unit
<b>All Flights</b>	10.6	per tonne of CO <sub>2</sub> */movement
<b>Flights with no UID details</b> (not submitted to EAL or Loop)	25	per movement

**Environmental Rebates**

To incentivise airlines to fly quieter, cleaner aircraft to and from Edinburgh Airport we introduced environmental rebates for efficient aircraft in April 2022, and were the first airport to introduce such rebates in the UK.

Table 03

Aircraft Type	ATR42-600	Embraer E175-E2 ATR72-600	Embraer E190-E2 Embraer E195-E2 A319N A220	A320 NEO, A321 NEO, B737MAX	A321 NEO XLR A330 NEO
<b>Rebate per Departure 2023/24 (£)</b>	10	15	27.5	55	110

**Passenger Split by Airline 2023**

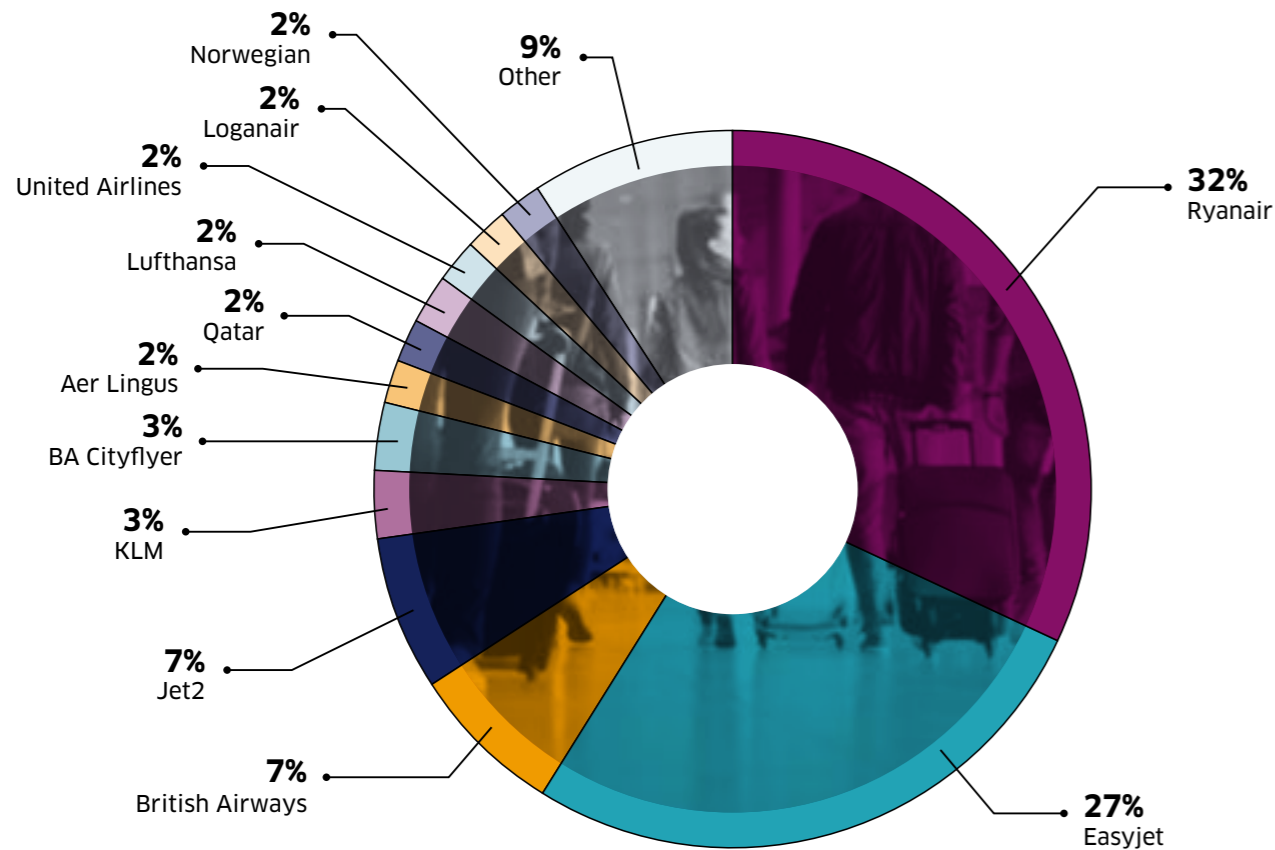
**Ryanair** - Based aircraft have grown from 8 in 2019 to 11 in 2023. Ryanair have prioritised the placement of B737-8200 (MAX) aircraft into the Edinburgh base, with these now accounting for up to 6 of the 11 based aircraft at any one time (based on current schedules). The B737-8200 MAX carries 4% more passengers than the previous generation B737-800 aircraft, with per passenger fuel consumption reduced by 16%. Noise emissions and CO<sub>2</sub> emissions will be reduced by approximately 40% compared to the previous generation B737-800.

**Jet2** - investment in their Edinburgh operation will see the placement of three new Airbus A321 neo aircraft from 2025, replacing older and less efficient B737-800 aircraft. The new A321 neo aircraft deliver an almost 20% reduction in fuel consumption and CO<sub>2</sub> emissions per seat compared to previous generation single aisle aircraft models.

**Air France** - Air France - Air France has invested in the Airbus A220 aircraft which will be heavily utilised for UK operations including Edinburgh going forwards. The aircraft us designed with lighter materials, new engines and an optimised fuel system which means it uses 20% less fuel, produces 20% less CO<sub>2</sub> and 34% less noise than the A318 and A319 which it replaces. Whilst Air France are currently experiencing pilot shortages and technical issues on this aircraft type, there is a longer-term plan to reintroduce them to the Edinburgh market when they are able to.

**Emirates** - Emirates will restart their Dubai - Edinburgh service from 4th November using a brand new state of the art A350 aircraft. This replaces the older and less efficient B777 which Emirates used on the route when they last operated in 2020.

Graphic 03  
**Passenger Split by Airline 2023**



Largest Carriers	Current Fleet	Share of current fleet that qualify	To be delivered	Share of new fleet that will qualify			
Ryanair	B737-800: 408	22%	B737-10: 150	100%			
	B737MAX: 126		B737MAX: 83				
	A320-200:28						
EasyJet	A319-100: 58	34%	A320-200: 1	99%			
	A320-200: 77		A320-200N: 125				
	A320-200N: 37		A321-200NX: 33				
	A321-200NX: 33						
Jet2	A321-200: 6	3%	A320-200N: 35	98%			
	A321-200NX: 4		A321-200N: 58				
	A330-200: 2		A321-200NX: 1				
	B737-300: 7		B737-800: 2				
	B737-800: 89						
	B757-200: 8						
British Airways	ERJ 190-100SR: 20	10%	A320-200N: 11	38%			
	A319-100: 30		A321-200NX: 8				
	A320-200: 71		A350-1000: 2				
	A320-200N: 20		B787-10: 11				
	A321-200: 13		B777-9: 18				
	A321-200NX: 10						
	A350-1000: 16						
	A380-800: 12						
	B777: 59						
	B787: 30						
	ERJ 190-100SR: 20						
	Air France/KLM		ERJ 170-200STD: 17		30%	ERJ 190-400: 8	66%
			ERJ 190-100STD: 30			B787: 5	
ERJ 190-400: 18		A350-900: 19					
A330: 26		A220: 30					
B737: 44		ERJ 190-400: 8					
B777: 94							
B787: 33							
A350-900: 22							
A320: 38							
A319: 17							
A220: 30							
ERJ 190-100STD: 74							
ERJ 190-100LR: 6							
ERJ 170-100STD: 10							
ERJ 170-100LR: 3							
ERJ 190-400: 36							
ERJ 170-200STD: 34							

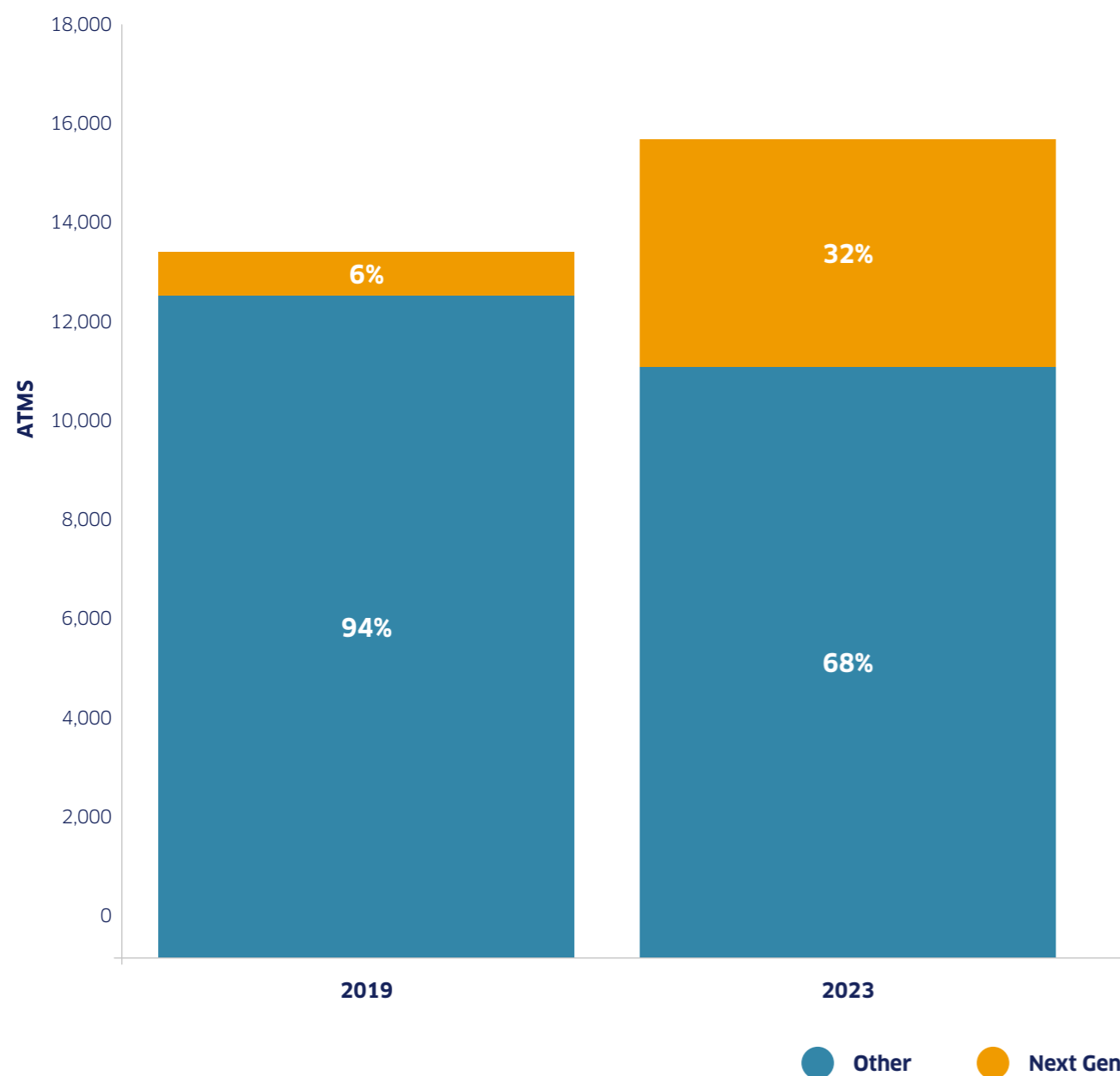
**All growth in 'Night' movements has come from next generation aircraft**

**Next generation aircraft produce less noise, meaning the impact on local communities is reduced.**

- Although 'night' ATMs have increased, the increase from 2019 to 2023 can be attributed to next generation aircraft in passenger operations
- Ryanair base 6 737MAX aircraft at EDI, easyJet base 3 A320neo aircraft, and Jet2 are set to bring new A321neo aircraft from 2024

- Decreases in cargo flying will also reduce noise levels, given they tend to operate much older, noisier aircraft
- The shift to using next generation aircraft will only increase in the coming years when looking at aircraft on order from Base carriers

Graphic 04  
**'Night' ATMs by Hour**



Source: EAL 'Actual Flown' Data, Night Period: 23:00 - 06:59

**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).

**ICAO Balanced Approach - and Working with our Communities**

**Edinburgh Airport Noise Advisory Board (EANAB)**

The Purpose of the Edinburgh Airport Noise Advisory Board (EANAB) is to facilitate communication between local communities and Edinburgh Airport (EAL) regarding the impact of airport noise on communities. This communication includes advice, information provision and recommendations from both EANAB to EAL and from EAL to EANAB.

The remit of EANAB is to mitigate and reduce Edinburgh Airport noise levels on local communities.

The Board consists of local community representatives; airport employees; an independent Chair whose purpose is to facilitate the work of the Board, and any co-opted persons with specialist knowledge as may be required. It operates through a series of sub-groups drawn from the membership, though all substantive outputs/decisions must be endorsed by the whole Board.

The Board recognises the economic importance of the airport to the whole of Scotland, and that safety is of overwhelming importance in all operating procedures. It aims to achieve its purposes through the provision of information to the communities it represents, and by using knowledge and information to influence the airport's actions and policies through inputs such as those in relation to flightpaths, especially the current Airspace Change Plan (ACP); this Noise Action Plan; the airport's charging schemes,

and the 'Noise Abatement Departure Procedures' adopted by airlines.

**Noise and Track Keeping system**

In June 2018 we introduced our upgraded Noise and Track Keeping (NTK) System, moving to an online system. The NTK system is a state-of-the-art monitoring system that is specifically designed as an intuitive system for noise and aircraft track analysis. In developing the system close attention has been paid to easing analysis and reporting, in order to improve the quality and efficiency of communication to all stakeholders.

As well as improved analysis and reporting, the online tool will also allow you to check aircraft noise levels and flight specific information such as flight position and altitude using our own radar data.

**NTK Noise Lab reporting and access to data and information**

Edinburgh Airport's Noise Lab allows people to monitor and check aircraft noise levels and look at flight specific aircraft information, such as flight paths and procedures, in almost real time. It also provides access to EDI's Flight tracking software (there is currently around a 2-minute delay) both systems are linked to feeds from our own radar, operations and noise monitoring system and are highly accurate.

The noise Lab also provides the ability to analyse historical flights, associated data and provides up to date information and reports relating to information provided with in this NAP. You can also download our previous Noise Action Plan 2018 - 2023.

<https://noiselab.casper.aero/edi/>

**Noise Enquiry handling and Policy**

We understand that our operations have an impact on our local communities Both positively, through social and economic benefits that an international airport brings to the local area and Scotland in general and negatively through Environmental Impacts. We understand that some residents may want to enquire or complain about aircraft activity. This policy explains how we receive and process enquiries. Our current complaint policy is detailed in Appendix F.

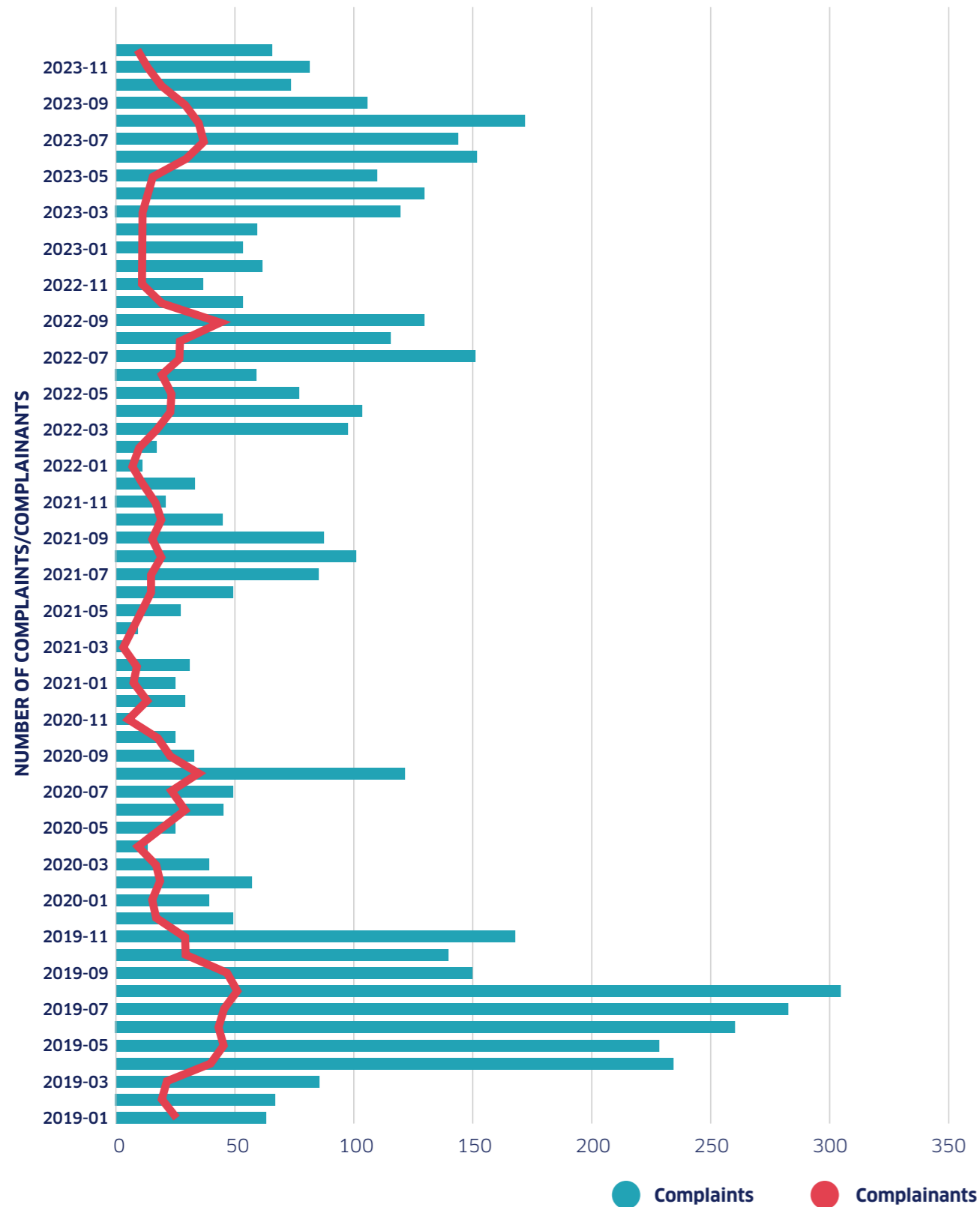
Information on the number of complaints received versus the number of complainants may also be found on our noise Lab via the link below,



this provides a break down and analysis of the number of complaints received per year over a period 2018 - 2023.

<https://noiselab.casper.aero/edi/content/1/complaints/>

Graphic 05  
**Enquiry Trends**



Graphic 05 shows the trend in noise enquiries and compares the number of complaints against complainants.

The data on complaints v complainants per month over the period 2019 - 2023 inclusive provides you with an overview of the number of people within our communities contacting Edinburgh Airport over that period.

As you can see from the graph, despite the worldwide Covid pandemic during 2020 and consequentially a significant reduction in operations, complaints from our frequent

complainants continued in a similar pattern to previous years. Enquiries remain low in comparison with trends noted in 2019.

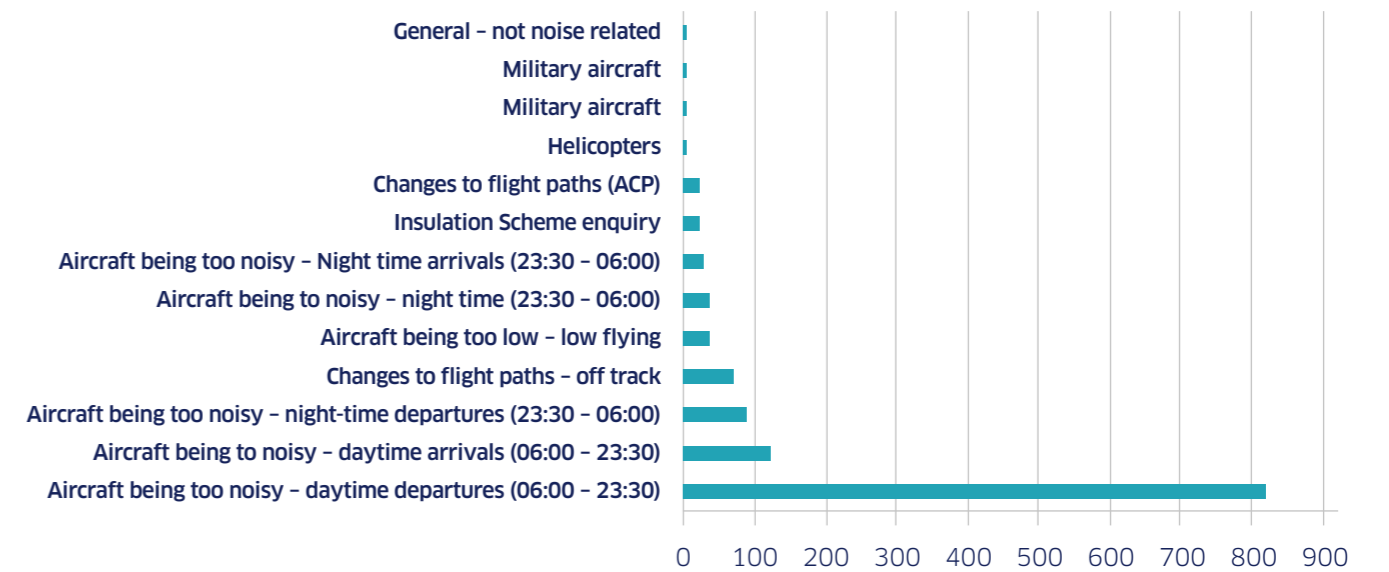
The map image below provides you with information on the general location of complainants during the busiest period to date - summer 2023 - by number of complaints and complainants per postcode area.

Figure 02



Graphic 06 below provides information on the reasons that people contacted us during 2023 indicated on the above location mapping. Our frequent complainants as can be seen from the data below and above generally make enquiries regarding daytime departures.

Graphic 06  
**Number of Enquiries**





# Background to aircraft noise and regulation

# 04

## Sources of airport noise

Noise at airports is caused by a variety of sources, not only from aircraft taking off and landing on our runway but also:

- engines running on the airfield prior to take off and after landing
- vehicles on the airfield servicing aircraft
- cargo vehicles servicing cargo operations
- ground running of engines

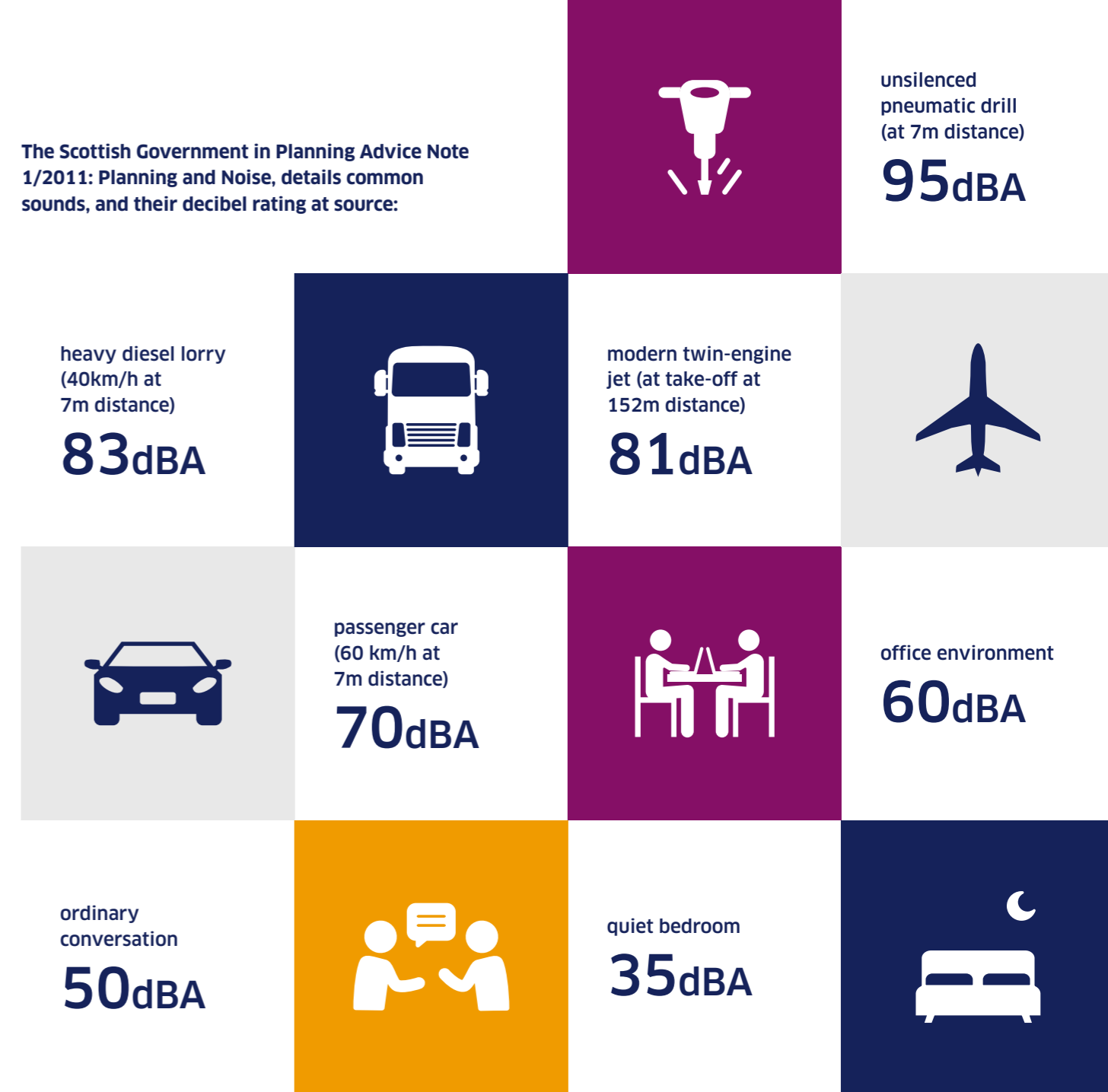
Noise from aircraft is caused by air going over the aircraft's fuselage (body) and wings – known as airframe – and its engines. When air passes over the aircraft's airframe, it causes friction and turbulence, which results in noise. The level of noise generated varies according to aircraft size and type and can differ even for identical aircraft. Engine noise is created by the sound of the engine's moving parts and by the sound of air being expelled at high speed. Aircraft have been getting progressively quieter as designs and engine technology have advanced, and it is expected that today's airlines will be operating even quieter models in the future.

Different people react differently to noise. Perceptions vary not only on the level of noise but may also be dependent on the character, time of day, location and the level of background noise present. Reactions to noise can be influenced by an individual's attitude to the noise level experienced.

However, these attitudes are less well understood and more difficult to calculate or individually mitigate for in comparison the technical science of sound-generation and measurement.

Noise is measured in decibels (dB), where zero dB is the lower limit of audibility, and 140 dB is the level at which physical pain in the ear may be felt. Individual sensitivity to noise is highly subjective and is affected by a range of factors. As these can include non-acoustic matters, such as attitude to the noise source, sensitivity may not always relate directly to the level of noise.

The Scottish Government in Planning Advice Note 1/2011: Planning and Noise, details common sounds, and their decibel rating at source:



To put some of these noise levels into perspective 70 dBA is the average noise level at the Newbridge roundabout while standing on the pavement while 60 dBA is the average noise level generated by aircraft in the communities close to the airport at the eastern end of Ratho Station or in parts of Cramond.

Actual average noise levels in Ratho Station may be higher due to the proximity of motorways and arterial routes into Edinburgh. On that basis, someone's perception of noise at different points within Ratho Station or Cramond could vary.

PAN 1/2011 helpfully describes perception in relation to the decibel scale. It advises that decibels incorporating an 'A' frequency weighting (dBA), differentiate between sounds of different frequency (pitch) in a similar way to the human ear and broadly agree with people's assessment

of loudness. It also explains that for noise of a similar character, a change of 3 dBA is the minimum perceptible under normal conditions, and a change of 10 dBA corresponds roughly to halving or doubling the loudness of a sound.

COMMUNITY NOISE		AIRCRAFT NOISE	
Pneumatic drill	130		
Loud car horn	120		
Rock concert	110		
Inside underground train	100		
Inside bus	90	Arriving Boeing 747-400 (at 800ft)	Arriving Boeing 737-400 (at 800ft)
Busy residential road	80	Departing Airbus A320 (at 2000ft)	Departing Airbus A319 (at 2500ft)
Conversation	70	Arriving Boeing 737-400 (at 2500ft)	
Living room	60	Arriving Boeing 737-800 (at 5000ft)	
Quiet office	50	Airbus A320 (at 7000ft level flight)	
Bedroom	40		
Library	30		
Broadcasting studio	20		
Threshold of hearing	10		
	0		

In reality, our perceived exposure of aircraft noise is influenced by weather conditions, character of the location and individual attitudes as well as the source level of noise. How we feel about that noise exposure may also be heavily influenced by non-acoustic factors, such as how we feel about the source of the noise, for example one person may love the sound of a ticking clock, finding it relaxing, and another may find the same noise distracting and causes them anxiety. This is the same for Aircraft Noise, what for one is nonobtrusive and part of life may make concentration difficult for another, however that doesn't mean that the actual level of the noise source is any different, just the perception of how much of a nuisance it is to the individual.

For aviation purposes, as a flight increases in altitude, aircraft noise disperses and dissipates outwards, with noise levels decreasing as the height of the aircraft increases. In order to assess environmental noise exposure to those living near an airport, or below the flight paths it is necessary to take into account the impact of many events over longer periods - days, months, years.

These events will generally differ in magnitude; with different number of operations per hour or day; and they will occur at different times of day. With the frequency of aircraft movements also dependant on the time of year e.g., summer as opposed to winter operations. Most measurements for this type of analysis is the LAeq time averaging parameter.

Noise contour maps are used to predict which geographical areas will likely be the most disturbed by noise and to what extent. They are currently produced for us by ERCD a department of the CAA and are based on the previous year's actual flown data, this type of mapping assists Edinburgh Airport in predicting areas where noise disturbance may occur and to determine which areas that may be entitled to extra insulation in their homes to help reduce the noise disturbance from aircraft.

**Lden Contours**

The Environmental Noise (Scotland) Regulations 2006 requires that strategic noise mapping should be conducted every five years.

Unlike the conventional summer 16-hour dB LAeq contours, the regulations require a different range of noise parameters: Lday, Levening, Lnight, LAeq16hr, and Lden these are based on Annual data rather than summer only. A full definition of these terms is provided in the glossary and within Appendix A.

**LAeq Contours**

Under UK legislation the most common method for representing noise at airports is the Equivalent Continuous Sound Level, LAeq which is an average of the noise levels for the busiest 16 hours of the day, between 07:00 - 23:00 from mid-June to mid-September. In line with UK Government policy, this assessment parameter is used in the production of airport masterplans.

It is difficult to compare the two-noise metrics due to the different methods of calculating them, however, in general terms, the Lden contours tend to be larger than the dB LAeq. This is due to the Lden for evening and night periods including calculated penalties of 5 dB and 10 dB within the contour areas represented. Although the weightings do not directly mirror perceptions, it is clear from community engagement and surveys that flights at night-time and evenings tend to cause greater annoyance and disturbance than flights during daytime.

**Supplemental Mapping**

Recognizing that health impact research typically relies on LAeq metrics, we understand the challenge people face in connecting the concept of 'average noise over a day' to their personal experiences. Over several years, and particularly through EANAB, we have been actively enhancing the utilization of supplementary and event-based metrics. These metrics aim to depict individual noise experiences more accurately, informed by feedback from community members. The results of these efforts are accessible on the Noise Lab and EANAB web pages.

To ensure we provide mapping which assists you in understanding the noise climate in your area we have provided supplemental mapping in Annexe B We trust that these supplementary maps will offer you a more comprehensive understanding of the noise landscape.



## Guide to legislative controls

Currently, the UK Government only has direct responsibility for aircraft noise management at Heathrow, Gatwick and Stansted Airports. There are five main tiers of regulation governing aircraft noise in Scotland:

- International regulation
- European Union
- UK Government
- CAA
- Scottish Government
- Local Authorities

## International Regulations and controls

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

ICAO is an inter-governmental organisation that sets operating standards for aviation operations over the world. These standards are adopted by ICAO member states. ICAO has set a number of standards for aircraft noise.

#### Certification -

At an international level, the International Civil Aviation Organisation (ICAO) sets progressively tighter certification standards known as Chapters for noise emissions from civil aircraft which member countries' fleets must meet certification, which are contained in ICAO Appendix 16 Volume 1.

Environmental Protection, Aircraft Noise. This document sets maximum acceptable noise levels for different aircraft during take-off and landing, categorised as Chapter 2, 3 and 4 (see Appendix I for further details). Further information on how we incorporate this into Edinburgh Airports noise management is detailed *Edinburgh Airport Noise rating charges* and within our Conditions of use document.

Further details of these standards can be found at [www.caa.co.uk](http://www.caa.co.uk) or [www.icao.int](http://www.icao.int)

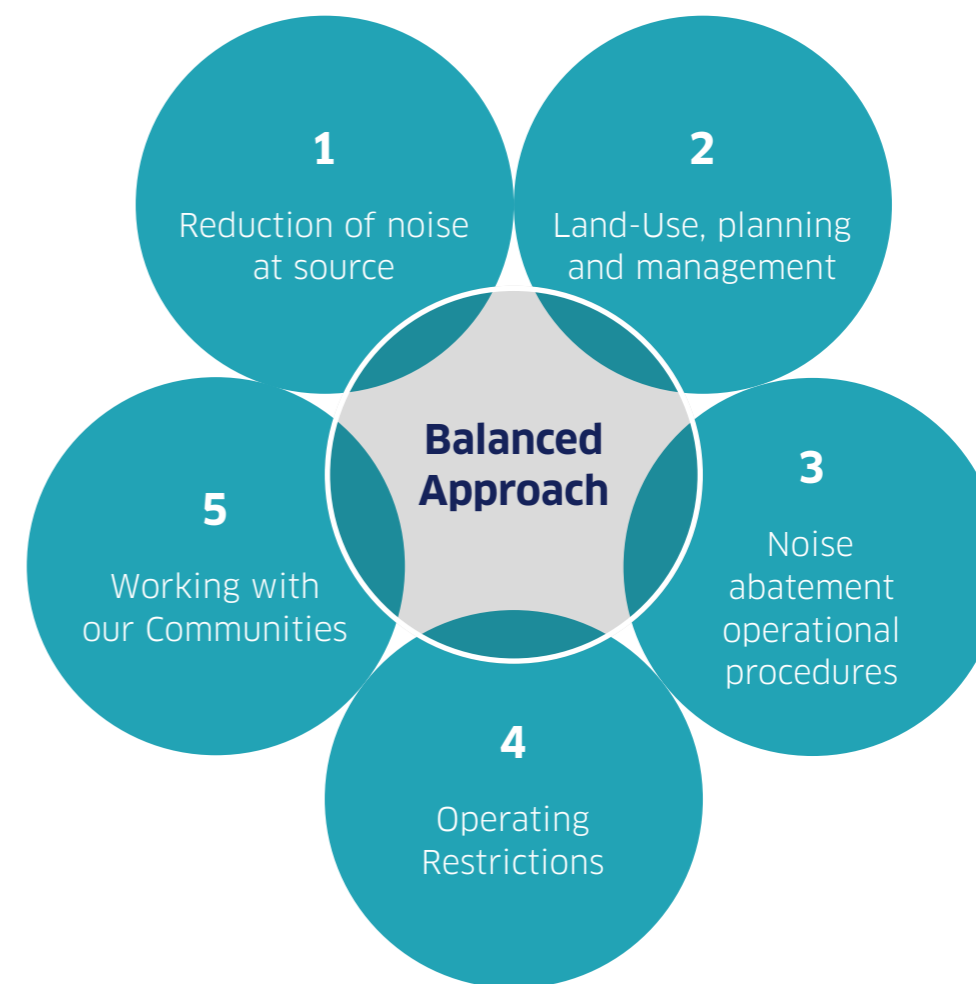
#### Balanced Approach -

The main overarching ICAO policy on aircraft noise is the Balanced Approach to Aircraft Noise Management, adopted by the ICAO Assembly in its 33rd Session (2001) and reaffirmed in all the subsequent Assembly Sessions (reference: ICAO Resolution A39-1 Appendix C). Detailed guidance on the application of the Balanced Approach is provided in the ICAO Doc 9829, Guidance on the Balanced Approach to Aircraft Noise Management.

The ICAO Balanced Approach consists of identifying the noise problem at a specific airport and analysing various measures available to reduce noise through the exploration of various measures which can be classified into five principal elements, described in Graphic 01.

The goal is to address noise problems on an individual airport basis and to identify the noise-related measures that achieve maximum environmental benefit most cost-effectively using objective and measurable criteria.

Graphic 01: The five principal elements of the Balanced Approach to Aircraft Noise Management



More details on these elements are provided online via the [ICAO website](http://www.icao.int)

### European regulation

Since the previous Noise Action Plan, the United Kingdom has formally withdrawn from the European Union. As such, all EU legislation has either been revoked completely or retained and transposed into UK law. However, the below provides an overview of the legislation on which the NAP's are based.

The European Union (EU) is increasingly assuming responsibility for the regulation of aircraft noise standards. The Directives of most relevance are:

- EC Directive 92/14/EEC, Chapter 2 which prevented aircraft from landing in the EU from 1st April 2002
- EC Directive 2002/30, which introduced discretionary powers to restrict the operation of marginally compliant Chapter 3 aircraft, where circumstances support this measure

The Directive also required the publication of an environmental noise objective for the airport and the adoption of a balanced approach to noise management including the four dimensions agreed by ICAO; and

- EC Directive 2002/49 (known as the Environmental Noise Directive or ENDs), which requires member states to create noise maps and five-year ENDs from all transport sources in urban areas. This is the Directive under which we have produced this draft noise action plan. Maps from each transport source are published on the noise mapping site: <https://noise.environment.gov.scot/>
- The Aviation Noise (Amendment) (EU Exit) Regulations 2019.

## UK Regulation

The UK Government is responsible for the policy framework for aircraft noise control at UK airports and has prescribed a range of controls on aircraft noise impacts.

- In December 2003, The Future of Air Transport White Paper outlined several new policies for airports which control, mitigate and compensate for aircraft noise.

Full details of the range of aircraft operations related-noise controls are set out in statutory notices and published in the UK Aeronautical Information Package (UKAIP) and elsewhere as appropriate. These controls include techniques such as Continuous Descent Approaches (CDAs), other noise abatement procedures and operating restrictions.

- The 1982 and 2006 Civil Aviation Acts grant the UK Government and airports powers to introduce noise control measures, including mitigation.
- Aviation Policy Framework (APF) 2013  
The Government believes that aviation needs to grow, delivering the benefit essential to our economic wellbeing, whilst respecting the environment and protecting quality of life sets out the Government's objectives and principles to guide plans and decisions at the local and regional level, to the extent that it is relevant to that area.
- Airports (Noise-related Operating Restrictions) (Scotland) Regulations 2019 – Repealing Directive 2002/30/EC(4).
- Overarching Aviation Noise Policy (March 2023).

In March 2023 the government published their revised overarching aviation noise policy statement with the intention to "provide clarity for airports and their stakeholders preparing or responding to noise action plan consultations". The revised overarching aviation noise policy statement is:

*"The government's overall policy on aviation noise is to balance the economic and consumer benefits of aviation against their social and health implications in line with the International Civil Aviation Organisation's Balanced Approach to Aircraft Noise Management. This should take into account the local and national context of both passenger and freight operations and recognise the additional health impacts of night flights."*

*The impact of aviation noise must be mitigated as much as is practicable and realistic to do so, limiting, and where possible reducing, the total adverse impacts on health and quality of life from aviation noise."*

- Flightpath to the Future 2022  
The Department for Transport's vision for a modern, innovative and efficient sector over the next 10 years, is set out in a 10-point plan within 'Flightpath to the future' a strategic framework for the aviation sector that supports and builds on the responses received to Aviation 2050 and establishes DfT's ambitions and commitments for aviation over the next 10 years.
- Civil Aviation Act 1982, 2006, 2012, 2024 – relevant sections specific to noise – Section 38 Noise Control Schemes.
- Aeroplane Noise Regulations 1999. The regulations set out the noise certificate requirements for both propeller and jet aircraft registered in the UK. It makes provision to ensure that no aircraft can land or take off in the UK without a noise certificate issued by its competent authority which meets at least equal requirements to those for UK registered aircraft.

The regulations make reference to noise certification standards and noise limits issued by ICAO and provide a list of aircraft that are exempt from ICAO noise certification.

- UK aeronautical information publication (AIP).  
The UK AIP is designed to be an operations manual containing thorough details of regulations, procedures and other information pertinent to flying aircraft in the UK. It covers aspects such as Continuous Descent Arrivals (CDAs), noise preferential routs (NPR) and other noise abatement procedures.

A copy of the Edinburgh Airport AIP noise abatement procedures as of April 2024 can also be viewed via the following link: <https://nats-uk.ead-it.com/cms-nats/opencms/en/Publications/AIP/Current-AIRAC/html/eAIP/EG-AD-2.EGPH-en-GB.html>

## Scottish regulation and Local Authority regulations

The regulation of aviation and air transport (including the Civil Aviation Act) has not been devolved to the Scottish Government. However, certain functions, such as aircraft noise, are exercised by Scottish Ministers.

- Scottish Planning Policy (SPP). Planning Advice Notes (PANs) provide advice on good practice and other relevant information. PAN1/2011 demonstrates the role of the planning system in preventing and limiting the adverse effects of noise without prejudicing investment in enterprise, development, and transport. PAN 1/2011 does not aim to provide a definitive source of prescriptive guidance on noise issues.

Rather, it sets out the range of noise issues that planning authorities need to be aware of in formulating development plans, making decisions on planning applications and in taking enforcement action to preserve and enhance environmental quality.

- The Environmental Noise (Scotland) Regulations 2006, as amended, set out the information and general requirements of five-year Noise Action Plans from all transport sources in urban areas on which this NAP is based.
- Airports (Noise-related Operating Restrictions) (Scotland) Regulations 2019.
- Scottish Governments Aviation Statement: [www.transport.gov.scot/news/aviation-statement/](http://www.transport.gov.scot/news/aviation-statement/) A plan to help Scotland's aviation sector balance growth with the country's net zero commitment has been published.
- The Aviation Statement sets out actions the Scottish Government will take to help grow Scotland's international connectivity, secure lifeline services in the Highlands and Islands and play its part in international efforts to decarbonise aviation.
- National Planning Framework 4 (NPF4) – Summary of NPF4 framework is detailed in the information table below. Further information may be found via: [www.gov.scot/publications/national-planning-framework-4/](http://www.gov.scot/publications/national-planning-framework-4/)

Table 04

National Planning Framework 4 Summary						
	Spatial principles	National Developments		Policies	Key policy links	Cross cutting policies
<p><b>Sustainable places</b></p> <p>SDGs: 7, 11, 12, 13</p> <p>National outcomes: Environment, communities, economy</p>	<ul style="list-style-type: none"> <li>• Just transition</li> <li>• Conserving and recycling assets</li> </ul>	<ul style="list-style-type: none"> <li>• Energy Innovation Development on the islands</li> <li>• Pumped Hydro Storage</li> <li>• Strategic Renewable Electricity Generation and Transmission Infrastructure</li> <li>• Circular Economy Materials Management Facilities</li> <li>• Urban Sustainable, Blue and Green Surface Water Management Solutions</li> <li>• Urban Mass/Rapid Transit Networks</li> </ul>		<ul style="list-style-type: none"> <li>• Tackling the climate and nature crises</li> <li>• Climate mitigation and adaptation</li> <li>• Biodiversity</li> <li>• Natural places</li> <li>• Soils</li> <li>• Forestry, woodland and trees</li> <li>• Historic assets and places</li> <li>• Green belts</li> <li>• Brownfield land, vacant and derelict land and empty buildings</li> <li>• Coastal development</li> <li>• Energy</li> <li>• Zero waste</li> <li>• Sustainable transport</li> </ul>	<ul style="list-style-type: none"> <li>• Land Use – getting the best from our land: strategy 2021 – 2026</li> <li>• Making things last: a circular economy strategy for Scotland</li> <li>• Scotland’s Energy Strategy</li> <li>• Scotland’s Environment Strategy</li> <li>• Scotland’s Forestry Strategy</li> <li>• Scottish Biodiversity Strategy</li> </ul>	
<p><b>Liveable places</b></p> <p>SDGs: 3, 4, 5, 6, 10, 11</p> <p>National outcomes: Communities, culture, human rights, children and young people, health</p>	<ul style="list-style-type: none"> <li>• Liveable places</li> <li>• Compact urban growth</li> </ul>	<ul style="list-style-type: none"> <li>• Central Scotland Green Network</li> <li>• National Walking, Cycling and Wheeling Network</li> <li>• Edinburgh Waterfront</li> <li>• Dundee Waterfront</li> <li>• Stranraer Gateway</li> <li>• A Digital Fibre Network</li> </ul>		<ul style="list-style-type: none"> <li>• Design, quality and place</li> <li>• Local living and 20 minute neighbourhoods</li> <li>• Quality homes</li> <li>• Rural homes</li> <li>• Infrastructure</li> <li>• Play, recreation and sport</li> <li>• Flood risk and water management</li> <li>• Health and safety</li> <li>• Digital infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• A Connected Scotland</li> <li>• A Healthier Future: Scotland’s diet and health weight delivery plan</li> <li>• Cleaner Air for Scotland 2</li> <li>• Creating Places</li> <li>• Culture Strategy</li> <li>• Heat in Buildings Strategy</li> <li>• Housing to 2040</li> <li>• Learning Estate Strategy/Learning Estate Investment Programme</li> <li>• Public Health Priorities for Scotland</li> <li>• Remote, Rural and Islands Hosing Action Plan (pub. Spring 2023)</li> <li>• Scotland’s Population Strategy</li> </ul>	<ul style="list-style-type: none"> <li>• Climate Change Plan</li> <li>• Climate Change Adaptation Programme</li> <li>• Just Transition Plans</li> <li>• National Transport Strategy</li> <li>• Infrastructure Investment Plan</li> <li>• Strategic Transport Projects Review 2</li> <li>• National Marine Plan</li> <li>• Tackling Child Poverty Delivery Plan</li> </ul>
<p><b>Productive places</b></p> <p>SDGs: 1, 2, 8, 9, 11, 14</p> <p>National outcomes: Fair work and business, economy, poverty, communities</p>	<ul style="list-style-type: none"> <li>• Rebalancing development</li> <li>• Rural revitalisation</li> </ul>	<ul style="list-style-type: none"> <li>• Clyde Mission</li> <li>• Aberdeen Harbour</li> <li>• Industrial Green Transition Zones</li> <li>• Hunterston Strategic Asset</li> <li>• Chapelcross Power Station Redevelopment</li> <li>• High Speed Rail</li> </ul>		<ul style="list-style-type: none"> <li>• Community wealth building</li> <li>• Business and industry</li> <li>• City, town, local and commercial centres</li> <li>• Retail</li> <li>• Rural development</li> <li>• Tourism</li> <li>• Culture and creativity</li> <li>• Aquaculture</li> <li>• Minerals</li> </ul>	<ul style="list-style-type: none"> <li>• National Strategy for Economic Transformation</li> <li>• Retail Strategy for Scotland</li> <li>• Report of the City Centre Recovery Taskforce</li> <li>• Scottish land rights and responsibilities statement</li> <li>• Town Centre Action Plan 2</li> </ul>	



- Local Development Plan (LDP).
- Scottish Aviation Strategy – The Scottish Government consulted on an Aviation Strategy discussion document in 2022. The vision is for “For Scotland to have national and international connectivity that allows us to enjoy all the economic and social benefits of air travel while reducing our environmental impact.” It covers the transition to low and zero emission aviation, Scotland’s international connectivity, Scotland’s domestic connectivity and air freight.

The strategy was expected to be published by the beginning of 2023.

## CAA Regulations

UK Civil Aviation Regulations are often referred to as CAP’s they are aviation regulations and publications by the CAA, all CAPs may be downloaded via the link below.

In Addition to legislation detailed within previous NAP’s the CAA produced CAP2091 Policy on Minimum standards for Noise Modelling in 2021. The policy document defines Categories of noise modelling sophistication and describes the minimum Category which different stakeholder or sponsor groups should use when providing noise calculations to the CAA in order for Noise Modelling to meet minimum or better requirements. Edinburgh Airport have worked diligently since 2018 on improving the quality of our contour mapping and in 2018 we introduced a new NTK system which allowed us the use our own radar data in the generation of our contours, further improving their accuracy in line with this policy.

[www.caa.co.uk/our-work/publications/publications/](http://www.caa.co.uk/our-work/publications/publications/)

# Description of the airport Location and Airspace

# 05

In early 2020, Edinburgh Airport worked with BiGGAR Economics to understand the positive impact of the airport on Scotland's economy. Their report found that in 2019, Edinburgh Airport generated £1.4 billion Gross Value Added (GVA) and 28,000 jobs in the Scottish economy.

In 2019 14.7m passengers passed through our doors, in 2023 our passenger numbers recovered to 14.4m in 2023.

Over the same period, growth in Air Transport Movements (ATM's) has been more modest rising from 98,000 in 2012 to 115,000 in 2023. By accommodating passenger growth through more efficient utilisation of existing capacity, the impacts of growth on local communities and the environment have been minimised.

Servicing this demand is a route network operated by 35 airlines, which connects Edinburgh to 152 destinations across the globe. This ever-growing route network is integral in connecting Scotland to the rest of the world.

Passenger growth is forecast to grow to 20m and 148,000 operations by 2030.

## Land Use

### 2.1. Location

Edinburgh Airport is located 13km to the west of Edinburgh City Centre and is bounded to the north by the River Almond, to the west by the M9 and to the East by the Edinburgh-Fife rail mainline. The Royal Highland Showground and land allocated for a new city neighbourhood - West Edinburgh - lies to the south of the site.

Since our last NAP was published, we have:

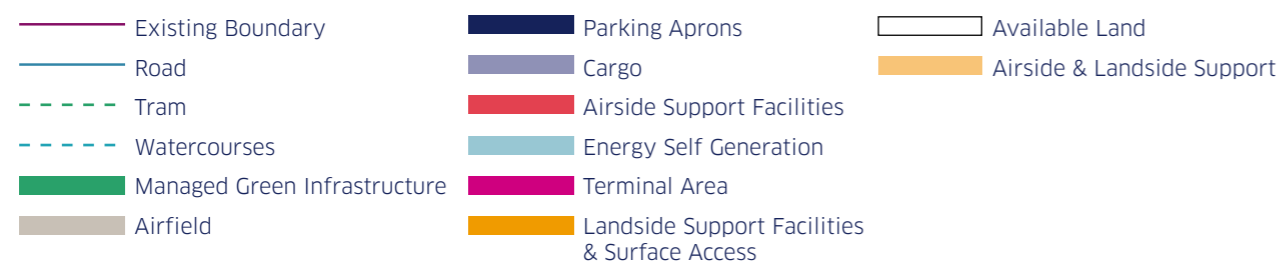
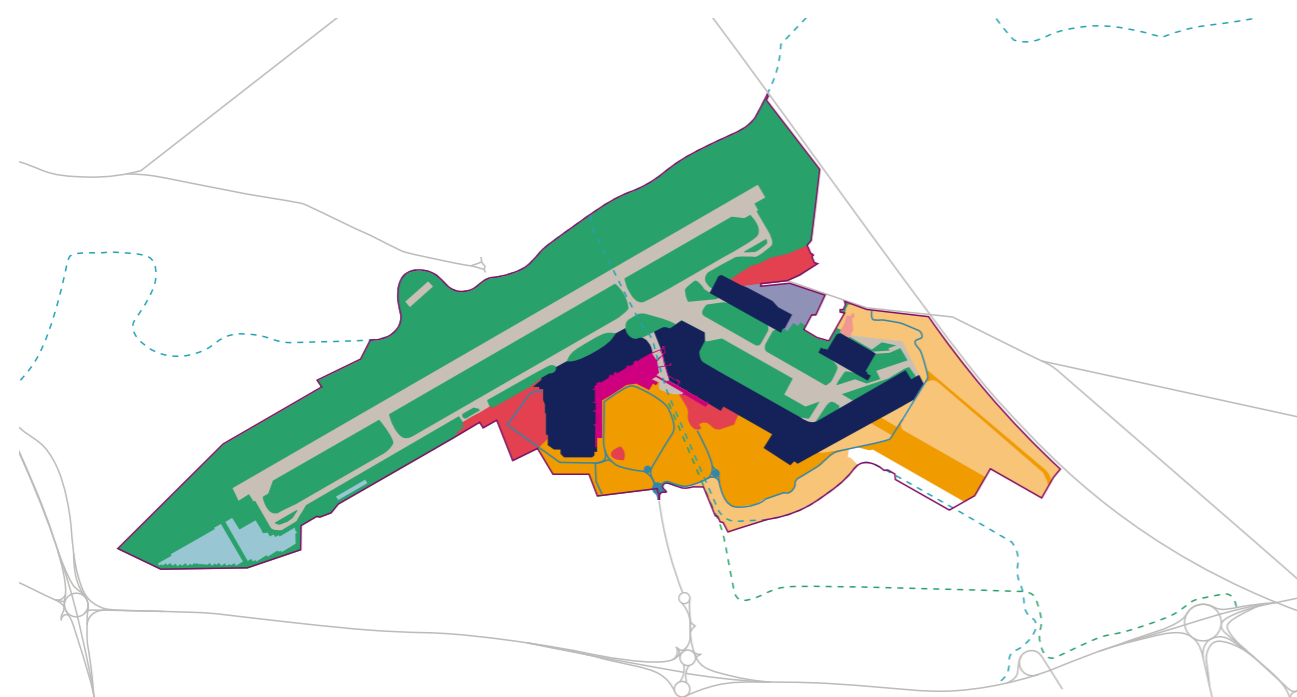
- Decommissioned the secondary "crosswind" runway, and demolished buildings on the site of the original RAF Turnhouse. Latterly, the runway was seldom in operation, whilst the buildings at Turnhouse no longer met the needs of a modern-day airport.
- Transferred an area of land totalling 25.8ha at the South-Eastern extent of the Airport (on the site of the decommissioned runway) to Crosswind Developments. Crosswind Developments is a separate legal entity which has been set up to develop the land and will be subject to its own planning process.

## Future Plans

Going forward Edinburgh Airport plan to maximise the use of our existing site capacity to accommodate for the increase in passenger traffic.

Detail on pages 56-57 has been taken from the working draft of Edinburgh Airports Masterplan 2025 and is subject to change, the Masterplan will be published mid 2025.

Graphic 07  
Current Landuse





## Infrastructure Development

Edinburgh Airport has worked closely with the City of Edinburgh Council for many years and benefits from a positive policy environment that supports their operations.

Edinburgh Airport benefits from permitted development rights. This allows development in connection with the provision of services and facilities including the erection and alteration of operational buildings to happen without the need to first apply for planning permission. It does not allow for the extension of the runway or the erection or alteration of a building that is not an operational building.

Developments out with the permitted development parameters require planning permission and will be considered in terms of the policies of National Planning Framework 4 (NPF4) and the adopted Local Development Plan (LDP). The policies that apply in this respect are explored in greater detail in Chapter 3 of Edinburgh Airport Masterplan 2024, however one of NPF4's key pillars (which is replicated in the LDP) is the promotion of local living and 20-minute neighbourhoods where people can meet most of their daily needs within a reasonable distance via active or sustainable travel, promoting health and well-being.

With the construction of approximately 14,000 new homes planned for West Edinburgh, Edinburgh Airport will contribute to a West Edinburgh 20-minute neighbourhood by providing jobs for all skill levels within a 10-minute walk, wheel or cycle or a short public transport journey from the new housing developments.

The proximity of the airport to these neighbouring developments, along with the various infrastructure proposals discussed further in Edinburgh Airport Masterplan 2024.

The following have been identified as the key infrastructure enhancements required to facilitate demand:

- Modernisation of the receiving airspace and enhancements to the taxiway network, will ultimately accommodate 55 runway movements/hour which is supportive of 30 million passengers per year. Airspace modernisation will be delivered in the mid to late 2020's and will be subject to its own consultation process. Additional taxiway capacity is anticipated to be required in the early to mid-2030's.
- Aircraft parking stand capacity will increase from 64 today, to 67 for 20m passenger capacity expected in 2030.
- Expansion of the main terminal building will increase the floorplate by approximately a third by 2030.
- A network of active travel routes has been developed in conjunction with the City of Edinburgh Council (CEC) and neighbouring landowners. This network will help connect the airport and the wider West Edinburgh neighbourhood, while a new relief road will ease traffic congestion, remove industrial traffic from Turnhouse Road and facilitate the wider development of West Edinburgh.
- Brownfield land totalling 7.5ha has been identified for the provision of new Cargo & Logistics facilities, enhancing Scotland's capacity to handle imports and exports.

The growth in demand forecast by our masterplan intersects with the challenge of the climate emergency. While aviation contributes only 2-3% of global greenhouse gas emissions today, it is forecast to become the second highest residual emitter in 2050 as other sectors reduce their emissions. Despite aviation being one of the most challenging sectors to decarbonise, we are clear that Edinburgh Airport will play its part in ensuring the UK reaches net zero. Edinburgh Airport released its first standalone sustainability strategy, known as Greater Good, in June 2021 and its first net zero strategy in October 2023. These strategies set out the Airport's commitment to sustainable development and decarbonising our operation, and give rise to the following key infrastructure enhancements to support this transition:

- A 10MW Solar Array – the first located airside in the UK – will go live in 2024 and generate approximately a quarter of the airport's demand.
- District Heating Network (DHN) will further contribute to decarbonisation of the site with a reduction in CO<sub>2</sub> emissions of approximately 12,000 tonnes for the period 2026 to 2050. Construction of the DHN is forecast to be complete by 2026 and will have capacity for both the airport and neighbouring landowners should they wish to connect.
- Further energy self-generation through a second solar array and installation of pioneering oscillating wind arrays compatible with airport operations will be delivered from 2026 onwards.
- Development of an airport hydrogen hub is anticipated by the 2030's and will produce blue hydrogen to support refuelling of hydrogen powered aircraft, ground servicing equipment and vehicles from the wider city and region.
- A rolling programme of EV charger installation is well underway with 93 to be installed by 2024. Land has also provisionally been identified for an EV Forecourt with construction anticipated by 2030.
- Aviation Fuel accounts for around 70% of the airport's scope 3 emissions. Edinburgh Airport are collaborating with PETROINEOS Grangemouth on a range of projects which support the development and production of Sustainable Aviation Fuels (SAFs). This is in conjunction with the Firth of Forth Green Freeport opportunity.

## District Heating Network

Development of a District Heating Network is at an advanced stage, with construction anticipated to begin in late 2024. The network will provide low carbon heat energy to the majority of the airport's campus and will employ heat pump technology, with water source heat pumps that borrow heat energy from the River Almond and air source heat pumps with evaporators located adjacent to a new purpose-built energy centre. The system will be powered by energy generated on-site; at present this is anticipated to be a new solar array on 7ha of land located to the North-East of the decommissioned crosswind runway. The network has the capacity to be expanded to provide heat for neighbouring developments, including Crosswinds/Elements and West Town. The project is being jointly funded by the airport and the [Scottish Government's Heat Network Fund](#).

## Runway Rehabilitation

The airport's runway will be fully resurfaced by 2026; the last major resurfacing having been completed in 2008. During the upcoming resurfacing project, all of the runway lights will be replaced with new LED heads saving 600,000 kwh per year of energy consumption. The project is in development and is currently evaluating the feasibility of a pioneering asphalt additive which incorporates recycled plastic.

## Surface Access Strategy

At present, 37% of journeys to and from the airport campus are made by public transport, the largest share of any UK airport outside London, and the ambition is to grow this further while reducing congestion by enhancing the existing road network.

As well as providing a second route into the airport campus, the new access road would deliver an active travel corridor alongside public transport prioritisation measures.

Feedback on the strategy will help inform future plans, and the five key aims set out within the document are:



You can view Edinburgh Airport's Surface Access Strategy [here](#).

### Eastern Access Road

Vehicles accessing Edinburgh Airport today can do so only using the primary access road – Eastfield Road. The road was often at capacity during busy periods in 2019 and, with passenger volumes now almost fully recovered to pre-pandemic levels, it is unavoidable that the road will once again become gridlocked during peak periods. This ultimately means disruption for passengers travelling by bus or car alike.

The existing road infrastructure in West Edinburgh is insufficient in busy periods today. Even with the significant mode share shift in favour of public transport, the absolute number of car movements will increase as the airport's passenger base grows, meaning investment in infrastructure is essential.

To tackle this issue head-on, Edinburgh Airport has proposed the construction of a secondary access road, the 'East Access Road', which will link the airport directly to the Gogar roundabout. If approved, the East Access Road would be funded and constructed by the airport.

### Cargo & Distribution

Edinburgh Airport is the largest handler of airfreight in Scotland, handling 35,000 tonnes of freight in 2023. An area totalling 3.2ha is allocated for Cargo processing on the site of the original RAF Turnhouse with the land-use constituting a mixture of hangar/warehousing, office space and service yards.

## Global Air Park

A new cargo and distribution hub entitled Global Air Park (GAP) is earmarked for brownfield land which was formerly part of the original RAF Turnhouse and recently decommissioned crosswind runway. There is significant demand for distribution facilities in Edinburgh with brownfield land being optimal for this purpose, as identified in recent publications produced ahead of the City of Edinburgh Council's (CEC) refresh of the *Local Development Plan (DP)*

### Electric Vehicle Forecourt

Adjacent to the GAP site and the new access road, land has been identified for an Electric Vehicle Forecourt. EV Forecourts are effectively the modern-day equivalent of a Petrol Station, with rapid EV chargers ensuring vehicles are recharged as quickly as possible.

### Support Facilities

There are several facilities associated with the operation of the airport including car-parking, aviation fuel storage, in-flight catering facilities, car-rental facilities, office space, hotels, and airport vehicle maintenance workshops. In total these constitute an area of approximately 60ha.

### Flight and Passenger Profiles

Pre-covid pandemic we could clearly state the Flight profiles at Edinburgh Airport. We know that during the summer months the demand for leisure travel increased and that it annually peaked in the months of July and August during the School, College, and University holiday. We fully expect this trend to continue going forward.

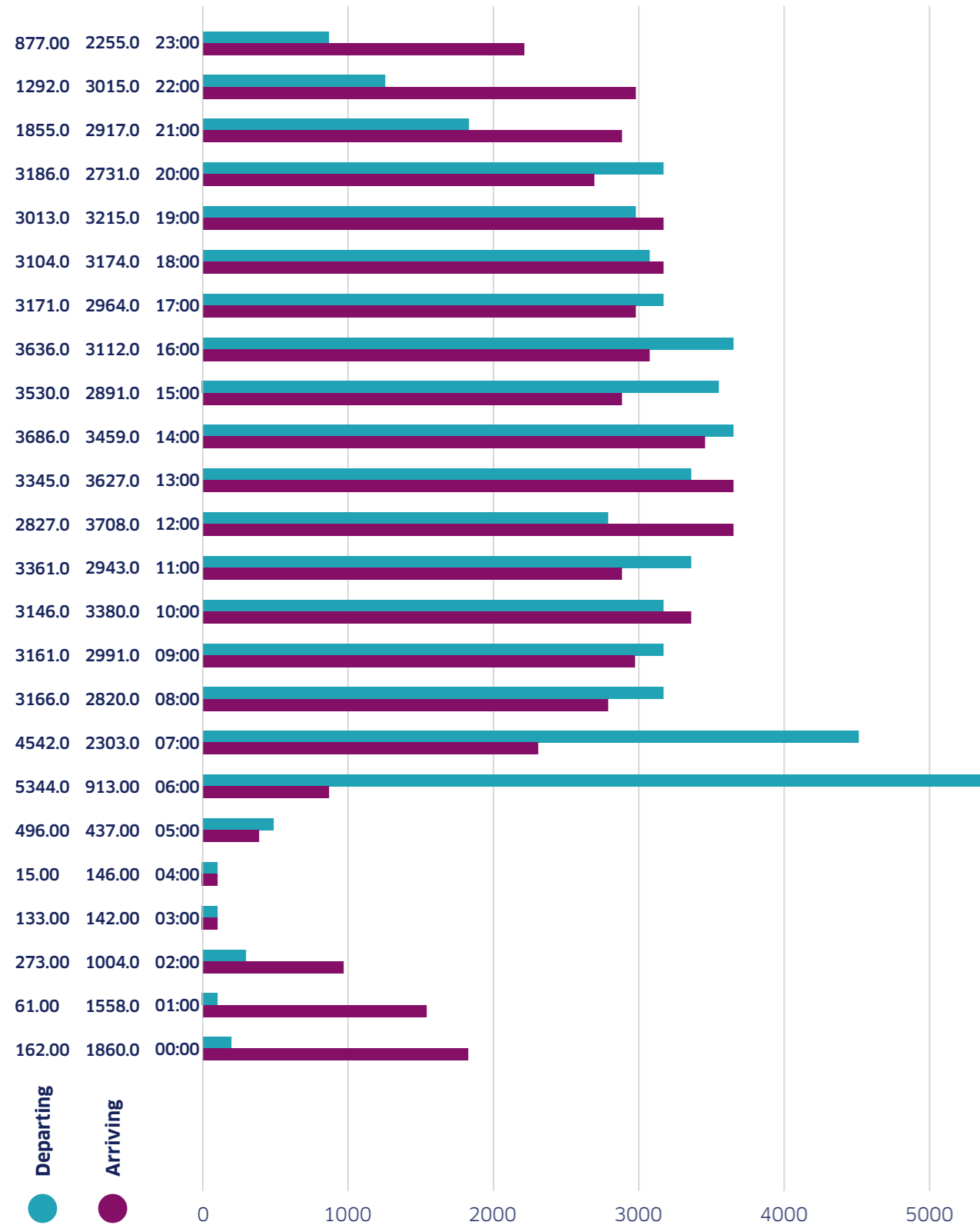
Prior to the Pandemic we could also predict that this increase during the summertime period when combined with business travellers resulted in weekdays being busier than weekends. However, as we come out of the Covid crisis business travel has decreased in comparison with 2019 and this will impact our passenger and flight profiles going forward.

At this stage all we can do is look to our historical profiles and work with those in mind until we can analyse new trends that may become evident in the next few years.

## Overview of Flights per hour

The below chart provides an overview of the number of flights per hour during over the full year period of 2023.

Graphic 09  
Flights per hour 2023



## Transiting aircraft operations

During summer months we do see increasing numbers of small light aircraft and helicopters transiting through our airspace, although we receive complaints regarding these operations they are out with our control as they neither land nor take off from Edinburgh Airport, we do however supply the enquirer with information on the flights and who they may contact for further information.

## 2019 Runway and SID split table

Table 05 provides detail on the number of aircraft which operated along each SID during 2019.

Table 05

SID	2023				2019			
	R24	R06	R24	R06	R24	R06	R24	R06
TLA6C	12998	5938	21888	9449	TLA6D	21888	9449	TLA6D
GOSAM	21453	12107	18681	10256	GOSAM	18681	10256	GOSAM
GRI3C	3145	1560	3466	1723	GRI3C	3466	1723	GRI4D

Figures do not include helicopter movements or Go- Around operations

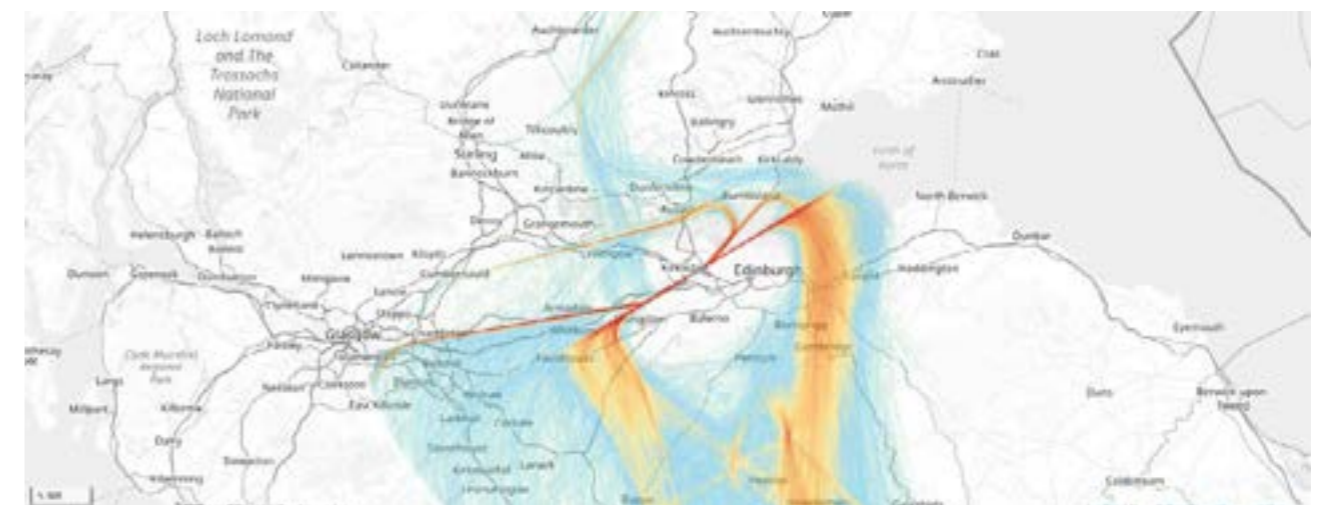
## Current arrival and departure flight paths, and movements per hour

Figure 02 and Figure 03 below show the traffic patterns over a 3-week period, this includes air traffic on both Runways 24 and 06 and shows the density and spread of the current flight paths.

The current declared capacity for flight movements is 42 movements per hour. More information on our current flight paths is available in Appendix I – Procedure for arriving and departing aircraft.

Figure 02: Current arrival and departure flight paths – All flights.

Figure 02



The above image shows a heat map indicating where the majority of arrivals and departures overfly for both R06 and R24 operations.



Figure 03

**Current arrival and departure flight paths – Cargo and Mail night flights**

The maps above are derived from a traffic sample of radar tracks of aircraft operations 1-19 July 2023 (inclusive). Departures are highlighted in blue and arrivals in orange on the above image.

**Departures & Noise Preferential Routes**

Departing aircraft are required to remain within the Noise Preferential Routes (NPR) until an altitude of 3,000ft or 4,000ft has been achieved – depending on the Standard Instrument Departure (SID) route that they are using. The SID routes end at 6,000ft after which they will be vectored by Scottish Air Traffic Control directly, up until this altitude our Air Traffic Controllers based in the EDI control tower instruct the pilots in the initial and final stages of their journey.

The SID that an aircraft flies will depend on a number of factors including the destination of the aircraft, weather conditions and other traffic in the sky at the time of departure.

**Arrivals**

The route taken may vary from aircraft to aircraft as Air Traffic Control integrates aircraft approaching from different directions or flying at varying speeds such as jets and turbo prop engine aircraft.

The route flown will also be dependent on other factors such as the weather, number of passengers, cargo onboard and air traffic in the surrounding airspace. The aim will always be to achieve a stable approach within the controlled airspace at a speed and height corresponding with the aircraft's distance from touchdown.

Aircraft maintain as high an altitude as possible and adopt a continuous descent approach profile, when appropriate. With a continuous descent approach (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 also 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. The use of CDAs is promoted within the AIP. We also provide a link to the AIP on the noise lab where you can learn more about CDA's and find information on performance in relation to this measure. This information is updated on a Quarterly basis.

**Air Quality**

Air pollution may be largely invisible; however, pollutant gases and particulates can harm human health and the environment.

While aircraft operations are a major source of air pollution within airports (with the highest emissions being released on-stand power, taxiing, and take-off), ground support equipment, surface access road transport, and airport on-site energy generation also have an impact on air quality. For the aviation industry, the pollutants of most concern are small particulate matter (PM) and oxides of nitrogen (NO<sub>x</sub>), in particular nitrogen dioxide (NO<sub>2</sub>). This is because they are associated with combustion activities from motor vehicles and aircrafts.

Every three years we commission six-month air quality monitoring surveys to assess the impact on air quality from aircraft and vehicle emissions from the airport and surrounding area. These studies assessed the NO<sub>2</sub> concentrations using diffusion tubes. Single diffusion tube samplers for NO<sub>2</sub> are exposed at approximately monthly intervals at selected airside and non-airside locations. The locations were chosen to reflect a variety of potential NO<sub>2</sub> concentration-situations, including local sources and more general background areas around Edinburgh Airport. For the 2023 study, we have also introduced monitoring of particulate matter (PM10 and PM2.5) concentrations, using two AQMesh sensors, placed both airside and landside.

The most recent study shows a general trend of decreasing NO<sub>2</sub> concentrations, in line with monitoring sites in the city of Edinburgh. The study concluded that the objective targets (no more than 18 exceedances in a year of 200 µg m<sup>-3</sup>) were not likely to have been breached at any of the monitoring locations. PM10 and PM2.5 concentrations, recorded by the AQMesh instruments were also lower than the annual mean targets.

A copy of the report can be found in Appendix E.

**Water Quality**

In accordance with Edinburgh Airport's Environmental Policy and Sustainability Strategy, EAL commits to the safeguarding of local water ways, implementing environmental control measures to limit adverse impacts to water. We recognise that our operations (e.g. de-icing aircraft) can impact both the Gogar Burn and the River Almond, and we are committed to understanding and reducing any negative impacts. Over the past few years, we have worked hard to improve the water quality of both these river channels. We are aware that our section of the river is important for fish migration and supports a variety of habitats and ecosystems, and we are looking to help improve the water quality of the Gogar Burn and River Almond to achieve Water Framework Directive "Good" status, in accordance with the Scottish Environmental Protection Agency's (SEPA) River Basin Management Plan by 2027.

SEPA regulates surface water discharges under the Water Environment (Controlled Activities) (Scotland) Regulations 2011. The airport collaborates with SEPA on a variety of ongoing and forthcoming water quality projects that will improve the airport's ability to successfully manage discharge. Edinburgh Airport look to improve water quality through monthly monitoring, as well as source and pathway infrastructure control.

**Monitoring:**

- Monthly water quality samples are collected at several points throughout the airport, as well as upstream and downstream of our site.
- Quarterly macroinvertebrate surveys are carried out (benthic macroinvertebrates are commonly used as indicators of the biological condition of waterbodies – these species differ in regard to their tolerance to pollution).

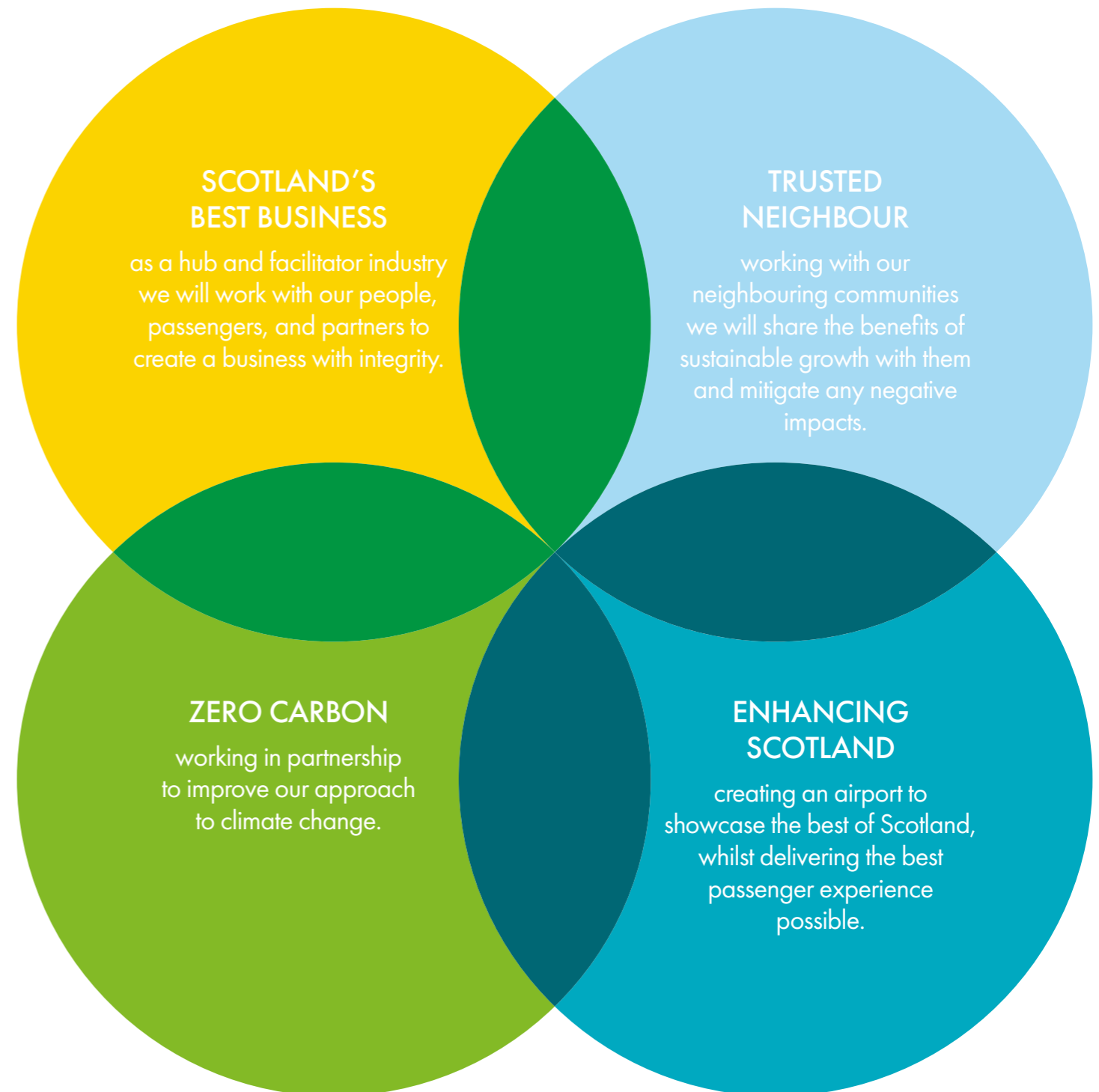
During the winter of 2018/19, Edinburgh Airport commissioned a detailed water quality monitoring and modelling study to better understand the impact of operations on the water quality in the Gogar Burn and River Almond. The study’s findings were completed in 2023 and will be used to further develop the airport’s long-term water quality strategy.

**Source Control:**

- In 2019, Edinburgh Airport switched to a more environmentally friendly pavement anti-icing solution in comparison to other market alternatives, which is potassium acetate based rather than glycol (COD is approximately 70% less than glycol-based products).
- Edinburgh Airport invested in a Glycol Recovery Vehicle (GRV) in December 2018. This is a modified road sweeper that is used to sweep the airport’s stands after a plane has departed, recovering residual aircraft de-icer that has been deposited on the surface. Recovering this glycol keeps it from being mobilised into the surface water drainage system by rainfall and eventually reaching the River Almond or the Gogar Burn.
- More precise de-icer machinery (using GPS technology), which reduces the volume of de-icer at the source.
- The airport has a number of well-established Standard Operating Procedures (SOPs) in place to deal with any equipment/aircraft spillages, and they also ensure the proper storage of materials that, if incorrectly stored, can have negative environmental effects, as well as clear procedures for reporting, cleaning, and investigating spills.
- Glycol Capture System on Turnhouse Apron which allows contaminated water to be diverted from the burn and treated by Scottish Water – installation complete 2022.
- Edinburgh Airport will continue to develop infrastructure which will reduce our impact on water quality, as part of a wider on-going project.

**Sustainability and Greater Good**

The positive impacts of aviation are not without trade-offs, however. A sustainable future depends not only on reducing environmental impacts, such as carbon, but also how the airport manages and enhances its social and economic impacts. Edinburgh Airport Greater Good sustainability strategy outlines the airport’s approach to a sustainable future for the benefit of its neighbours, Scotland, and the wider environment. The strategy focuses on four key pillars:





In line with this strategic focus, the following are a selection of the key achievements to date:

- Since its inception in 2010, the Community Fund has donated over £1.37 million to hundreds of projects. In 2023 alone, £140,000 was donated to 33 projects, with this total continuing to grow in line with passenger numbers.
- Edinburgh Airport's Charity Partner of the year, West Lothian based 'The Larder', benefited from over £80,000 of funding in 2023.
- In 2022, Edinburgh Airport became the first UK airport to be endorsed by WORK180. WORK180 is an organisation that: *"promotes organisational standards that raise the bar for women in the workplace. We only endorse employers that are committed to making real progress so that all women can expect better"*.

- In 2023, Scope 1 & 2 emissions were reduced by 91% against a 2019 baseline. This also represents a 98% reduction since our carbon tracking began in 2016.
- Edinburgh Airport is also accredited to the Airport Carbon Accreditation scheme (ACA). The ACA is the only institutionally endorsed, global carbon management certification programme for airports. Edinburgh Airport is currently certified at Level 3+ (Optimisation), with an aim to achieve Level 4 in 2024.



### Solar Farm

In 2024 we are opening our 16-acre 9.7MW solar farm, which is made up of over

**15,000** panels. The farm is situated at the end of our runway – which is a first for a UK airport.

It will allow us to self-generate around

**26%** of our current energy needs and store energy in our onsite battery to be used overnight.



### Vehicle Electrification

We are exchanging operational vehicles from diesel & HVO to electric as part of a rolling vehicle replacement programme.

As a business, we no longer procure fossil fuelled vehicles and equipment where a suitable electric option exists. We have also provided

**more than 40** EV chargers across the campus with plans for more as EV adoption continues to grow in the public.



### Fixed Electrical Ground Power:

We are currently in phase 3 of a roll-out of electrical equipment to replace diesel powered generators on aircraft stands. These units are necessary to power the large aircraft while they are on the ground. We currently have 18 and by the end of 2023 we will have

**over 30** units.

The overarching Greater Good strategy is also available on the following [link](#).

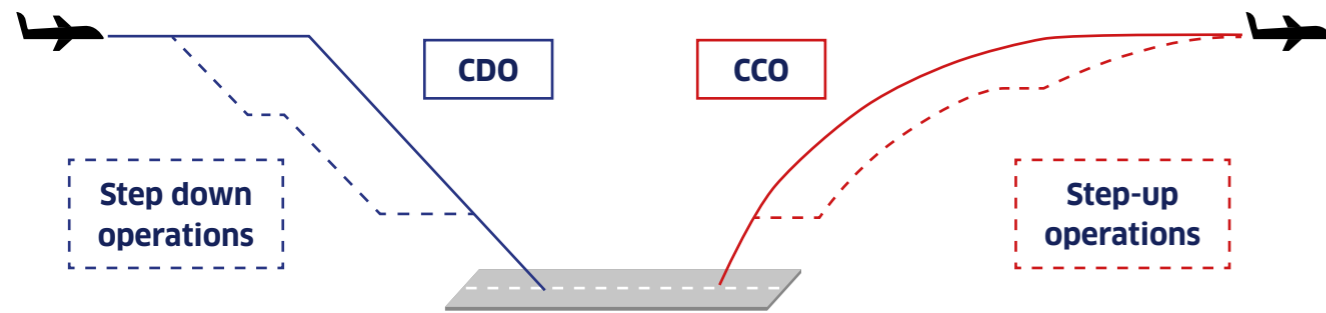


## Move towards RNAV technology

### What is the Airspace Modernisation Strategy (AMS) and how does Performance-based Navigation (PBN) fit in to this?

The AMS aims to optimise future airspace designs to take account of modern aircraft performance and functional capabilities and make them more efficient – saving time and fuel and reducing emissions.

Key to achieving this is through the application of PBN. In parallel, the UK navigation infrastructure can also be optimised to take advantage of the lateral navigation accuracy from Global Navigation Satellite Systems (GNSS) while retaining adequate conventional ground-based navigation aids to ensure both resilience and contingency measures.



Periods of level flight during descent or climb out affect the amount of fuel used and also the noise footprint of particular flights. We aim to systemise the airspace to allow smooth descents and climb outs in order to reduce the noise impact, reduce inefficiencies in fuel consumption and also assist the workload of both the pilot and the air traffic controller. This happens because the flight path becomes predictable in systemised airspace. Another benefit is an increase in capacity of a particular volume of airspace.

PBN represents a fundamental shift from sensor-based to performance-based navigation and offers a number of advantages over the sensor-specific method of developing airspace and obstacle clearance criteria, i.e.:

The availability of PBN employed within an appropriate redesign of terminal airspace will allow instrument flight procedures to be designed that maximise the ability of aircraft to execute Continuous Descent Operations (CDO) and Continuous Climb Operations (CCO). This in turn will maximise overall efficiency with consequential environmental benefits. Therefore, where practicable, all new PBN-based Standard Arrivals and runway transitions should aim to apply Continuous Descent Operations (CDO) and all new PBN-based Standard Instrument Departures should aim to apply Continuous Climb Operations (CCO). No change will be made to operating procedures without an assessment of environmental impact as required by national procedures and processes.

- reduces the need to maintain sensor-specific routes and procedures, and their associated costs.
- avoids the need for developing sensor-specific operations with each new evolution of navigation systems, which would be cost-prohibitive.
- allows for more efficient use of airspace (route placement, fuel efficiency and noise abatement).
- clarifies how RNAV and RNP systems are used; and
- facilitates the operational approval process for operators by providing a limited set of navigation specifications intended for global use.

Learn more about the AMS [here](#).

Learn more about PBN [here](#).

## Airspace Change Project (ACP)

### What is airspace?

Airspace is in effect the sky above us. Infrastructure has been developed to allow aircraft to operate safely as they arrive and depart at larger airports and indeed smaller airfields. The airspace is divided into controlled and uncontrolled airspace. The basic difference is that in controlled airspace air traffic controllers are there to issue instructions and advice to enable the safe operation of air traffic.

Edinburgh Airport lies in the Scottish Terminal Maneuvering Area (STMA) which is class D airspace. To fly inside this airspace aircraft, need to carry a minimum of equipment and need to obtain a clearance from Air traffic Control (ATC). In uncontrolled airspace there is a wide variety of aviation happening from microlight activity, to parachuting and military operations. ATC may still operate here but aircraft are not required to carry certain equipment and there is more freedom of operation here for pilots. More information about the classes of airspace and the differences between them can be found [here](#).

### What is CAP1616?

CAP 1616 (Civil Aeronautical Publication 1616) is the guidance we follow to enable the airspace change process to be carried out to completion. It's a public document and available on the CAA website: <https://publicapps.caa.co.uk/modalapplication.aspx?appid=11&mode=detail&id=8127> The document details the 7-stage process for airspace change implementation.

### Where can I find out more and be kept up to date on this process?

Documentation submitted to the CAA may be viewed via the CAA ACP Portal: <https://airspacechange.caa.co.uk/PublicProposalArea?PID=163>

You may also contact us via the following email address [airspace\\_change@edinburghairport.com](mailto:airspace_change@edinburghairport.com) What is the airspace change process?

The airspace change process is the regulatory process required for changing airspace design. This can involve changes to controlled airspace dimensions, classification of airspace and changes to the flightpaths and routes that aircraft take. The Department for Transport (DfT) are responsible for all aviation policy in the UK and the Civil Aviation Authority (CAA) are responsible for its regulation and the approval of any airspace change plans. Edinburgh Airport is responsible for the airspace up to a height of 7,000 feet and National Air Traffic services (NATS) take responsibility above 7,000 feet. Guidance on the regulatory process for changing the notified airspace design and planned and permanent redistribution of air traffic, and on providing airspace information can be found in CAP 1616.

### Is there a public consultation?

There will be a public consultation as part of this process, and this takes place during Stage 3 which will probably be towards the end of 2024. This consultation does not include responses in reference to the ACP process or submissions.



# Results of the 2019/2021 strategic noise mapping

## Strategic Mapping

Strategic mapping population data is provided to us by the Scottish Government Mapping Consultants Noise Consultants Ltd (NCLtd) and is available to view [online](#). The baseline data that is used to produce this mapping is provided by ERCD and is based on our actual flown radar data to produce accurate noise contours. The supplemental Mapping provided in the Annexe is also produced by ERCD. Information on how ERCD produces this data can be found in Annexe B.

The Scottish Governments Noise Mapping contractors NCLtd used the above data to create online interactive noise maps and provide Edinburgh Airport with data tables informing us of the number of properties, households and population within each contour, information on the system created by NCL is available below.

The data tables in section 07 are those provided by the Scottish Governments mapping contractor as required within NAP regulations.

It should be noted that it is not possible to compare 2019 data against the mapping produced for the 2018 – 2023 NAP. The Data sets were produced on two separate and quite different mapping software and are therefore not directly comparable. Previous rounds of mapping were produced on less sophisticated software which did model to CNOSSOS-EU requirements which consider the factors detailed below, meteorological corrections, ground cover, terrain.

The population data tables provided in Annexe B Supplemental mapping of 2019 operations were provided by ERCD and calculated as detailed in Annexe A.

Census 2011 Output Areas and NRS Mid-2021 Population Estimates were used in the production of the Scottish mapping due to a delay in the release of the 2022 Scottish Census.

Strategic noise maps have been produced using the European Commission's common noise assessment methods (CNOSSOS-EU). **This is a new method of producing strategic noise maps for the entirety of Scotland, meaning the previous three rounds are not comparable to this round.**

### CNOSSOS sets out three main aspects of its modelling method:

#### Source

The noise source emission describes the sound power emitted by the source of a variety of factors. For example, in the case of road traffic, this would include traffic volume and speed, road temperature, road gradient and road surface.

#### Propagation

Propagation defines how noise levels attenuate/reduce due to aspects such as the distance along a propagation path (source to receiver), air absorption, terrain elevation, screening effects from buildings and barriers, meteorological effects and the influence of ground cover.

#### Receiver

The receiver specifies how receiver points should be positioned on dwelling facades, how the number of people and dwellings should be attributed to the noise exposures calculated at the facade receivers and how the area exposed to the noise should be determined from the calculated noise grids.

The analysis was completed using several in house, open source, and commercially available software tools, and was delivered by Noise Consultants Limited, acting on behalf of the Scottish Government.

## Scottish Mapping Contractor – Noise Consultants Ltd (NCLtd)

The Strategic Noise contour maps and population data tables are provided on the Scottish noise mapping website and were produced for the Scottish Government by Noise Consultants Ltd (NCLtd), the mapping is interactive, and is not available for inclusion in this NAP. The mapping is produced using the following parameters and can be viewed via the following link – [Scottish Strategic Mapping](#)

Data inputs for the production of the Strategic Contour Mapping have changed between rounds 3 and 4, the mapping is now based on the requirements detailed in CNOSSOS-EU and represents a fundamental change in input data requirements, this required the NCL Project Team to undertake associated research to help understand the impact of data decisions and assumptions on the accuracy of its noise model and maps. Research has included:

- Estimation of rail vehicle emission factors
- Sensitivity analysis of the emission methods
- Investigations into ground cover dataset selection
- Methods for considering meteorological corrections

### The population datasets used within the modelling are:

- Census 2011 Output Areas
- National Record of Scotland (NRS) Data Zone to Output Area Lookup Table
- NRS Mid-2021 Population Estimates Scotland for data zones
- Addressbase Plus

### Airport – Calculation Methodology

- ECAC Doc.29 4th Edition provides an internationally recognised the methodology for airport noise modelling and contouring.
- The modelling software's that comply with the dictates of the fourth edition of ECAC Doc.29 are:
  - The Aviation Environmental Design Tool (AEDT) most widely used international software:
  - ANCON – used by the British Civil Aviation (CAA)
  - The NORTIM – used in Norway.

### The development of an airport noise model required several key data inputs which can be split into five categories:

- Airport layout – Airfield related data;
- Meteorological data;
- Terrain;
- Aircraft flight paths; and
- Aircraft movement data

The Environmental Noise (Scotland) Regulations 2006 requires that strategic noise mapping should be conducted at five yearly intervals. Unlike the conventional summer 16-hour Leq dBA contours, the regulations require a different range of noise parameters: Lday, Levening, Lnight, LAeq 16hr, and dB Lden. A full definition of these terms is provided in Appendix A. The time periods used within this mapping are mandated by the regulations.

### Lden contours

Lden 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 50 dBA to 80 dBA. The strategic contours for Edinburgh Airport are presented in Appendix A.

### Lnight contours

The latest 8-hour Lnight contours for 2019 and 2021 are shown in Appendix A.

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.

### LAeq Annual Contours

The UK Government uses the Equivalent Continuous Sound Level, LAeq dBA for this purpose which provides average noise levels for the busiest 16 hours of the day, between 07:00 – 23:00 over the year. This is the most common international measure of aircraft noise. This is measured over the whole year in this case 2019 and 2021, 16-hour period refers to 07:00 – 23:00 (local time). This is the time period and parameter set out by legislation – The Environmental Noise (Scotland) Regulations 2006.



## Lden, LAeq and Lnight Mapping and Population tables

### Lden and Population tables

2021. The results of the 2021 show a significant decrease in properties affected by aviation noise, this supports our statement that 2021, where our operations decreased to less than 50,000 movements per year is not a representative sample of today's or the expected future trends in aircraft movements. The differences can be seen from the comparison of rounds 3 and 4 results below.

2019 actual flown data is more representative; however, it should be noted that 2019 data does not reflect the changes we have noted in a decrease in aircraft movements, from 131,692 2019 to 114,568 in 2023 and an increase in passenger numbers during summer 2023, business travel decreased whilst travel for pleasure increased resulting in the use of larger aircraft and an overall reduction in flight numbers post Covid-19. An analysis of the most recent summertime data for 2023 in comparison to our previous round of summertime mapping 2018 is available in the following section.

In line with the requirements of this NAP the 2021 contour data tables in full are available in Appendix A but will not be used further within noise action planning in this NAP.

Table 06.1

**2019 Lden comparison table**

2019 Lden	Population			Number of dwellings		
	R3	2019	Difference	R3	2019	Difference
>55	13,800	21,400	7,600	6,700	8,700	2,000
>60	3,200	4,900	1,700	1,600	1,800	200
>65	400	800	400	200	200	0
>70						
>75						

Table 06.2

**2021 Lden data**

2021 Lden	Population			Number of dwellings		
	R3	R4	Difference	R3	R4	Difference
>55	13,800	6,100	-7,700	6,700	2,300	-4,400
>60	3,200	2,100	-1,100	1,600	800	-800
>65	400	200	-200	200	100	-100
>70						
>75						

### Comparison with previous rounds of noise action plans

It should be noted that comparison of 2019 data against mapping produced for 2018 – 2023 NAP compare data sets produced on two separate and quite different mapping software systems and are therefore not directly comparable. Data inputs for the production of the Strategic Contour Mapping by NCLtd have changed between rounds 3 and 4, the mapping is now based on the requirements detailed in CNOSSOS-EU and represents a fundamental change in input data requirements. As detailed above the data inputs now consider factors such as terrain within the analysis.

Edinburgh Airport have worked diligently since 2018 on improving the quality of contour mapping we commission from ERCD, and in 2018 we introduced a new Noise and Track system (NTK) which allowed us to use our own radar data in the generation of our contours, further improving their accuracy in line with the recommendations within CAP2091 Policy on Minimum standards for Noise Modelling (2021). Direct comparison of 5-year Noise Action Plan data tables will be possible going forward assuming the current mapping system provided by NCLtd is utilised.

In addition although 2019 actual flown data is more representative to our current operations than 2021 data, 2019 data does not reflect the changes we have noted in a decrease in aircraft movements, from 131,692 2019 to 114,568 in 2023 and an

increase in passenger numbers during summer 2023, business travel decreased whilst travel for pleasure increased resulting in the use of larger aircraft and an overall reduction in flight numbers post Covid-19.

### LAeq Summertime contours

The UK Government says that communities become significantly annoyed by aircraft noise above 57 LAeq dBA (SOAEL), Airports produce contour mapping down to 51dBA Lowest Observed Adverse Effect Level (LOAEL).

The latest summer 16-hour LAeq dBA contours for 2023 are shown in Appendix A. These indicate that the 57 dBA contour has decreased in size compared with 2018 from 20.7 km<sup>2</sup> to 15.8 km<sup>2</sup>.

The number of people living within the 57 dBA contour has similarly decreased for Population 3900 from 4700, and households to 1600 from 2000 respectively. Similar decreases are noted across all contours 54 – 72. No data is available for the 51 – 53 contour range, in 2018 this was not commissioned at that time.

This indicates that the Area, Population and Households within our contours have reduced by 26.8%, 18.6%, and 22.2% respectively. This substantiates the assumption that a reduction in aircraft operations during 2023 has reduced our current contours in comparison with 2019 operations and contours.

Table 06.3

**Edinburgh 2023 average summer day actual modal split (72% west/28% east) LAeq, 16h contours - estimated areas, populations, and households - ERCD data and Mapping**

LAeq,16h (dB)	Area (km <sup>2</sup> )	Population	Households
> 51	50.1	30,200	12,900
> 54	29.0	9,300	3,900
> 57	15.8	3,900	1,600
> 60	8.2	1,900	800
> 63	4.1	400	200
> 66	2.1	100	< 100
> 69	1.1	0	0
> 72	0.7	0	0

Note: Population and household estimates are given to the nearest 100, and based on 2021 Census data updated for 2023, supplied by CACI © CACI Limited 2023 All Rights Reserved.

Table 06.4

**Edinburgh 2018 average summer day LAeq contours – estimated areas, populations and households – ERCD data and Mapping**

LAeq,16h (dB)	Area (km <sup>2</sup> )	Population	Households
> 54	37.9	15,200	6,300
> 57	20.7	4,700	2,000
> 60	11.0	2,700	1,200
> 63	5.8	400	200
> 66	3.2	300	100
> 69	1.7	< 100	< 100
> 72	1.0	0	0

Note: Population and household estimates are given to the nearest 100 and based on 2011 Census data updated for 2018, supplied by CACI. © CACI Limited 2018 All Rights Reserved.

### 2019 Population and Dwelling and Contour Area statistics comparison of Round 4 2019 and Round 3 2018 – 2023 NAP – NCItD Data tables.

The tables below were provided by the Scottish Government mapping contractor NCLtd and are produced using the mapping system detailed above on page 49.

Table 06.5

**Lden**

2019 Lden	Population			Number of dwellings			Area km <sup>2</sup>		
	R3	2019	Difference	R3	2019	Difference	R3	2019	Difference
>55	13,800	21,400	7,600	6,700	8,700	2,000	38	43	5
>60	3,200	4,900	1,700	1,600	1,800	200	14	17	3
>65	400	800	400	200	200	0	5	6	1
>70	0	0	0	0	0	0	2	2	0
>75	0	0	0	0	0	0	1	1	0

Table 06.6

**LAeq 16hr day**

Lden	Population			Number of dwellings			Area km <sup>2</sup>		
	R3	2019	Difference	R3	2019	Difference	R3	2019	Difference
>55	5,200	7,200	2,000	2,500	2,800	300	23	26	3
>60	1,100	2,700	1,600	500	1,000	500	8	10	2
>65	200	400	200	100	200	100	3	3	0
>70	0	0	0	0	0	0	1	1	0
>75	0	0	0	0	0	0	1	1	0

Table 06.7

**Lday**

Lden	Population			Number of dwellings			Area km <sup>2</sup>		
	R3	2019	Difference	R3	2019	Difference	R3	2019	Difference
>55	5,400	7,700	2,300	2,600	3,000	400	25	27	2
>60	1,200	2,800	1,600	600	1,000	400	9	10	1
>65	200	500	300	100	200	100	3	4	1
>70	0	0	0	0	0	0	1	1	0
>75	0	0	0	0	0	0	1	1	0

Table 06.8

**Levening**

Lden	Population			Number of dwellings			Area km <sup>2</sup>		
	R3	2019	Difference	R3	2019	Difference	R3	2019	Difference
>55	4,200	6,800	2,600	2,000	2,500	500	20	23	3
>60	800	2,500	1,700	400	900	500	7	9	2
>65	100	300	200	0	0	0	2	3	1
>70	0	0	0	0	0	0	1	1	0
>75	0	0	0	0	0	0	1	1	0

Table 06.9

**Lnight**

<b>Lden</b>	<b>Population</b>			<b>Number of dwellings</b>			<b>Area km<sup>2</sup></b>		
	<b>R3</b>	<b>2019</b>	<b>Difference</b>	<b>R3</b>	<b>2019</b>	<b>Difference</b>	<b>R3</b>	<b>2019</b>	<b>Difference</b>
<b>&gt;50</b>	4,200	6,700	2,500	2,000	900	-1,100	19	23	4
<b>&gt;55</b>	800	2,400	1,600	400	100	-300	7	8	1
<b>&gt;60</b>	100	400	300	0	0	0	3	3	0
<b>&gt;65</b>	0	0	0	0	0	0	1	1	0
<b>&gt;70</b>	0	0	0	0	0	0	1	1	0
<b>&gt;75</b>	0	0	0	0	0	0	0	0	0



# Evaluation and implementation of the 2018 - 2023 Noise Action Plan



07

## Performance indicators for the Action Plan

We set out performance indicators to assess our effectiveness in each area of focus, to ensure that the work we undertook resulted in the maximum benefit in terms of reducing noise impacts.

Our performance against these indicators was regularly reviewed internally through our environmental governance structure. We reported on progress against them in our annual Action Table update which is available to download from the [noise lab](#), 2023 annual program review is published below in Table 8.1.

During 2016 – 2018 we carried out three public consultations on our Airspace Change Programme this focused the public’s attention on our flight paths and noise; this resulted in an increase in noise complaints and enquiries to Edinburgh Airport, complaint numbers reduced subsequent to the conclusion of our previous iteration of the Airspace Change Programme.

This table outlines the key performance indicators used to measure the implementation of actions including in the 2018 – 2023 NAP.

Table 07  
2018 – 2023 key performance indicators

Key performance indicator	2002 baseline (where applicable)	2006 performance	2011 performance	2016 performance	2019 performance	2023 performance
Number of air traffic movements	114,293	126,912	113,357	121,520	131,500	115,004
Area/population 57 dB Laeq summertime contours	N/A	N/A	N/A	15km <sup>2</sup> /3,300	17.6 km <sup>2</sup> /4200	15.8km <sup>2</sup> /3900
Night movements 23:00 – 07:00*	N/A	9,153	9,887	10,861	13,148	*15,622
Departure noise limits dB Lmax						
• Day	N/A	94	94	94	94	94
• Night	N/A	87	87	87	87	87
Number of noise-related enquiries	36	261	63	3,704	2,063	1,292
Number of noise-related enquirers	31	161	46	2,689	221	129

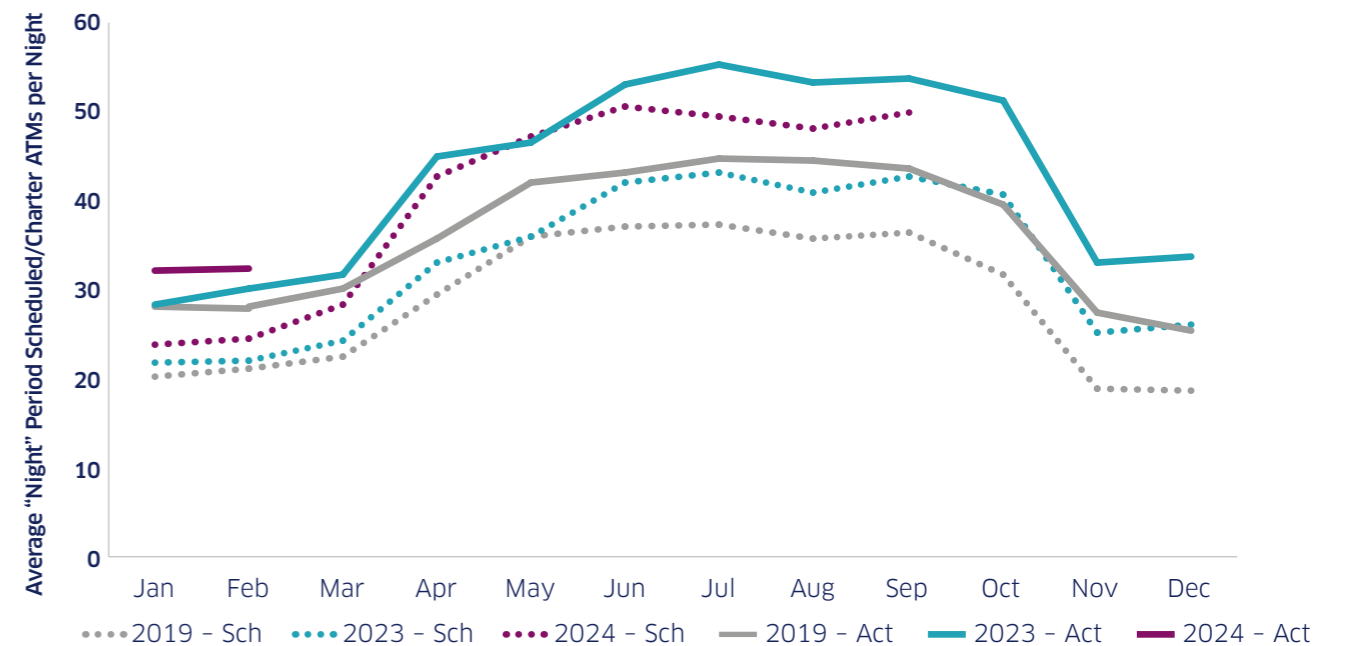
\*The below table details some of the factors which have contributed to the increase in night movements in 2023, and expected improvements in 2024.

## Late running flights are increasing night flying

### 29% of 'night' ATMs on passenger services in 2023 were caused by late running aircraft

- Although 'night' ATMs on passenger services are increasing, this is being made worse by operational disruption:
  - Handler shortages – at EDI but also large hub airports holding up aircraft turnarounds
  - Airspace congestion going east over the Balkans, caused by the Ukraine war which is leading to flights being slot delayed
  - ATC staffing shortages – most notably LGW in S23, having a knock on effect to the rest of the days operations
  - Strikes – French ATC extending overflight times
- Delays through the day are pushing more flights into the 'night' period because of lower on time performance.
- In summer, this translates to around 12 more flights 'night' ATMs per night.

Graphic 10  
Scheduled/Charter Night Time ATMs



Source: EAL 'Actual Flown' Data, OAG Schedules Data; Night Period: 23:00-06:59, Shoulder period is 23:00-00:00, 05:00-06:59

8% of scheduled flights were in the shoulders of the 'night period' in 2019, this increased to 9% in 2023

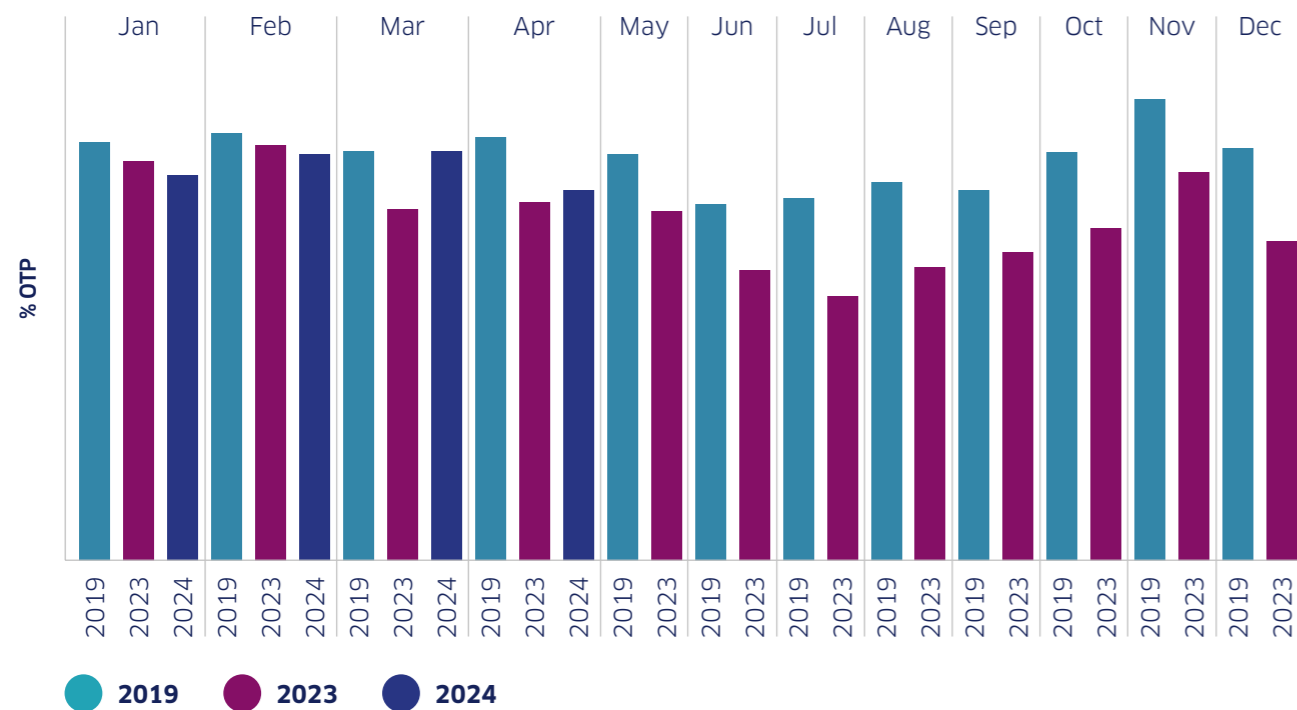
9% of scheduled flights were in the overall 'night period' in 2019, this increased to 11% in 2023

## There are signs OTP will improve this year

On time performance always dips in summer given the higher volumes, but it has worsened since the pandemic

- The industry has had a big focus on improving reliability and operational performance moving into 2024.
- Some of the issues can be controlled – staffing shortages etc, others will take longer such as ATC congestion.
- OTP has improved slightly so far this year, with March 2024 performance to date, the time OTP has been higher than 2019.
- If this trend goes into the summer, it should limit the growth in night flights in S24.

Graphic 11  
EDI On Time Performance YOY Comparison



A flight is delayed if scheduled time of arrival/departure is different from chocks time  
 DO > 0 min delay from schedule  
 D15 > 15 min delay from schedule

Table 08: 2018 – 2023 Action Plan

This table outlines the performance against the actions set out in the 2018 – 2023 NAP.

Action	Impact	Timescale	Performance indicator	Approx. people affected	Action update
<b>1. Demonstrate we are doing all that is reasonably practicable to minimise noise impacts</b>					
<b>1a. Quietest fleet practicable</b>					
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	Ongoing
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. Changes to contours  Track percentage within different charging categories	N/A	Ongoing  Reviewed 2023 updates to charges available via Noise Lab, EDI website and Conditions of use document,  <a href="https://corporate.edinburghairport.com/doing-business-with-us/conditions-of-use">https://corporate.edinburghairport.com/doing-business-with-us/conditions-of-use</a>
<b>1b. Quietest practicable aircraft operations, balanced against NO<sub>x</sub> and CO<sub>2</sub> emissions</b>					
We will continue to promote a best practice guide for departures to airlines operating at Edinburgh	D	Ongoing	Contour changes	13,800	Ongoing  Work with EDI, TO70 and EANAB investigating NADP1/2 departure profiles
We will continue to monitor air quality at Edinburgh Airport (NO <sub>x</sub> )	A & D and GN for Ground noise only	2018 and ongoing	Report AQ findings within annual CSR	N/A	Monitoring carried out 2018 – report available on noise lab  A 1 year AQ monitoring program is analysis report received May 2024



Action	Impact	Timescale	Performance indicator	Approx. people affected	Action update
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	Ongoing - provided on a monthly basis to bi-monthly meetings and available on Noise Lab website
We will continue to fine aircraft in breach of limits and increase the fine level if appropriate noise	D	2018 - 2023	Report number of infringements to both EACC and EANAB	13,800	Reported as and when an infringement occurs
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	Ongoing
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	Ongoing

Action	Impact	Timescale	Performance indicator	Approx. people affected	Action update
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 engine sat night from between 23:00 - 06:00 during weekdays and 23:00 - 09:00 at the weekend  Only permitted during exceptional circumstances	GN	Ongoing	Number, location and duration	400	Ongoing  Data provided on the Noise Lab web site since Jan 2022
We will continue to prioritise stand allocation to minimise ground noise impacts	GN	Ongoing	Number of aircraft on ground noise sensitive stands during noise sensitive periods  Monitored and monthly recorded	400	Ongoing

Action	Impact	Timescale	Performance indicator	Approx. people affected	Action update
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	Ongoing
<b>1c. Effective and credible noise mitigation schemes</b>					
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	Implemented 01/01/2019.  Information relating to this is available on Noise Lab - Environmental Noise Charges
We will continue to offer a relocation assistance scheme for those households within the airports 69 dB Leq noise contour in line with government policy	A, D	Ongoing	Number of requests made	0	Ongoing

Action	Impact	Timescale	Performance indicator	Approx. people affected	Action update
We will continue to benchmark our noise mitigation and compensation measures with other comparable airports	Perceived impacts	2018 - 2023	Publish a table	N/A	Ongoing  currently under review - delayed due to Covid and Furlough of staff - review will take place early 2024  UK government noise policy statement update expected in 2024
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	Ongoing currently under review
We will continue to honour the Edinburgh Airport vortex scheme	Perceived impacts	Ongoing	Number of properties subjected to vortex damage	N/A	Ongoing  Updated procedure uploaded to Noise Lab 2020
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 noise lab website, reports will be made available to public and EANAB/EACC	N/A	Monitoring is ongoing - First results published online Jan 2020.  Installation of mobile monitor Dalgety Bay 04/2024 - 04/2025

Action	Impact	Timescale	Performance indicator	Approx. people affected	Action update
We will commission LAeq summertime maps and subsequent database of eligible properties every two years contour	Community trust and awareness. Consistent and effective management	Biannual	Publication of LAeq summertime contour maps on Edinburgh Airport Noise Lab	13,800	Contour mapping commissioned 2019, received December 2019, published online Jan 2020  Mapping due to be commissioned in 2021 delayed until 2023, now available in NAP
<b>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</b>					
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 of noise. A, D	Launch Summer 2018	NTK being used by the public	General public	Introduced June 2018
We will make quarterly noise reports available online via our Edinburgh Airport Noise Lab	Community trust and awareness	Ongoing	Publication on website and the community newsletter	13,800	Quarterly reports to EANAB, available on EANAB Website
We will continue to offer a free phone number for complaints and enquires regarding aircraft noise. Complaint data will be published in our CSR	Community trust and awareness	Ongoing	Number of contacts and method of contact	13,800	Ongoing - data published in 2018 - 2023

Action	Impact	Timescale	Performance indicator	Approx. people affected	Action update
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	Ongoing
We will annually review our communication material to ensure relevance and ease of understanding	Community trust and awareness	Annually	Updated communication will be uploaded to Noise Lab	N/A	New noise lab website introduced June 2018. Site moved to HTML5 from Flash Dec 2019, content reviewed further pages added Jan 2020, 2022 and 2023  Ongoing  We are working with EANAB as members of the Education and Training Sub Group on training materials, courses and Induction materials to enhance and educate members and communities understanding of noise management at Edinburgh Airport



Action	Impact	Timescale	Performance indicator	Approx. people affected	Action update
<p>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</p> <p>We will also log all complaints relating to aircraft operations and publish the statistics quarterly</p>	Community trust and awareness	Annually Quarterly	Number of callers, events, month, area	N/A	<p>Complaints policy reviewed Aug 2019, March 2020 and December 2021 and available via Noise Lab, Annual complaints analysis pages added to Noise Lab 2022 and 2023</p> <p>Ongoing</p>
<p>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</p>	Community trust and awareness	Quarterly	Response rate tracker	N/A	<p>Performance indicators are reported Quarterly to both EACC and EANAB Reports available online</p> <p>Ongoing</p>
<p>We will publish a summary of consultation responses within six months of the close of this consultation</p>	Community trust and awareness	2018 - 2023	Publication of feedback report	N/A	<p>Summary of responses and actions report published on Noise Lab</p>
<p>We will publish our progress against the action plan on an annual basis</p>	Community trust and awareness	Annually	Publish in CSR and report to EANAB	N/A	<p>Published in CSR and reported to EANAB, and on Noise Lab</p> <p>Ongoing</p>

Action	Impact	Timescale	Performance indicator	Approx. people affected	Action update
<p>We will continue to direct all money raised by noise infringements to the Edinburgh Airport Community Board</p>	Community trust and awareness	2018 - 2023	Number of infringements and fines raised published in the CRR	N/A	<p>Published in annual CSR Ongoing</p>
<p>In our newsletter to the local community we will report on engine running frequency and times</p>	Community trust and awareness	Quarterly	Number of engine ground runs	N/A	<p>Published within each published newsletter.</p> <p>Ongoing</p> <p>Publication of Newsletters on pause due to Covid - ground run reports published on a new Noise lab page from 2022</p>
<b>3. Influence planning policy to minimise the number of noise sensitive properties around our airport</b>					
<p>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</p>	Land use planning, community trust and awareness	Ongoing	Number of interactions with the local planning authority	N/A	<p>2019 Updated Contour mapping provided to Local authority, Further mapping will be provided late 2023, planning applications are responded to with comments from EDI as required Ongoing</p>
<p>We will continue to commission and publish forecast Leq contours for aircraft noise in future masterplans</p>	Land use planning, community trust and awareness	Ongoing	Publication of forecast Contours	N/A	<p>Updated contour mapping available on Noise Lab</p>

Action	Impact	Timescale	Performance indicator	Approx. people affected	Action update
<b>4. Manage noise efficiently and effectively</b>					
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	Ongoing
<b>5. Build on its extensive understanding of aircraft noise to inform our priorities, strategies and targets</b>					
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	Ongoing

# Proposed new noise management measures



088



We recognise that noise remains a challenge for Edinburgh Airport, and we will continue to prioritise and focus our management and mitigation of noise on areas within the highest noise contours as detailed within our proposed new insulation scheme and updated action table.

During the period of this action plan, we may add to or amend the range of performance indicators to respond to improvements that enable us to better manage the airport noise impacts. Any changes will be published on Edinburgh Airports noise lab.



### Working with our Communities

- 5 Fixed Noise monitoring Stations
- NTK Noise Lab
- Edinburgh Airport Noise Advisory Board (EANAB)
- Independent EANAB Chair
- Edinburgh Airport Consultative Committee (EACC)
- Noise insulation scheme including Night Noise contours and eligibility address checker
- Monitoring and Reporting in jargon free language
- Noise Enquiry handling and Policy - and response targets
- Noise surveys
- Health - Aviation Night Noise Survey (ANNE) review results

### Operating Restrictions

- Night noise mitigation - review departure noise limits/higher fines - benchmark
- Noise Preferential Routes (NPR)
- Review all current Carbon and noise initiatives
- Flight Profiles investigation

### Land Use Planning and Mitigation

- Noise insulation scheme
- Work with Local Authority Environmental and Planning Depts on Land-use planning
- Work with Local Authority Environmental and Planning Depts on Land-use planning
- Publish searchable address database for Insulation scheme eligibility

### Quieter Planes

- We commit to actively work towards securing as many new aircraft to the airport as feasible given the current market
- Edinburgh Airport Noise rating charges
- Carbon Emissions Charges
- Environmental Rebates
- Zero Emissions Prize
- Participation in Industry Groups ACI Europe, SA, IOA
- ACP CAP1616 process - changing our flight paths under the CAP1616 process
- Research, health and non-acoustic factors

### Quieter Procedures

- Airspace Modernisation
- Noise monitoring and fining
- Noise and Track Keeping system
- Continuous Descent Arrivals (CDA)
- Continuous Descent Arrivals (CDA)
- Ground Noise management procedures
- Fixed FEGP installation
- EANAB and Airspace Modernisation

The tables below provide a brief summary and overview of our proposed actions going forward, Action Ref. within the summary tables below refer to the Action Ref's provided in the full proposed action tables available in Section 10.

Table 08

**Summary of new actions**

<b>Working with our Communities</b>			
<b>Action Ref 1.11 5 Fixed Noise monitoring Stations</b>			
Current 5x fixed NMT's, Installation of 1 further fixed NMT's, (agreed within the airports 5-year plan) + further installations post ACP changes to flight paths - including x1 on fife coast under Runway 06 departure route			
Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	2025	Installation by end 2025	Communities within 51+ dB Lden
<b>Action Ref 1.6 NTK Noise Lab</b>			
We will maintain our current a noise and track keeping system on our website which allows the public to investigate and monitor flights & enquiries about our operations			
Impact	Timeline	Performance Indicator	Communities affected
Ground. arrivals, departures noise, community engagement	Annual	Review anually, update of relevant documents and Website pages	Communities within 51+ dB Lden
<b>Action Ref 1.12 Edinburgh Airport Noise Advisory Board (EANAB)</b>			
We will work with the EANAB & the Aviation and Airspace subgroup to commission informative aircraft noise work as appropriate.			
Impact	Timeline	Performance Indicator	Communities affected
Ground. arrivals, departures noise, community engagement	2024 - 2028	Quarterly Reports  Published on EANAB website	Communities within and above 51+ dB Lden

<b>Working with our Communities (Continued)</b>			
<b>Action Ref 1.13 Independent EANAB Chair</b>			
We will continue to fully fund EANAB and the employment of an independent chair			
Impact	Timeline	Performance Indicator	Communities affected
Ground. arrivals, departures noise, community engagement	2024 - 2028	Review as required and report through EANAB process	Communities within and above 51+ dB Lden
<b>Action Ref 1.14 Edinburgh Airport Consultative Committee (EACC)</b>			
Quarterly Reports			
Impact	Timeline	Performance Indicator	Communities affected
Ground. arrivals, departures noise, community engagement	Quarterly	Published on EDI website	Communities within and above 51+ dB Lden
<b>Action Ref 1.15 Noise insulation scheme including Night Noise contours and eligibility address checker</b>			
Implementation on finalisation of NAP 2024 - 2028			
Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	Q3 2024/Q1 2025	Policy publication on EDI Noise Lab	Communities within 57+ dB Laeq
<b>Action Ref 1.16 Monitoring and Reporting in jargon free language</b>			
Review all communications annually or when appropriate			
Impact	Timeline	Performance Indicator	Communities affected
Community engagement	Annually	Noise Lab pages updated	Communities within and above 51+ dB Lden

## Working with our Communities (Continued)

### Action Ref 1.17 Noise Enquiry handling and Policy – and response targets

Review annually or when appropriate

Impact	Timeline	Performance Indicator	Communities affected
Ground. arrivals, departures noise, community engagement	Annually	Quarterly Reports	Communities within and above 51+ dB Lden

### Action Ref 1.4 Noise surveys

We will carry out Community based noise surveys during the summer months to further our understanding of the noise climates under our flight paths

Impact	Timeline	Performance Indicator	Communities affected
Community trust and awareness. Consistent and effective management	2024 – 2028	Publication of survey reports on noise lab website, reports will be made available to public and EANAB	Installation of Mobile Noise monitor at Dalgety Bay 04/2024 – 05/2025

### Action Ref 1.18 Health – Aviation Night Noise Survey (ANNE) review results

Following the anticipated release of the Aviation Night Noise Survey (ANNE) by the end of 2026, we will assess its findings and consider implementing additional noise mitigation measures where necessary based on the identified needs

Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	2027	Updates will be published in EANAB Quarterly reports	Communities within 51+ dB Lden

## Operating Restrictions

### Action Ref 2.2a, b, c Night noise mitigation – review departure noise limits/higher fines – benchmark

Within 2 years of implementation of final NAP, we will benchmark with peer airports through ACI Noise Task Force membership

Impact	Timeline	Performance Indicator	Communities affected
Departures noise, community engagement	by Q4 2026	Publication on EDI Noise Lab	Communities within 57+ dB Laeq

### Action Ref 2.8 Noise Preferential Routes (NPR)

Maintain current procedure until introduction of new flight paths under the ACP process

Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise	2024 – 2028	Publication in API, Noise Lab	Communities within and above 51+ dB Lden

### Action Ref 4.2a, b, c, d Review all current Carbon and noise initiatives

Review all current Carbon and noise initiatives for effectiveness on a regular basis

Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	Annual/Bi-annual	Publication on EDI website Changes in initiatives will be recorded and published on Noise Lab Environmental noise charges page	Communities within 57+ dB Laeq

### Action Ref 2.9 Flight Profiles investigation

EANAB Aviation and Noise Subgroup, To70 and Edinburgh Airport are currently investigating how the Departure profiles of aircraft may impact communities under our flight paths. Work will be published on the EANAB website upon concluded

Impact	Timeline	Performance Indicator	Communities affected
departures noise, community engagement	2025	Publication on EANAB website	Communities within 57+ dB Laeq



## Land Use Planning and Mitigation

### Action Ref 3.1 Noise insulation scheme

Implementation of new scheme on finalisation of NAP 2024 - 2028, Bi-annual contour mapping

Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	Bi-annual	Publication on EDI Noise Lab	Communities within 57+ dB Laeq

### Action Ref 3.2a Work with Local Authority Environmental and Planning Depts on Land-use planning

Provide updated contour mapping and associated data biannually, review planning applications and comment where appropriate

Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	2024 - 2028/Bi-annual	Review Applications on receipt and within consultation window	Communities within 57+ dB Laeq

### Action Ref 3.2b Work with Local Authority Environmental and Planning Depts on Land-use planning

We will commission and publish forecast LAeq contours for aircraft noise in future masterplans

Impact	Timeline	Performance Indicator	Communities affected
Land use planning, community trust and awareness	2024 - 2028	Publication of forecast Contours	Communities within 57+ dB Laeq

### Action Ref 3.3 Publish searchable address database for Insulation scheme eligibility

Implementation of new scheme on finalisation of NAP 2024 - 2028

Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	Q1 2025	Publication on EDI Noise Lab	Communities within 57+ dB Laeq

## Quieter Planes

### Action Ref 4.2 We commit to actively work towards securing as many new aircraft to the airport as feasible given the current market.

Report annually on the progress we have made - actions 4.2a - d

Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	2024 - 2028	Publication within Conditions Of Use and on EDI website Changes in initiatives will be recorded and published on Noise Lab Environmental noise charges page	Communities within and above 51+ dB Lden

### Action Ref 4.2a Edinburgh Airport Noise rating charges

Night Noise, we will maintain our increased landing/take-off fees for the night time period, this fee is based on aircraft noise classification. Reviewed annually as part of the airport charges consultation process

Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	2024 - 2028	Publication within Conditions Of Use and on EDI website Changes in initiatives will be recorded and published on Noise Lab Environmental noise charges page	Communities within and above 51+ dB Lden

### Action Ref 4.2b Carbon Emissions Charges

Reviewed annually as part of the airport charges consultation process

Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	2024 - 2028	Publication within Conditions Of Use and on EDI website Changes in initiatives will be recorded and published on Noise Lab Environmental noise charges page	Communities within and above 51+ dB Lden

### Action Ref 4.2c Environmental Rebates

Reviewed annually as part of the airport charges consultation process

Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	2024 - 2028	Publication within Conditions Of Use and on EDI website Changes in initiatives will be recorded and published on Noise Lab Environmental noise charges page	Communities within and above 51+ dB Lden

### Quieter Planes (Continued)

#### Action Ref 4.2d Zero Emissions Prize

Reviewed annually as part of the airport charges consultation process

Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	2024 - 2028	Publication within Conditions Of Use and on EDI website Changes in initiatives will be recorded and published on Noise Lab Environmental noise charges page	Communities within and above 51+ dB Lden

#### Action Ref 4.3 Participation in Industry Groups ACI Europe, SA, IOA

We commit to partnering with Sustainable Aviation and Airports Council International (ACI) Europe Noise Taskforce to stay informed about continent-wide policies and protocols that could be integrated into both current and upcoming Noise Action Plans (NAPs). This collaboration will also enable us to keep the Board informed about pertinent issues and effective mitigation strategies

Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	2024 - 2028	Attendance at quarterly meetings	Communities within and above 51+ dB Lden

#### Action Ref 4.4 ACP CAP1616 process - changing our flight paths under the CAP1616 process

Expected public consultation November 2024, implementation 2027

Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	2027	Publication on ACP webpages	Communities within and above 51+ dB Lden

#### Action Ref 4.5 Research, health and non-acoustic factors

We recognise that human response to noise is complex and emotive, and is influenced by non-acoustic factors. We will continue to monitor Government research in these areas and will over the term of the NAP review any relevant research papers and identify areas where we can implement further measures to mitigate noise

Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	2024 - 2028	Updates will be published in EANAB Quarterly reports and on EDI Noise Lab	Communities within and above 51+ dB Lden

### Quieter Procedures

#### Action Ref 5.1 Airspace Modernisation

Reduction in the number of people impacted by noise from our operations. Expected public consultation November 2024, implementation 2026

Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	2024 - 2028	Publication on EDI website	Communities within and above 51+ dB Lden

#### Action Ref 5.6 Noise monitoring and fining

Review annually Benchmark with peer airports through ACI Noise Task Force membership

Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	Annually	Publication on EDI Noise Lab EANAB will be informed of any planned changes and outcomes of Benchmarking	Communities within and above 51+ dB Lden

#### Action Ref 5.7, 2.3 Noise and Track Keeping system

Maintain and update equipment to ensure modern technology is available for the production of contour mapping, noise analysis and reporting

Impact	Timeline	Performance Indicator	Communities affected
Arrivals, departures noise, community engagement	2024 - 2028	Report to EANAB Monthly meetings	Communities within and above 51+ dB Lden

#### Action Ref 2.1 Continuous Descent Arrivals (CDA)

Continuous Climb Departures (CCD) are encouraged due to the potential for noise and Air Quality improvements for local communities - monitor performance and report

Impact	Timeline	Performance Indicator	Communities affected
Departures	2024 - 2028	Publication on EDI Noise Lab	Communities within and above 51+ dB Lden

**Quieter Procedures (Continued)****Action Ref 2.1 Continuous Descent Arrivals (CDA)**

CDAs result in reduced fuel burn and emissions and mean less noise exposure for communities under the arrivals flight path – monitor performance and report

Impact	Timeline	Performance Indicator	Communities affected
Arrivals	2024 - 2028	Publication on EDI Noise Lab Updated Quarterly	Communities within and above 51+ dB Lden

**Action Ref 2.6 Ground Noise management procedures**

Manage, monitor and Engine Run noise to limit and reduce any impact to communities – report

Impact	Timeline	Performance Indicator	Communities affected
Ground Noise	2024 - 2028	Publication on EDI Noise Lab Updated Quarterly	Communities within 57+ dB Laeq

**Action Ref 2.7 Fixed FEGP installation**

Upon completion of the third phase (2024) 34 parking positions at the Airport will be equipped with Fixed Electrical Ground Power (FEGP)

Impact	Timeline	Performance Indicator	Communities affected
Ground Noise	2024 - 2028	Updates published in the Greater Good Strategy	Communities within 57+ dB Laeq

**Action Ref 5.3 EANAB and Airspace Modernisation**

We will work with EANAB to ensure they have the opportunity to contribute to the airspace change project working constructively with the airport

Impact	Timeline	Performance Indicator	Communities affected
2024 - 2028	Quarterly EANAB reports	x4 per year	Communities within and above 51+ dB Lden





## Health and Quality of life

Current UK Government policy defines thresholds for noise assessment using the concept of the Lowest Observable Adverse Effect Level (LOAEL). This represents the noise level at which adverse effects on health and quality of life become detectable. The policy sets the daytime LOAEL at 51 dB LAeq, 16h, based on the latest large-scale UK research on aircraft noise CAP1506, in line with this all Daytime LAeq contour mapping commissioned by Edinburgh Airport now map down to 51 dBA.

For night-time, policy proposes a LOAEL of 45 dB LAeq, 8h, grounded in the UK's current monetization methodology (WebTAG) and the World Health Organization's guidance for assessing the health impacts of environmental noise. In line with this recommendation, we commissioned nighttime noise contours to 45 dBA and will continue to do so going forward.

Within the proposed noise insulation scheme below we propose the introduction of eligibility to the scheme for nighttime noise begin at the 57 dBA contour in line with the UK Governments advice that communities become significantly annoyed by aircraft noise above 57 LAeq dBA (SOAEL).

## New Noise Insulation Scheme - proposed Policy Details

Figure 04

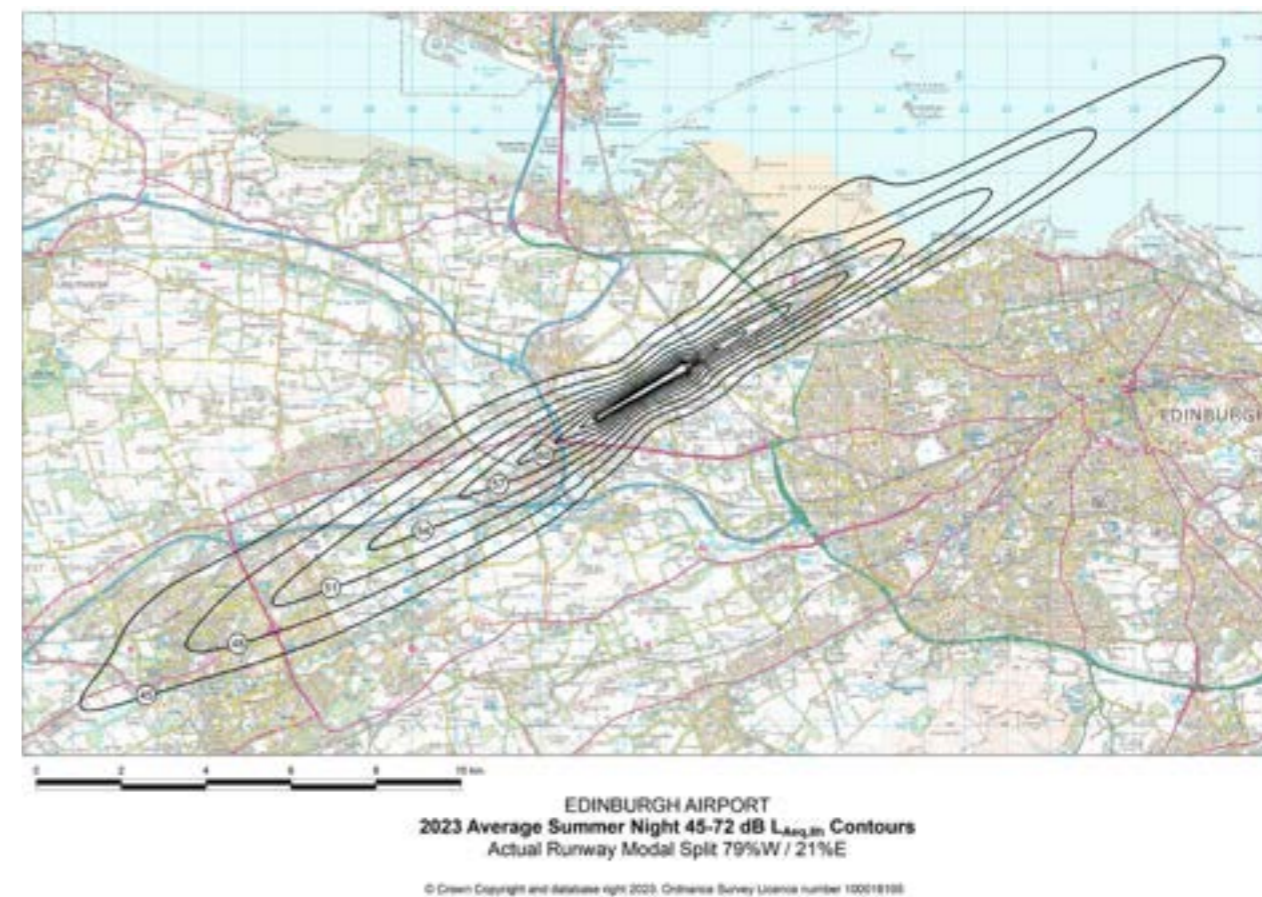
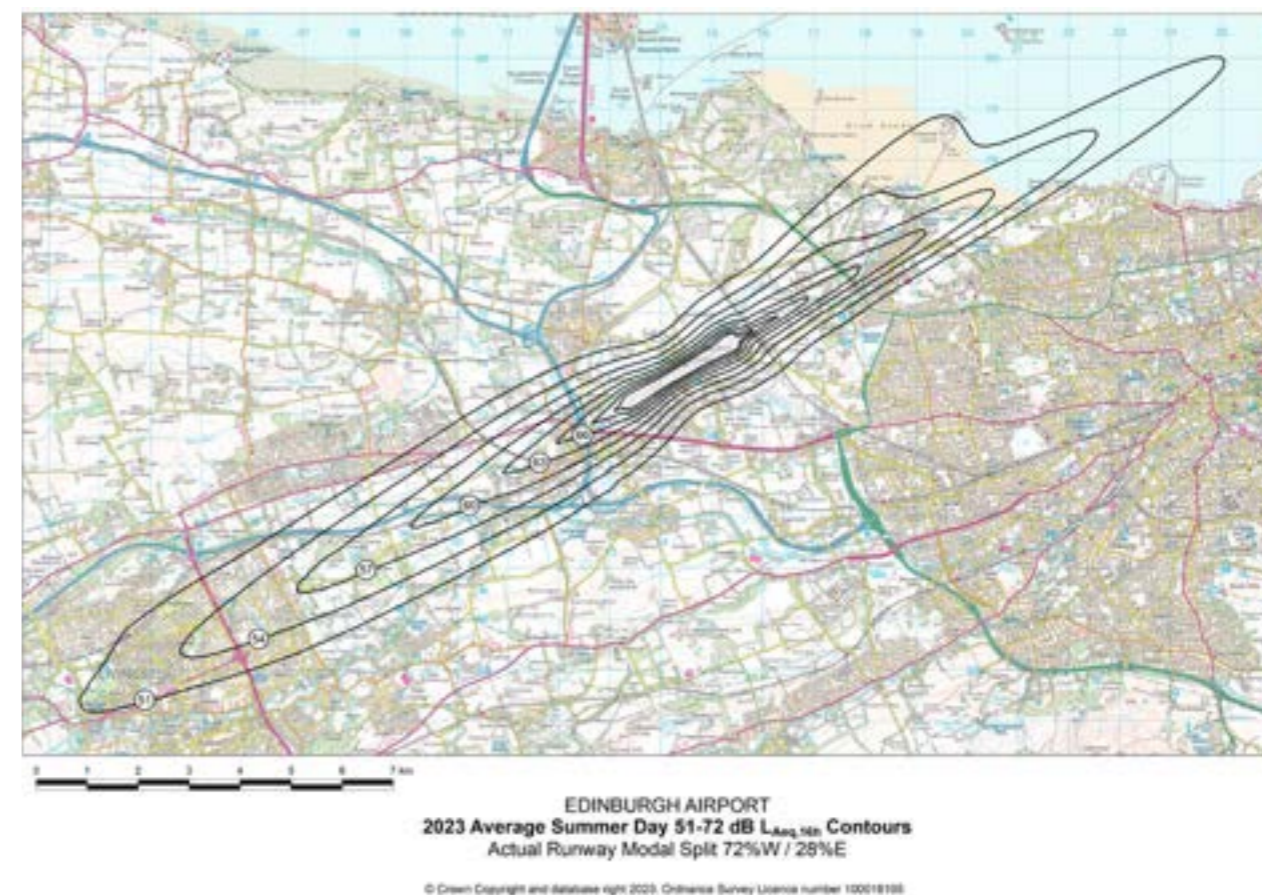


Figure 05





## Insulation Scheme

Following a comprehensive review and benchmarking exercise, and to align with the UK Government policy on night noise we propose the following changes to the current Noise Insulation Scheme should be taken forward.

Extend eligibility out to the Daytime 60 - 62 dBA contours and Nighttime 57+ dBA contours (SOAEL). Inclusion of Nighttime noise contours will ensure mitigation is in place should night flight levels increase and holds Edinburgh to our commitments under the Trusted Neighbour Pillar of our Greater Good strategy.

Annual Insulation Scheme budget of

**£250,000**

For properties currently eligible within the

**63+** dBA contours the airports contribution will remain uncapped and run concurrently.

Priority for those in higher contour bands.

**50%** Edinburgh Airport contribution for replacement double glazing,

**100%** for replacement of single glazing.

60 - 62dBa contours - Installation will be based on a first come first served basis with Priority for installation given to those most in need:

- Properties in areas most affected by contour noise dBA level.
- For property owners on benefits/pension credits Edinburgh Airports contribution level may be increased, this will be considered on a case-by-case basis. (Proof showing receipt of benefits will be required).

A minimum of 2 Quotes for glazing, door and loft insulation will be required, Edinburgh Airports contribution will be based on the lowest value quote provided.

Once the Annual cap is reached all eligible applicants will be placed on a waiting list for installation in the next financial year.

We will further investigate the feasibility of onboarding a specialist acoustic loft insulation company for installation of loft insulation, a separate budget for loft insulation may be required. Although the main aim of loft insulation will be to manage and mitigate aviation noise it will also reduce loss of heat within treated properties reducing their carbon footprint and ensure we again align with our Greater Good Strategy.

Eligibility to the Scheme will be limited to properties built before 2003 Where properties were built inside the airport's noise contours after 2003 relevant insulation planning conditions should have been applied.

Applications will not be considered retrospectively.

Implementation date on conclusion of NAP 2024 - 2028 consultation.

Review of ACP newly overflowed properties and eligibility to the Insulation scheme upon conclusion of the ACP process.

Publication on Noise Lab website of address database detailing eligible properties.

## Benchmarking against other UK Airport insulation Schemes

Table 09

2024					
Airport	Insulation Scheme	Introduction Date	Cap	dB Contours	Phased intro by area/Postcode
Gatwick	Yes	NAP 2023	£4,500	60dBA	Yes
Heathrow	Yes	NAP 2023 Begins 2024	100%	one - SOAEL - Significant Observed Adverse Effect Level.	Yes
Glasgow	Yes	NAP 2018-2023	£5,000	63dBA	No
Manchester	Yes	Not published	Up to £2,000, 80%, Hardship fund 100%	Not published	No, preferred contractor
London City	Yes	NAP 2018-2023	Up to £3,000 & to 100%	57/63/66dBA 57/63/66dBA	Tiered scheme - 3 levels
Birmingham	Yes	NAP 2023	Not published	2002 63dBA contour	Yes, ongoing from previous NAPs
Stanstead	Yes	NAP 2023	4 Tiers/ zones up to £10,000, up to 100%	>57+	Not published, 4 zones
Edinburgh	Yes	2017	No	63dBA	No

# Draft Noise Action Plan: 2023 - 2028 - full action list

# 09

Table 10: 2024 - 2028 Action plan Table  
This table outlines the actions for the 2024 - 2028 NAP.

Working with our Communities				
Action Ref 1.1 Efficient Aircraft				
We will continue to work with airlines to promote the most efficient aircraft when introducing new business to Edinburgh				
Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
A, D, GM	2024 - 2028	Contours changes	Communities within 51+ dB Lden	Ongoing
Action Ref 1.2 Air Quality				
We will monitor air quality at Edinburgh Airport (NO <sub>x</sub> )				
Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
A, D, GM	2024 - 2028	Report AQ findings within annual CRR and Noise Lab	Communities within 57+ dB LAeq	Ongoing
Action Ref 1.3 Vortex scheme				
We will continue to honour the Edinburgh Airport vortex scheme				
Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
A, D, GM	Ongoing	Publication of policy on Noise Lab	N/A	Ongoing - information available on Noise Lab

Working with our Communities (Continued)				
Action Ref 1.4 Noise surveys				
We will carry out Community based noise surveys during the summer months to further our understanding of the noise climates under our flight paths				
Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Community trust and awareness. Consistent and effective management.	2024 - 2028	Publication of reports on noise lab website & EANAB	N/A	Installation of Mobile Noise monitor at Dalgety Bay 04/2024 - 05/2025
Action Ref 1.4 Contour mapping				
Community trust and awareness. Consistent and effective management				
Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Community trust and awareness. Consistent and effective management.	Biannual	Publication of LAeq summertime contour maps on Edinburgh Airport Noise Lab	Communities within 51+ dB LAeq	Ongoing
Action Ref 1.5 Relocation assistance				
We will continue to offer a relocation assistance scheme for those households within the airports 69 dB LAeq noise contour in line with government policy				
Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
A, D	Ongoing	Number of requests made	Communities within 69+ dB LAeq	Ongoing



**Working with our Communities (Continued)****Action Ref 1.6 NTK Noise Lab**

We will maintain our current a noise and track keeping system on our website which allows the public to investigate and monitor flights & enquiries about our operations

<b>Impact</b> - Arrivals (A) Departures, (D) Ground movements (GM)	<b>Timescale</b>	<b>Performance Indicator</b>	<b>Communities affected</b>	<b>Action Update</b>
Community trust and awareness of noise. A, D	2024 - 2028	Publically accessible <a href="https://noiselab.casper.aero/edi/">https:// noiselab.casper. aero/edi/</a>	Ground. arrivals, departures noise, community engagement	Introduced June 2018

**Action Ref 1.7 Enquiry Line**

We will continue to offer a free phone number for complaints and enquires regarding aircraft noise. Complaint data will be published in our CSR

<b>Impact</b> - Arrivals (A) Departures, (D) Ground movements (GM)	<b>Timescale</b>	<b>Performance Indicator</b>	<b>Communities affected</b>	<b>Action Update</b>
Community trust and awareness	Ongoing	Number of contacts and method of contact	Communities within 51+ dB Lden and beyond	Ongoing

**Action Ref 1.9 Insulation**

We will provide noise insulation assistance 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

<b>Impact</b> - Arrivals (A) Departures, (D) Ground movements (GM)	<b>Timescale</b>	<b>Performance Indicator</b>	<b>Communities affected</b>	<b>Action Update</b>
Community trust and awareness. A, D	Ongoing	N/A	Communities within 63+ dB LAeq	Ongoing

**Working with our Communities (Continued)****Action Ref 1.11 Fixed Noise monitoring Stations**

Current 4x fixed NMT's , Installation of 1 further fixed NMT's, (agreed within the airports 5-year plan) + further installations post ACP changes to flight paths - including x1 on fife coast under Runway 06 departure route

<b>Impact</b> - Arrivals (A) Departures, (D) Ground movements (GM)	<b>Timescale</b>	<b>Performance Indicator</b>	<b>Communities affected</b>	<b>Action Update</b>
Arrivals, departures noise, community engagement	2025	Installation by end 2025	Communities within 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Action Ref 1.12 Edinburgh Airport Noise Advisory Board (EANAB)**

We will work with the EANAB & the Aviation and Airspace subgroup to commission informative aircraft noise work as appropriate

<b>Impact</b> - Arrivals (A) Departures, (D) Ground movements (GM)	<b>Timescale</b>	<b>Performance Indicator</b>	<b>Communities affected</b>	<b>Action Update</b>
Ground. arrivals, departures noise, community engagement	2024 - 2028	Quarterly Reports	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Action Ref 1.13 Independent EANAB Chair**

We will continue to fully fund EANAB and the employment of an independent chair

<b>Impact</b> - Arrivals (A) Departures, (D) Ground movements (GM)	<b>Timescale</b>	<b>Performance Indicator</b>	<b>Communities affected</b>	<b>Action Update</b>
Ground. arrivals, departures noise, community engagement	2024 - 2028	Review as required and report through EANAB process	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Working with our Communities (Continued)**

**Action Ref 1.14 Edinburgh Airport Consultative Committee (EACC)**

Quarterly Reports

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Ground. arrivals, departures noise community engagement	Quarterly	Published on EDI website	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Action Ref 1.15 Noise insulation scheme including Night Noise contours and eligibility address checker**

Implementation on finalisation of NAP 2024 - 2028

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Arrivals, departures noise, community engagement	Q3 2024/Q1 2025	Policy publication on EDI Noise Lab	Communities within 57+ dB Laeq	New Action Review in line with performance Indicator and timescales

**Action Ref 1.16 Monitoring and Reporting**

Review all communications annually or when appropriate in jargon free language

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Community engagement	Annually	Noise Lab pages updated	Communities within and beyond 51+ dB Lden	Ongoing

**Action Ref 1.17 Noise Enquiry handling and Policy - and response targets**

Review annually or when appropriate

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Ground. arrivals, departures noise, community engagement	Annually	Quarterly Reports,	Communities within and beyond 51+ dB Lden	Ongoing

**Working with our Communities (Continued)**

**Action Ref 1.18 Health - Aviation Night Noise Survey (ANNE) review results**

Following the anticipated release of the Aviation Night Noise Survey (ANNE) by the end of 2026, we will assess its findings and consider implementing additional noise mitigation measures where necessary based on the identified needs

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Arrivals, departures noise, community engagement	2027	Updates will be published in EANAB Quarterly reports	Communities within 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Action Ref 1.19 Monitoring and Reporting**

We will seek to acknowledge 100% within 8 days. Performance against this will be published in EACC and EANAB quarterly reports

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Community engagement	2024 - 2028	Publication of reports on EANAB	Communities within and beyond 51+ dB Lden	Ongoing

**Action Ref 1.21 Monitoring and Reporting**

We will continue to operate and enhance our noise management systems by various means such as reviewing our management system, analyzing noise data periodically and reviewing noise complaint trends

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Consistent and effective management	Ongoing	Publish as relevant on noise lab	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

## Operating Restrictions

### Action Ref 2.1 CDAs and CCDs

We will continue to promote CDAs and CCDs airlines operating at Edinburgh Airport

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
2024 - 2028	2024 - 2028	"CDA > 75% CCD > 90%"	Communities within and beyond 51+ dB Lden	Ongoing

### Action Ref 2.2a Noise Fining

We will continue to fine aircraft in breach of limits and increase the fine level if appropriate

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
D,A	2024 - 2028	Report to both EACC and EANAB as and when they occur	Communities within and beyond 51+ dB Lden	Ongoing

### Action Ref 2.2b Noise Fining

Review annually Benchmark with peer airports through ACI Noise Task Force membership

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
A, D	2024 - 2028	Report to EANAB	Communities within 57+ dB Laeq	New Action Review in line with performance Indicator and timescales

### Action Ref 2.2c Night noise mitigation - review departure noise limits/higher fines - benchmark

Within 2 years of implementation of final NAP, we will benchmark with peer airports through ACI Noise Task Force membership

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Departures noise, community engagement	by Q4 2026	Publication on EDI Noise Lab	Communities within 57+ dB Laeq	New Action Review in line with performance Indicator and timescales

## Operating Restrictions (Continued)

### Action Ref 2.3 Flight Procedures

We will continue to work with our partners in Sustainable Aviation and ACI Europe to develop and promote low noise flight procedures through evaluation of future operational methods and implementation of best practice

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
A, D, GN	2024 - 2028	Noise Lab Website	Communities within and beyond 51+ dB Lden	Ongoing

### Action Ref 2.4 Flight Procedures

We will continue to engage with our aviation partners to seek to improve adherence to the standard airport procedures

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
A, D	2024 - 2028	FLOPSY & Operations reports	Communities within and beyond 51+ dB Lden	Ongoing

### Action Ref 2.5 Ground Noise management procedures

Manage, monitor and Engine Run noise to limit and reduce any impact to communities

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
GN	2024 - 2028	Publication on EDI Noise Lab	Communities within 63+ dB Laeq	Ongoing

**Operating Restrictions (Continued)**

**Action Ref 2.6 Fixed FEGP installation**

Upon completion of the third phase (2024) 34 parking positions at the Airport will be equipped with Fixed Electrical Ground Power (FEGP)

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
GN	2024 - 2028	Publication on EDI Noise Lab	Communities within 63+ dB Laeq	Ongoing

**Action Ref 2.7 ACARE**

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

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
A, D, GN	Ongoing	Publication on SA website	Communities within and beyond 51+ dB Lden	Ongoing

**Action Ref 2.8 Noise Preferential Routes (NPR)**

Maintain current procedure until introduction of new flight paths under the ACP process

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Arrivals, departures noise	2024 - 2028	Publication in API, Noise Lab	Communities within and beyond 51+ dB Lden	Ongoing

**Operating Restrictions (Continued)**

**Action Ref 4.2a - d Review all current Carbon and noise initiatives**

Review all current Carbon and noise initiatives for effectiveness on a regular basis

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Arrivals, departures noise, community engagement	Annual/ Bi-annual	Publication on EDI website	Communities within 57+ dB Laeq	New Action Review in line with performance Indicator and timescales

**Action Ref 2.9 Flight Profiles investigation**

EANAB Aviation and Noise Subgroup, To70 and Edinburgh Airport are currently investigating how the Departure profiles of aircraft may impact communities under our flight paths. Work will be published on the EANAB website upon concluded

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
departures noise, community engagement	2025	Publication on EANAB website	Communities within 57+ dB Laeq	New Action Review in line with performance Indicator and timescales



## Land Use Planning and Mitigation

### Action Ref 3.1 Noise insulation scheme

Implementation of new scheme on finalisation of NAP 2024 - 2028, Bi-annual contour mapping

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Arrivals, departures noise, community engagement	Bi-annual	Publication on EDI Noise Lab	Communities within 57+ dB Laeq	New Action Review in line with performance Indicator and timescales

### Action Ref 3.2a Work with Local Authority Environmental and Planning Depts on Land-use planning

Provide updated contour mapping and associated data biannually, review planning applications and comment where appropriate

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Arrivals, departures noise, community engagement	2024 - 2028/ Bi-annual	Review Applications on receipt and within consultation window	Communities within 57+ dB Laeq	New Action Review in line with performance Indicator and timescales

### Action Ref 3.2b Work with Local Authority Environmental and Planning Depts on Land-use planning

We will commission and publish forecast LAeq contours for aircraft noise in future masterplans

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Land use planning, community trust and awareness	2024 - 2028	Publication of forecast Contours	Communities within 57+ dB Laeq	New Action Review in line with performance Indicator and timescales

### Action Ref 3.3 Publish searchable address database for Insulation scheme eligibility.

Implementation of new scheme on finalisation of NAP 2024 - 2028

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Arrivals, departures noise, community engagement	Q1 2025	Publication on EDI Noise Lab	Communities within 57+ dB Laeq	New Action Review in line with performance Indicator and timescales

## Quieter Planes

### Action Ref 4.1 Best Practice Departures

We will continue to promote a best practice guide for departures to airlines operating at Edinburgh

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
D	2024 - 2028		Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

### Action Ref 4.2 Quieter Aircraft

We commit to actively work towards securing as many new aircraft to the airport as feasible given the current market. Report annually on the progress we have made - actions 4.2 a-d

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Arrivals, departures noise, community engagement	2024 - 2028	Publication within Conditions Of Use and on EDI website	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

### Action Ref 4.2a Edinburgh Airport Noise rating charges

Night Noise, we will maintain our increased landing/take-off fees for the night time period, this fee is based on aircraft noise classification. Reviewed annually as part of the airport charges consultation process

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Arrivals, departures noise, community engagement	2024 - 2028	Publication within Conditions Of Use and on EDI website	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Quieter Planes (Continued)**

**Action Ref 4.2b Carbon Emissions Charges**

Reviewed annually as part of the airport charges consultation process

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Arrivals, departures noise, community engagement	2024 - 2028	Publication within Conditions Of Use and on EDI website	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Action Ref 4.2c Environmental Rebates**

Reviewed annually as part of the airport charges consultation process

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Arrivals, departures noise, community engagement	2024 - 2028	Publication within Conditions Of Use and on EDI website	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Action Ref 4.2d Zero Emissions Prize**

Reviewed annually as part of the airport charges consultation process

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Arrivals, departures noise, community engagement	2024 - 2028	Publication within Conditions Of Use and on EDI website	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Quieter Planes (Continued)**

**Action Ref 4.3 Participation in Industry Groups ACI Europe, SA, IOA**

We commit to partnering with Sustainable Aviation and Airports Council International (ACI) Europe Noise Taskforce to stay informed about continent-wide policies and protocols that could be integrated into both current and upcoming Noise Action Plans (NAPs). This collaboration will also enable us to keep the eanabinformed about pertinent issues and effective mitigation strategies

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Arrivals, departures noise, community engagement	2024 - 2028	Attendance at quarterly meetings	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Action Ref 4.4 ACP CAP1616 process**

Reviewed annually as part ACP CAP1616 process - changing our flight paths under the CAP1616 processExpected public consultation November 2024, implementation 2026 of the airport charges consultation process

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Arrivals, departures noise, community engagement	2026	Publication on ACP webpages	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Quieter Planes (Continued)****Action Ref 4.5 Research, health and non-acoustic factors**

We recognise that human response to noise is complex and emotive, and is influenced by non-acoustic factors. We will continue to monitor Government research in these areas and will over the term of the NAP review any relevant research papers and identify areas where we can implement further measures to mitigate noise

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Arrivals, departures noise, community engagement	2024 – 2028	Updates will be published in EANAB Quarterly reports and on EDI Noise Lab	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Action Ref 4.6 Noise fining**

We will continue to direct all money raised by noise infringements to the Edinburgh Airport Community Board

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Community trust and awareness	2024 – 2028	Number of infringements and fines raised published in the CRR	Communities within 57+ dB LAeq	Ongoing

**Quieter Procedures****Action Ref 5.1 Stakeholder engagement**

We will continue to work with local stakeholders to understand and address the interdependencies of aircraft operations management and noise

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
A, D, GN	Ongoing	Group Participation, Research funding and trial participation	N/A	Ongoing

**Action Ref 5.2 Publish searchable address database for Insulation scheme eligibility.**

Implementation of new scheme on finalisation of NAP 2024 – 2028

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
A, D, community engagement	Q1 2025	Publication on EDI Noise Lab	Communities within 57+ dB LAeq	by Q2 2025

**Action Ref 2.3 Edinburgh Airport Noise Advisory Board (EANAB)**

We will work with the EANAB & the Aviation and Airspace subgroup to commission informative aircraft noise work from To70 or as appropriate

Impact – Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Ground. arrivals, departures noise, community engagement	2024 – 2028	Quarterly Reports,	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Quieter Procedures (Continued)****Action Ref 5.3 EANAB and Airspace Modernisation**

We will work with EANAB to ensure they have the opportunity to contribute to the airspace change project working constructively with the airport

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
2024 - 2028	Quarterly EANAB reports	N/A	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Action Ref 5.4 Airspace Modernisation**

Reduction in the number of people impacted by noise from our operations. Expected public consultation November 2024, implementation 2026

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Expected public consultation November 2024, implementation 2026	2024 - 2028	Publication on ACP webpages	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Action Ref 5.5 Partnerships**

We commit to partnering with Sustainable Aviation and Airports Council International (ACI) Europe Noise Taskforce to stay informed about continent-wide policies and protocols that could be integrated into both current and upcoming Noise Action Plans (NAPs). This collaboration will also enable us to keep the Board informed about pertinent issues and effective mitigation strategies

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Ground. arrivals, departures noise, community engagement	As required within Quarterly EANAB reports	2024 - 2028	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Quieter Procedures (Continued)****Action Ref 5.6 Noise monitoring and fining**

Review annually Benchmark with peer airports through ACI Noise Task Force membership

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Arrivals, departures noise, community engagement	Annually	Publication on EDI Noise Lab	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Action Ref 5.7 Noise and Track Keeping system**

Maintain and update equipment to ensure modern technology is available for the production of contour mapping, noise analysis and reporting

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Arrivals, departures noise, community engagement	2024 - 2028	Report to EANAB Monthly meetings	Communities within and beyond 51+ dB Lden	New Action Review in line with performance Indicator and timescales

**Action Ref 2.6 Ground Noise management procedures**

Manage, monitor and Engine Run noise to limit and reduce any impact to communities - report

Impact - Arrivals (A) Departures, (D) Ground movements (GM)	Timescale	Performance Indicator	Communities affected	Action Update
Ground Noise	2024 - 2028	Publication on EDI Noise Lab	Communities within 57+ dB Laeq	New Action Review in line with performance Indicator and timescales



## Costs of Noise Management

# 10

## The cost of Noise Management

Table 11

Type	Description	Approximate cost per year
Staff costs	Environmental Noise Manager, Environment team, Airside Operations and Communications	£68,000
Equipment maintenance	Noise monitor maintenance and calibration, radar maintenance	£32,000
Publications	Community newsletters	£1200
New NTK fixed noise monitors	Cramond Primary school noise monitor	£92,500 (one off cost)
Noise advisory board (EANAB)	Independent noise consultant	
	Meeting costs, Secretarial services, sundry payments	£14,800
Additional noise monitor	Full installation	£93,000 (one off cost)
Monitor renewal	Like for like replacement of existing noise monitors	£31,290
Consultation	Questionnaire management Materials	£15,000



## Further Information

This document is produced to provide you with information that demonstrates the working behind the NAP actions. If you would like more information, please visit the Edinburgh Airport Noise Lab at: <https://noiselab.casper.aero/edi/>

Other sources of information and websites you may find useful are provided below.

- Edinburgh Airport ACP website: <https://airspacechange.edinburghairport.com/>
- Edinburgh Airport Flight Tracker: <https://flighttracking.casper.aero/edi/>
- Edinburgh Airport Sustainability pages – Sustainability at Edinburgh Airport: <https://corporate.edinburghairport.com/sustainability>
- Greater Good Strategy: <https://online.flippingbook.com/view/72631304/>
- CAA and relevant CAPs: <https://www.caa.co.uk/our-work/publications/>
- CAP 1711: <https://www.caa.co.uk/our-work/publications/documents/content/cap1711b/>
- CAP1616: <https://www.caa.co.uk/search?query=CAP+1616>
- CAP2091 CAA Policy on Minimum Standards for Noise Modelling: <https://publicapps.caa.co.uk/modalapplication.aspx?appid=11&mode=detail&id=10124>
- Links to Scottish noise mapping websites: <https://noise.environment.gov.scot/>
- Common noise assessment methods in Europe (CNOSSOS-EU): <https://op.europa.eu/en/publication-detail/-/publication/80bca144-bd3a-46fb-8beb-47e16ab603db/language-en>
- AIP link: <https://www.aurora.nats.co.uk/htmlAIP/Publications/2022-01-27-AIRAC/html/index-en-GB.html>
- Sustainable Aviation: [www.sustainableaviation.co.uk/goals/noise/](http://www.sustainableaviation.co.uk/goals/noise/)  
<https://www.sustainableaviation.co.uk/wp-content/uploads/2018/06/SA-Noise-Road-Map-Report.pdf>
- The *Environmental Noise (Scotland) Regulations 2006* (IS/2006/465).
- The *Strategic Noise Mapping in England* website.
- The Noise Mapping Wales website.
- The Noise Mapping Northern Ireland website.
- Scottish Governments Action Planning Guidance: <https://noise.environment.gov.scot/index.html>
- Scottish Governments Aviation Statement: <https://www.transport.gov.scot/news/aviation-statement/>



# Edinburgh Airport Draft Noise Action Plan Appendices

2024 - 2028

## Appendix A – ENDS required Mapping

### Contour maps and population statistics methodology

#### NAP Contour Mapping

ERCD Contour Mapping

The Contour mapping provided within the NAP documents was produced by ERCD, a department of the CAA – using the following parameters.

As detailed in previous sections ERCD also provide the baseline contours for the NC Ltd mapping and have detailed below how this was produced.

The Environmental Research and Consultancy Department (ERCD) at the CAA develops and maintains the UK civil aircraft noise contour model ANCON on behalf of the Department for Transport, which calculates contours from aircraft movement, route, noise generation and sound propagation data.

ANCON is used to generate the annual noise exposure contours for Heathrow, Gatwick and Stansted. Other major airports also use the model. As well as producing historical noise contour maps, it is also used to generate forecast noise contours for airport development and airspace change proposals.

The following annual (365-day) period contours were produced:

- 2019 Lday 51-75 dB in 3 dB steps (runway modal split 67%W/33%E)
- 2019 Levening 51-75 dB in 3 dB steps (64%W/36%E)
- 2019 Lnight 45-75 dB in 3 dB steps (68%W/32%E)
- 2019 Lden 51-75 dB in 3 dB steps (67%W/33%E)
- 2019 LAeq,16h 51-75 dB in 3 dB steps (67%W/33%E)

Estimates of the areas, populations and households using the CACI 2019 population database (updated from the 2011 Census) are provided in Tables 12-16 for the above metrics. The counts are provided to the nearest 100 people or households.

The contours have been overlaid onto an Ordnance Survey base map and supplied in PDF, TIF, DXF and KML formats.

### Modelling assumptions

The contours have been modelled using ANCON version 2.4 and based on the Edinburgh traffic data that you supplied for the 2019 annual period.

The modelling uses the same flight tracks and dispersions for each SID route and arrival runway that were calculated from summer 2019 radar data for the recent ACP modelling work, as a proportionate approximation.

Similarly, the departure and arrival flight profiles previously produced from 2019 summer radar data for the ACP modelling work have been used for this study as a proportionate approximation. Profiles for the remaining aircraft types were based on ICAO (ANP) data.

The effects of the surrounding topography have been modelled using Meridian 2 Gridded Heights terrain data from Ordnance Survey.

## Edinburgh Airport – 2019 Noise Action Plan contours ANCON

Table 12

Edinburgh 2019 Lday contours – estimated areas, populations and households

Lday (dB)	Area (km <sup>2</sup> )	Population	Households
> 51	56.2	33,200	13,800
> 54	32.5	9,800	4,100
> 57	18.2	4,200	1,800
> 60	10.0	2,400	1,000
> 63	5.4	400	200
> 66	2.9	300	100
> 69	1.6	< 100	< 100
> 72	0.9	0	0
> 75	0.6	0	0

Table 13

Edinburgh 2019 Levening contours – estimated areas, populations and households

Levening (dB)	Area (km <sup>2</sup> )	Population	Households
> 51	48.9	24,100	9,900
> 54	28.3	7,500	3,100
> 57	15.9	4,000	1,700
> 60	8.7	2,100	900
> 63	4.7	400	200
> 66	2.6	100	< 100
> 69	1.4	0	0
> 72	0.8	0	0
> 75	0.6	0	0

## Edinburgh Airport – 2019 Noise Action Plan contours ANCON

Table 14

### Edinburgh 2019 Lnight contours – estimated areas, populations and households

Lnight (dB)	Area (km <sup>2</sup> )	Population	Households
> 45	57.4	34,500	14,400
> 48	33.6	11,100	4,600
> 51	18.9	4,600	1,900
> 54	10.5	3,200	1,400
> 57	5.5	400	200
> 60	3.0	300	100
> 63	1.6	< 100	< 100
> 66	0.9	0	0
> 69	0.5	0	0
> 72	0.3	0	0
> 75	0.2	0	0

Table 15

### Edinburgh 2019 Lden contours – estimated areas, populations and households

Lden (dB)	Area (km <sup>2</sup> )	Population	Households
> 51	87.5	55,400	23,400
> 54	52.0	29,200	12,100
> 57	30.2	8,200	3,500
> 60	16.9	4,200	1,800
> 63	9.2	2,400	1,000
> 66	4.9	400	200
> 69	2.7	100	< 100
> 72	1.4	0	0
> 75	0.8	0	0

## Edinburgh Airport – 2019 Noise Action Plan contours ANCON

Table 16

### Edinburgh 2019 annual day LAeq,16h contours – estimated areas, populations and households

LAeq,16h (dB)	Area (km <sup>2</sup> )	Population	Households
> 51	54.3	30,800	12,800
> 54	31.5	8,900	3,700
> 57	17.6	4,200	1,800
> 60	9.6	2,300	1,000
> 63	5.2	400	200
> 66	2.8	100	100
> 69	1.5	< 100	< 100
> 72	0.9	0	0
> 75	0.6	0	0

Note: Population and household estimates are given to the nearest 100, and based on 2011 Census data updated for 2019, supplied by CACI © CACI Limited 2019 All Rights Reserved.



**Lden contour map 2019 and 2021**

Lden is based on air traffic movements over the entire year, unlike dB LAeq contours which are based on air traffic during the busiest summer months. In addition, an arbitrary 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 perception of disturbance at night. Contours for strategic noise mapping are presented in 5 dB steps from 55 dBA to 75 dBA. Lnight differ in that they are presented between 50 dBA and 70 dBA.

Figure 06: **Lden 2019 contour map**



Figure 07: **Lden 2021 contour map**



**LAeq contour map 2019 and 2021**

The UK Government uses the Equivalent Continuous Sound Level, Leq dBA for this purpose which provides average noise levels for the busiest 16 hours of the day, between 07:00 - 23:00 over the year. This is the most common international measure of aircraft noise. This is measured over the whole year in this case 2019 and 2021, 16-hour period refers to 07:00 - 23:00 (local time). This is the time period and parameter set out by legislation - The Environmental Noise (Scotland) Regulations 2006.

Figure 07: **LAeq 2019 contour map**



Figure 08: **LAeq 2021 contour map**





**Lnight contour map 2019**

The Lnight contour map shows the A-weighted long-term average sound level determined over all the night periods of a year; nighttime for this type of measurement is defined as 23:00 – 07:00 which is commonly used in environmental noise measurement and legislation to define the nighttime period and may often be shown in noise reports and contour mapping as the Lnight (8hrs).

Figure 09: **Lnight 2019 contour map**



Figure 10: **Lnight 2021 contour map**



Further information on ANCON noise modelling is available below in Appendix B and on the [CAA website](#)

The 2023 actual runway modal splits were 72% west/28% east for daytime, and 79% west/21% east for night-time.

**ERCDC 2023 LAeq 16hr Average (Day) & 8hr Average (Night) Summertime contour mapping**

The following summer (92-day) period contours were produced:

- 2023 summer day actual modal split LAeq, 16h, plotted from 51-72 dB in 3 dB steps
- 2023 summer night actual modal split LAeq, 8h, plotted from 45-72 dB in 3 dB steps

Estimates of areas, populations and households using the CACI 2023 population database (updated from the 2021 Census) are provided in Tables 17 and 18 for the above metrics. The counts are provided to the nearest 100 people or households.

Figure 11

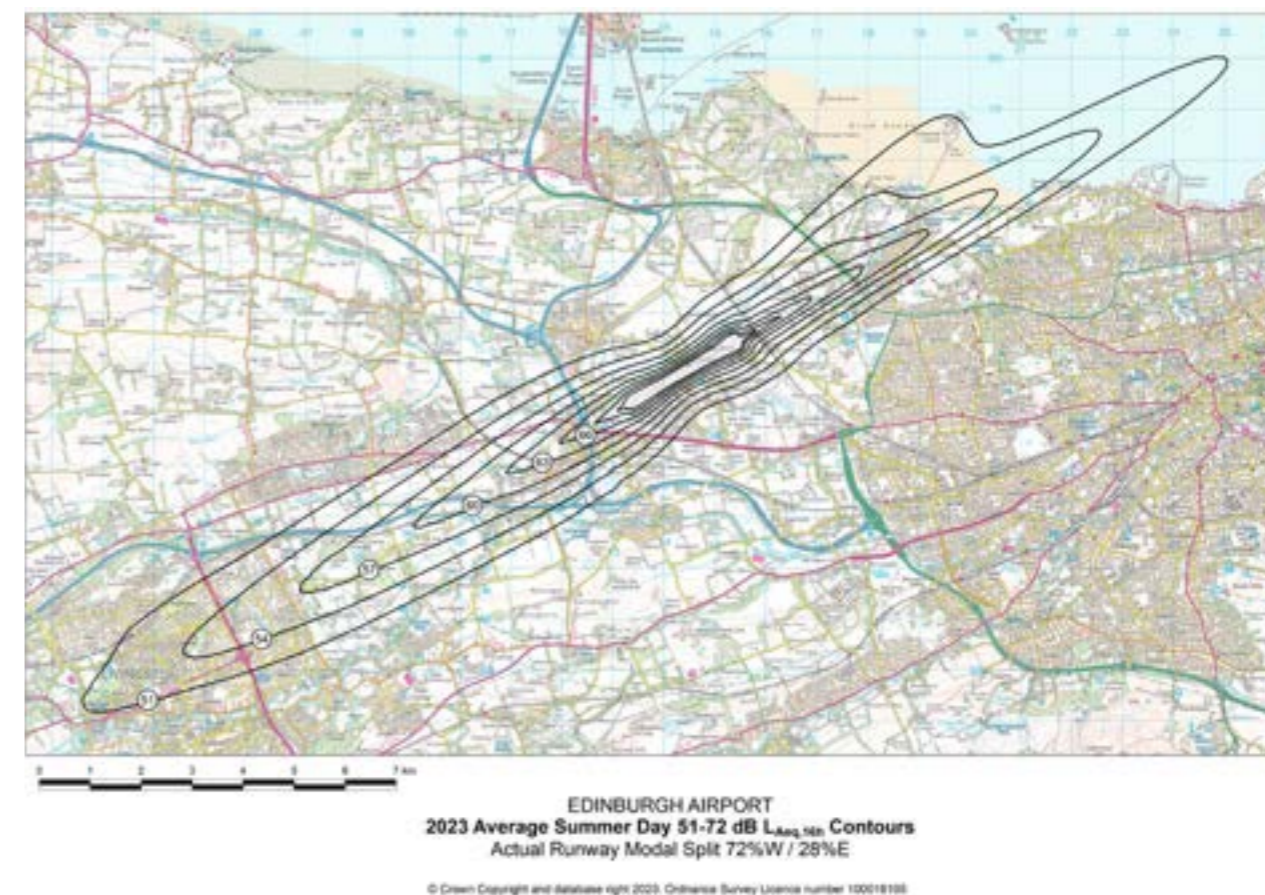




Figure 12

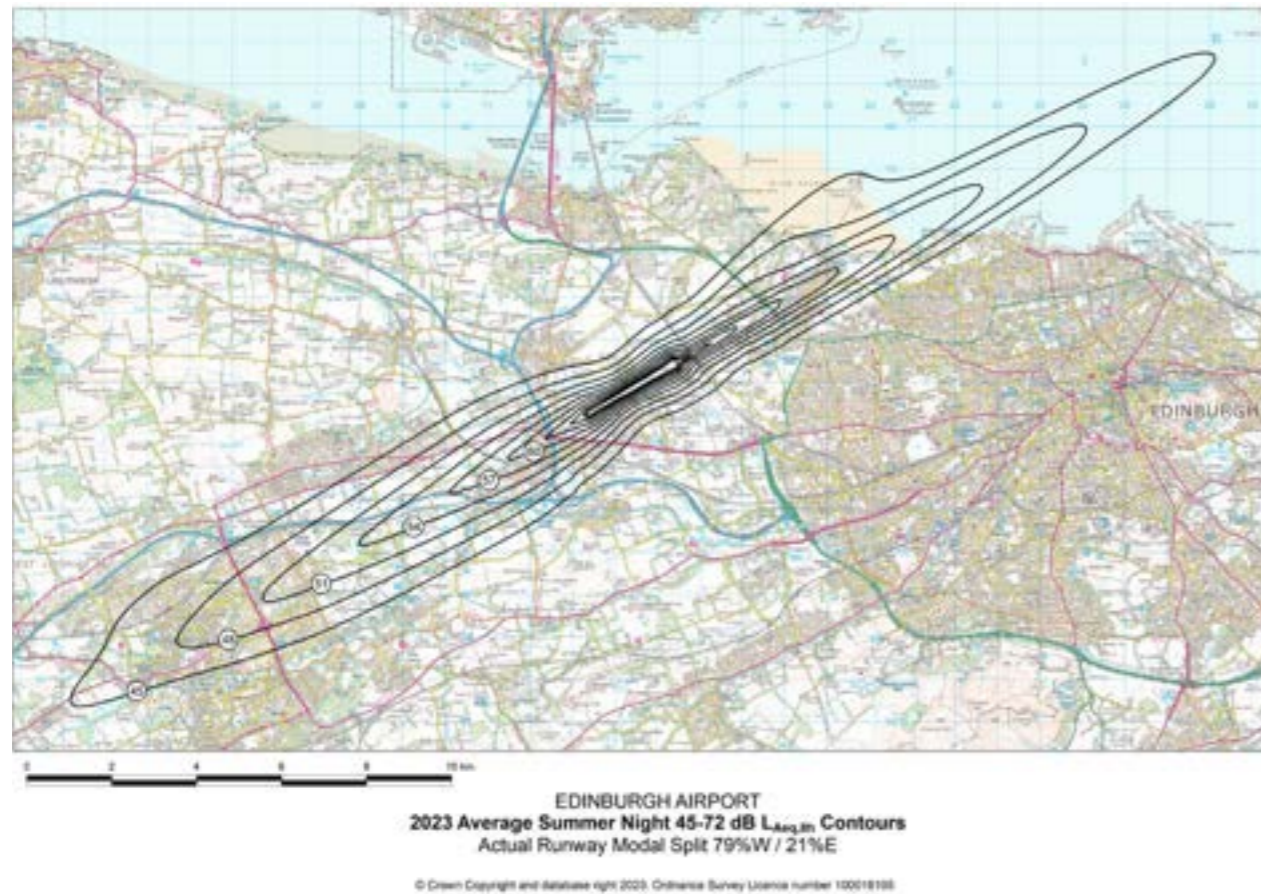


Table 17

**Edinburgh 2023 average summer day actual modal split (72% west/28% east) LAeq, 16h contours - estimated areas, populations and households**

LAeq, 16h (dB)	Area (km <sup>2</sup> )	Population	Households
> 51	50.1	30,200	12,900
> 54	29.0	9,300	3,900
> 57	15.8	3,900	1,600
> 60	8.2	1,900	800
> 63	4.1	400	200
> 66	2.1	100	< 100
> 69	1.1	0	0
> 72	0.7	0	0

Table 18

**Edinburgh 2023 average summer night actual modal split (79% west/21% east) LAeq,8h contours - estimated areas, populations and households**

LAeq, 8h (dB)	Area (km <sup>2</sup> )	Population	Households
> 45	66.9	41,300	17,800
> 48	39.3	17,700	7,500
> 51	22.3	5,600	2,400
> 54	11.8	3,500	1,400
> 57	6.0	2,000	800
> 60	3.0	400	200
> 63	1.5	< 100	< 100
> 66	0.8	0	0
> 69	0.5	0	0
> 72	0.3	0	0

Note: Population and household estimates are given to the nearest 100 and based on 2021 Census data updated for 2023, supplied by CACI © CACI Limited 2023 All Rights Reserved.

### Scottish Strategic Noise Mapping - NCLtd mapping consultants

The Strategic Noise contour maps and population data tables are provided on the Scottish noise mapping website and were produced for the Scottish Government by Noise Consultants Ltd (NCL), the mapping is interactive, and is not available for inclusion in this NAP. The mapping is produced using the following parameters and can be viewed via the following link - [Strategic Scottish Mapping](#) the Data tables provided in Section.

Data inputs for the production of the Strategic Contour Mapping have changed between rounds 3 and 4, the mapping is now based on the requirements detailed in CNOSSOS-EU and represents a fundamental change in input data requirements, this required the NCL Project Team to undertake associated research to help understand the impact of data decisions and assumptions on the accuracy of its noise model and maps. Research has included:

- Estimation of rail vehicle emission factors
- Sensitivity analysis of the emission methods
- Investigations into ground cover dataset selection
- Methods for considering meteorological corrections

The population datasets used within the modelling are:

- Census 2011 Output Areas
- National Record of Scotland (NRS) Data Zone to Output Area Lookup Table
- NRS Mid-2021 Population Estimates Scotland for data zones
- Addressbase Plus
- Airport - Calculation Methodology

ECAC Doc.29 4th Edition provides an internationally recognised methodology for airport noise modelling and contouring.

The modelling software's that comply with the dictates of the fourth edition of ECAC Doc.29 are:

- The Aviation Environmental Design Tool (AEDT) - most widely used international software
- ANCON - used by the British Civil Aviation (CAA)
- The NORTIM - used in Norway.
- The development of an airport noise model required several key data inputs which can be split into five categories:
  - Airport layout - Airfield related data;
  - Meteorological data;
  - Terrain;

- Aircraft flight paths; and
- Aircraft movement data

#### Lden contour map

Noise maps are produced by computer software that calculates the noise level at specific points as the noise spreads out from the sources of noise that are been modelled. The software can take account of features that affect the spread of noise such as buildings and the shape of the ground (e.g. earth mounds), and whether the ground is acoustically absorbent (e.g. fields) or reflective (concrete or water).

#### Lden contours

The Environmental Noise (Scotland) Regulations 2006 requires that strategic noise mapping should be conducted at five yearly intervals. Unlike the conventional summer 16-hour Leq dBA contours, the regulations require a different range of noise parameters: Lday, Levening, Lnight, LAeq 16hr, and dB Lden. A full definition of these terms is provided in the glossary.

Lden is based on air traffic movements over the entire year, unlike dB LAeq contours which are based on air traffic during the busiest summer months. In addition, an arbitrary 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 perception of disturbance at night. Contours for strategic noise mapping are presented in 5 dB steps from 55 dBA to 75 dBA. Lnight differ in that they are presented between 50 dBA and 70 dBA.

### Noise Consultants Ltd

#### 2021 Contour mapping data tables

Table 19

2021	Population			Number of dwellings			
	Lden	R3	R4	Difference	R3	R4	Difference
>55		13,800	6,100	-7,700	6,700	2,300	-4,400
>60		3,200	2,100	-1,100	1,600	800	-800
>65		400	200	-200	200	100	-100
>70							
>75							

Table 20

2021	Population			Number of dwellings			
	Lday	R3	R4	Difference	R3	R4	Difference
>55		5,400	2,800	-2,600	2,600	1,000	-1,600
>60		1,200	500	-700	600	200	-400
>65		200	0	-200	100	0	-100
>70							
>75							

Table 21

2021	Population			Number of dwellings			
	Leve	R3	R4	Difference	R3	R4	Difference
>55		4,200	3,000	-1,200	2,000	1,100	-900
>60		800	500	-300	400	100	-300
>65		100	0	-100			
>70							
>75							

Table 22

2021	Population			Number of dwellings			
	Lnight	R3	R4	Difference	R3	R4	Difference
>50		4,200	4,100	-100	2,000	200	-1,800
>55		800	700	-100	400	0	-400
>60		100	0	-100	0	0	0
>65							
>70							
>75							

Table 23

2021	Population			Number of dwellings			
	LAeq16h	R3	R4	Difference	R3	R4	Difference
>55		5,200	2,900	-2,300	2,500	1,100	-1,400
>60		1,100	500	-600	500	200	-300
>65		200	0	-200	100	0	-100
>70							
>75							



## Appendix B – Supplemental Mapping

The Contour mapping on the following pages was produced by ERCD in response to suggestions during our previous NAP 2018 – 2023 public consultation that supplemental mapping may provide greater understanding to the public.

As detailed in previous sections ERCD also provide the baseline contours for the NC Ltd mapping and have detailed below how this was produced.

The Environmental Research and Consultancy Department (ERCD) at the CAA develops and maintains the UK civil aircraft noise contour model ANCON on behalf of the Department for Transport, which calculates contours from aircraft movement, route, noise generation and sound propagation data.

ANCON is used to generate the annual noise exposure contours for Heathrow, Gatwick and Stansted. Other major airports also use the model. As well as producing historical noise contour maps, it is also used to generate forecast noise contours for airport development and airspace change proposals.

Further information on ANCON noise modelling is available via the link below on the CAA website: <https://www.caa.co.uk/consumers/environment/noise/features-of-the-ancon-noise-modelling-process/>

ERCD of the CAA use the ANCON system to provide contour mapping below commissioned by Edinburgh Airport,

*ERCD – The contours have been produced to meet the requirements of CAP 2091: CAA Policy on Minimum Standards for Noise Modelling. Since Edinburgh Airport would fall under ‘Noise Category C’ as defined by CAP 2091, the modelling has been informed by the ICAO (ANP) noise database, with 2021 flight profiles based on local track-keeping data for the major departure and arrival ANCON types (accounting for >75% noise energy), and 2021 mean flight tracks and dispersions based on local track-keeping data.*

*Estimates of the areas, populations and households using our CACI 2021 population database (updated from the 2011 Census) are provided in Tables 1-5. The counts are provided to the nearest 100 people or households.*

*The contours have been modelled using ANCON version 2.4 and based on the Edinburgh traffic data that you supplied for the 2021 annual period, and the contours have been overlaid onto an Ordnance Survey base map.*

*ERCD have analysed the 2021 summer radar data to produce flight tracks and dispersions for each SID route and arrival runway.*

*The 2021 summer radar data were also analysed to produce summer day height/speed profiles for the major ANCON types (6 profiles each for departures and arrivals), calculated as averages across all routes for departures, and averaged across both runways for arrivals. We have then produced height/speed/thrust profiles for these types that are informed by ICAO noise data. Profiles for the minor aircraft types have all been based on ICAO (ANP) data.*

*The effects of the surrounding topography were modelled using Meridian 2 Gridded Heights terrain data from Ordnance Survey.*

### 100% MODE Contour Mapping

A runway can be used in one of two directions, as detailed previously this is determined by whether the wind is coming from the east or the west. 100% mode contours portray averaged noise impacts based on single direction runway usage rather than the standard method which portray actual or forecast runway usage over an average summer day or night. The year modelled is 2019 traffic data projected out to 2022 should Covid and the associated changes to our fleet mix and volume have not changed.

Figure 13: 100% mode East Day 07:00 – 23:00

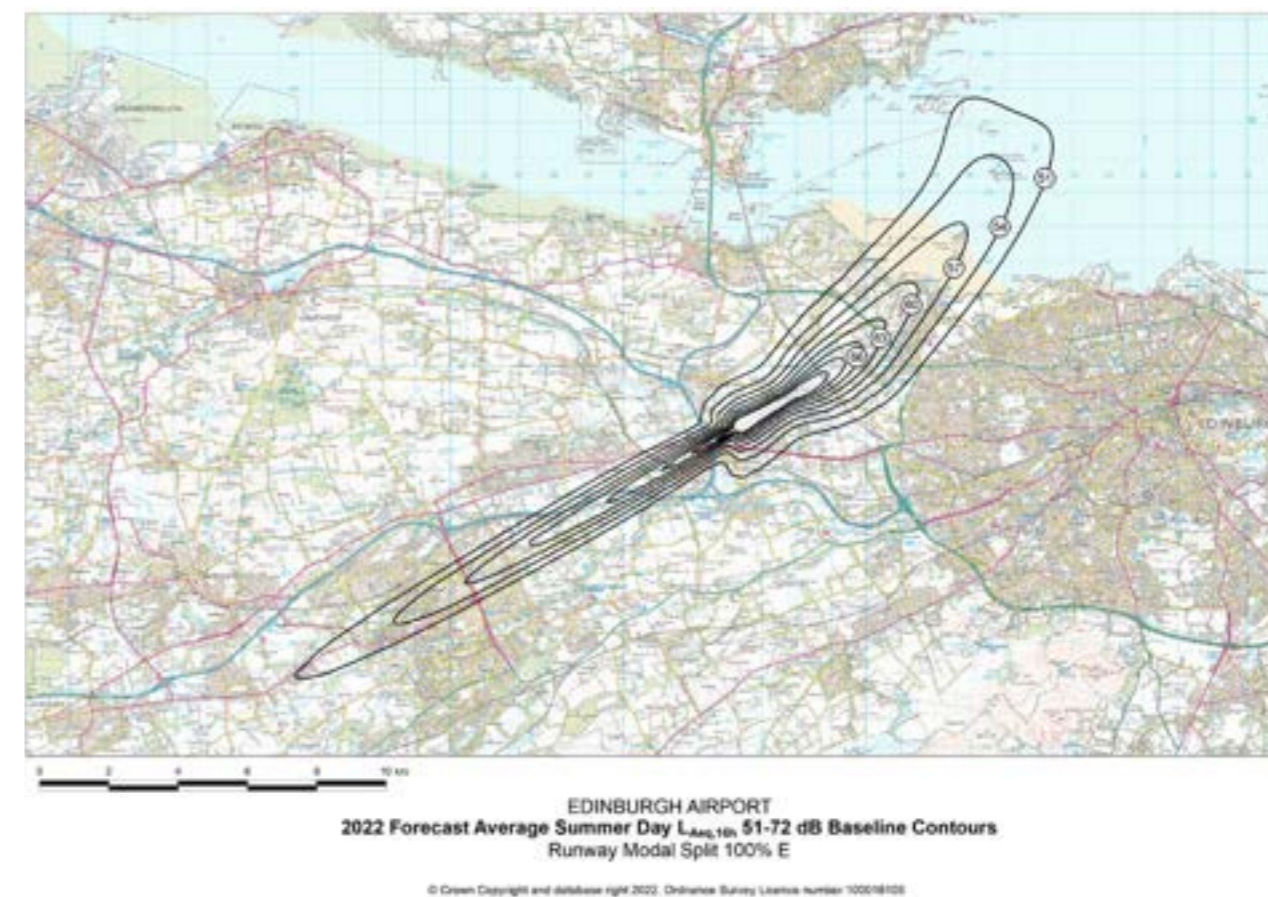


Figure 14: 100% mode East Night 23:00 – 07:00

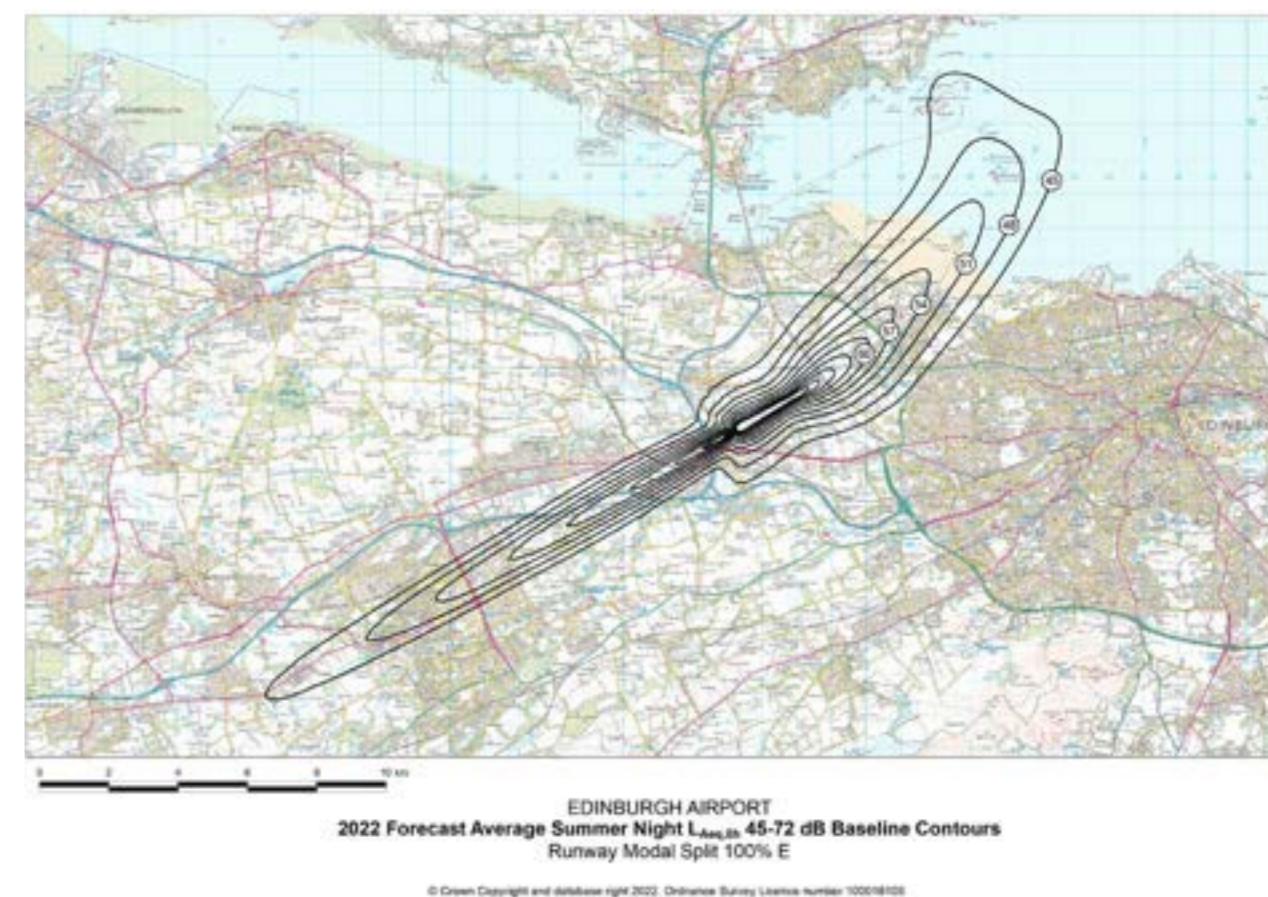




Figure 15: 100% mode West Day 07:00 – 23:00



Figure 16: 100% mode West Night 23:00 – 07:00



### Nx Contour mapping

Nx contours show lines connecting points of equal noise exposure, providing a visual representation of the varying levels of aircraft noise across a geographic area. The contours are often used in aviation noise assessment and planning to help evaluate and mitigate the impact of aircraft noise on communities living near airports or flight paths. Put simply Nx Contour mapping provides information on the number of aircraft you may be likely to experience on an average summer day or night and the different  $L_{max}$  levels represent the different times of day 60dB for night and 65dB Day.

The year modelled is 2019 traffic data projected out to 2022 should Covid and the associated changes to our fleet mix and volume have not changed.

Figure 17: N65 Day 07:00 – 23:00

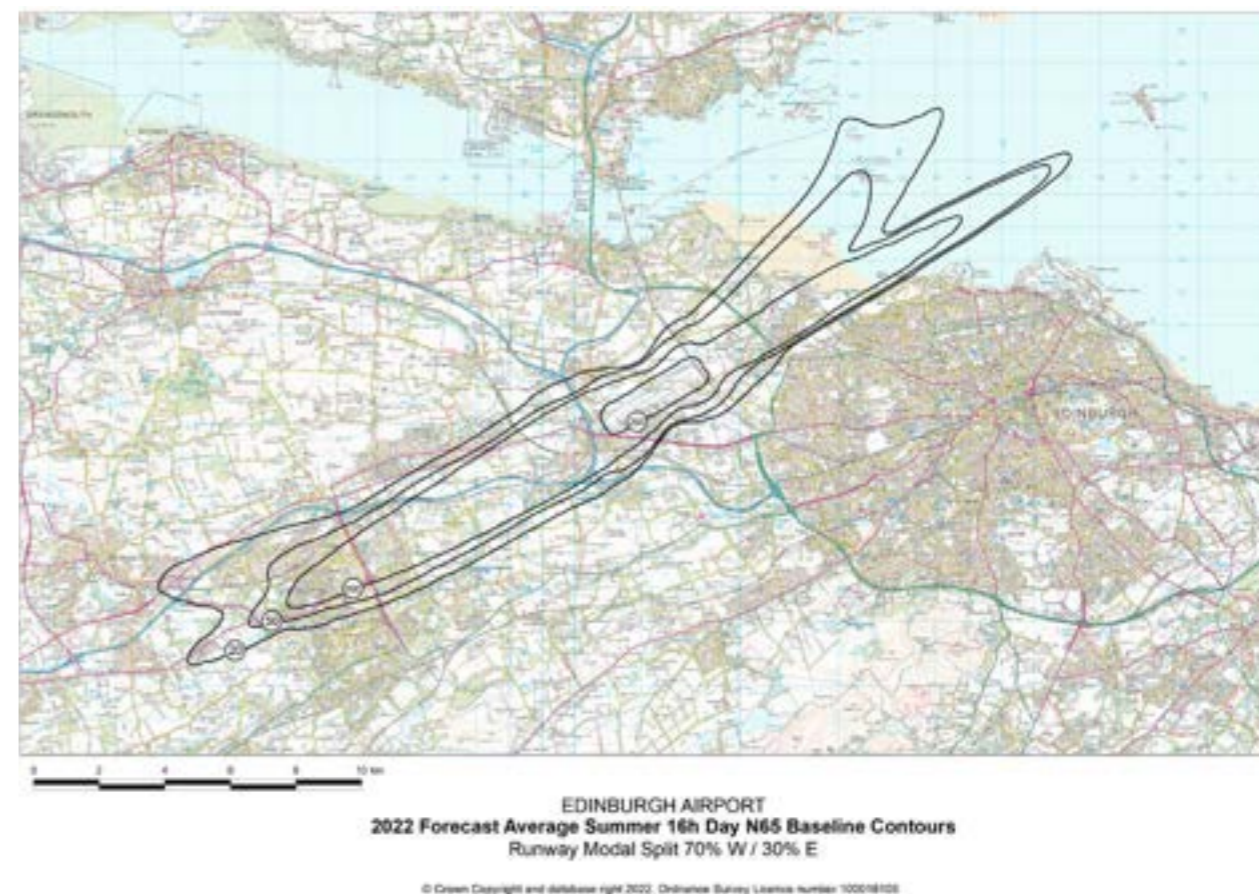
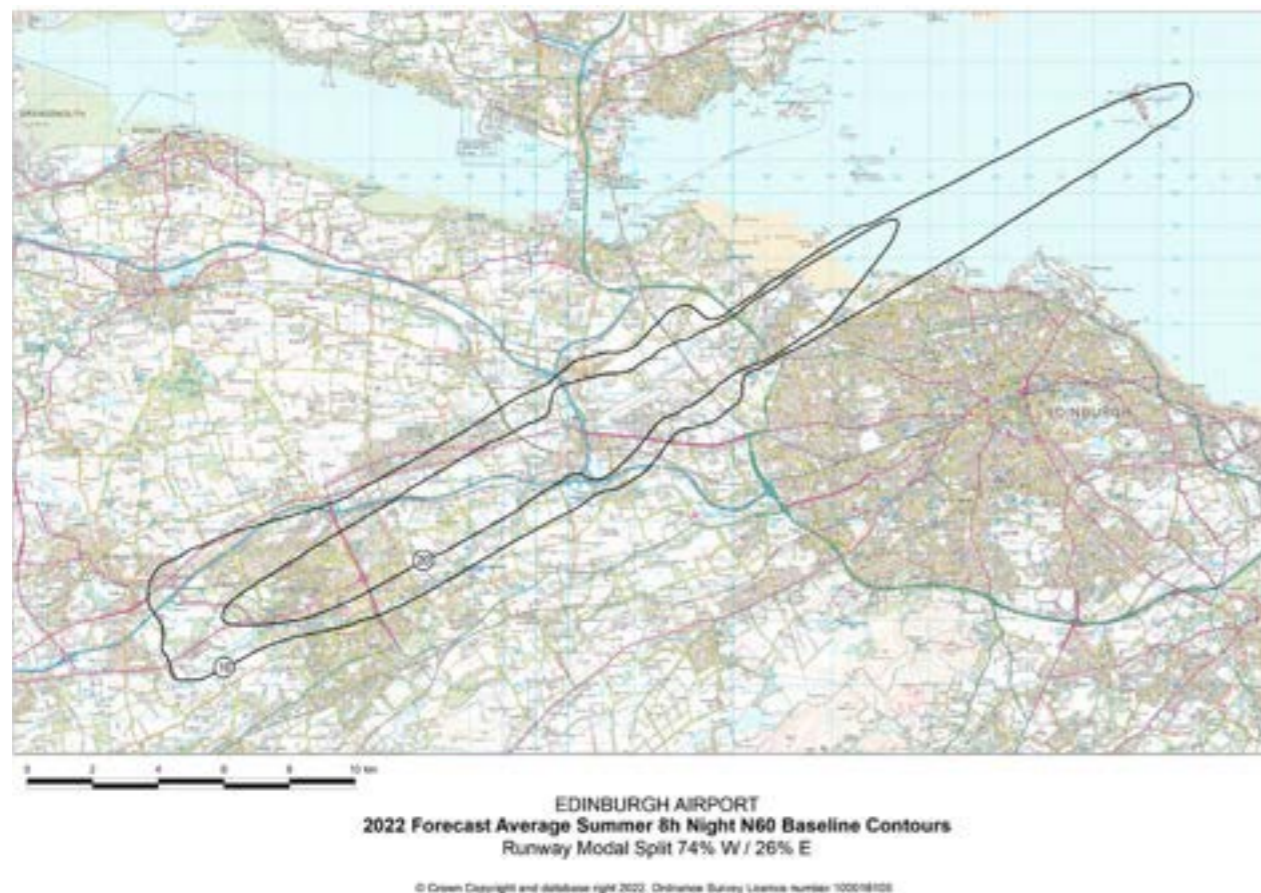




Figure 18: N60 Night 23:00 – 07:00



## Appendix C – Current Insulation Scheme process and copy of Policy

### Current Policy

#### Noise Insulation Scheme process

1. Residents should arrange their own quotes for doubling glazing installers (minimum of 2). This should detail per window and door (external doors only).
2. Houses built since 2009 are not eligible for the scheme.
3. Residents should send the quotes to Edinburgh Airport.
4. Edinburgh Airport write back to the resident with the confirmed contribution the Airport will pay.
5. Residents and airport agree how the airport contribution will be billed. A cheque can be posted to the resident after installation. Installers can invoice the airport directly for the airport contribution agreed.
6. Residents go ahead and instruct the work to be done and notify the airport of when the new glazing is installed.
7. Airport visit the property to check that the job has been completed.
8. Airport pay their contribution.

### Edinburgh Airports Noise Insulation Scheme Policy

This policy explains how we receive and process those enquiries regarding Edinburgh Airports Noise Insulation Scheme.

#### Introduction

We understand that you are the owner of the property at the above address (the “Property”) which is within the 63dB and greater LAeq noise contours of Edinburgh Airport. Provided that the Property was built prior to 2009, you are eligible for assistance by Edinburgh Airport with the insulation of your property as part of our commitment to the local community (the “Noise Insulation Scheme”).

#### Summary

As part of the Noise Insulation Scheme, Property owners are entitled to apply to Edinburgh Airport for:

1. Free secondary glazing to fit existing windows;
2. A 50% contribution towards standard double glazed PVCu replacement windows;
3. A 50% contribution towards high specification double glazed PVCu replacement windows (specially designed to reduce noise levels); and/or
4. A 50% contribution towards replacing glass sealed units (glass only, keeping existing window frames).

Loft insulation has also been found to help further reduce noise disturbance. As part of the Noise Insulation Scheme, eligible Properties could also be entitled to ventilation and loft insulation free of charge.

The Noise Insulation Scheme operates as follows:

1. Property owners shall obtain not less than two quotes from third party contractors for the installation of windows, glass and/or loft insulation (as applicable) and provide these to Edinburgh Airport. Where applicable, such quotes must detail costs per window and/or doors (Provided that only external doors are covered by the Noise Insulation Scheme); Edinburgh Airport Noise Insulation Scheme Policy.

2. We shall visit the property and assess the number of windows units and doors required.
3. We shall (acting reasonably and without undue delay) agree in writing which quote should be accepted, the contribution which Edinburgh Airport shall pay, and how such contribution shall be paid.
4. The Property owner shall instruct the agreed contractor to commence the installation then notify us once the installation is complete.
5. When we are satisfied that the installation is complete (by way of an inspection of the Property) then we shall reimburse the Property owner the agreed contribution.

### Liability

The provision of the Noise Insulation Scheme does not constitute acceptance by Edinburgh Airport of liability for any noise insulation works carried out at the Property. Edinburgh Airport shall have no liability to you or any other occupier or owner of the Property for noise insulation works carried out at the Property (other than to the extent set out in Paragraph 2 above). Any liability in contract or delict, and any guarantees of workmanship or performance, will be owed by the appointed contractor to the owner of the Property.

### Arranging your own repairs

Nothing in this letter prevents the owner or occupier of the Property from arranging repairs of the Property at their own cost or claiming under their building insurance policy.

### Receiving Enquiries and Managing your Data

In order to deliver the intent of this policy and maintain the integrity of the enquiries process and data, in line with our commitment to work to engage and improve our communications with the public. Enquiries regarding Edinburgh Airports Noise Insulation Scheme made to the Edinburgh Airport Noise Insulation Scheme Policy airport should be submitted via our dedicated enquiries web portal: <http://noiselab.casper.aero/edi>

In circumstances where the enquirer does not have access to the internet enquiries can be made by letter to our postal address at the end of this document or by telephone to our dedicated noise line, 0800 731 3397 (Freephone 24/7).

Enquiries received by post and telephone will be entered into the NTK system by our staff, to maintain a single, uniform and transparent record of all enquiries.

We will register, acknowledge and, where appropriate, investigate all enquiries received. For statistical purposes, it is essential that we are provided with a full name, valid email address (where available) and postal address and the reason for the enquiry, otherwise it cannot be logged.

Names, email addresses and postal addresses given will not be made public or used for any purpose other than registering the enquiry details, and to allow direct response to the enquirer.

How long we will keep your personal information for? Once your property has received works under Edinburgh Airports Noise Insulation Scheme your data will then be kept for a period of 10 years. After this time, we will minimise the personal data we hold on you by securely deleting all but your address and if the works were accepted and completed.

This residual information will be held on record until the scheme is closed. This information is required to ensure that an accurate record is kept of properties that have had works undertaken.

### Policy Review

We will keep this policy under periodic review.

### Postal Address Vortex Damage/Ice Fall Damage

Communications Team  
Terminal Building  
Edinburgh Airport Limited  
Edinburgh  
EH12 9DN Scotland

### Email Address

[noise@edinburghairport.com](mailto:noise@edinburghairport.com)

## Appendix D – Current noise fining procedures

Three fixed noise monitors are used for fining of aircraft or community engagement, our three mobile noise monitors are used for community noise monitoring programmes with one mobile unit currently installed at a property located in Dalgety Bay which will remain on site for the period of one year April 2024 – April 2025.

Current noise thresholds in place, aircraft which exceed the following limits are fined:

- 94dB Lmax noise level during the day (06:00 – 23:30)
- 87dB Lmax noise levels at night (23:30 – 06:00)
- 90.1dB and above (i.e. over 3dB over the limit) = £2000
- 87.1 – 90.0dB (i.e. up to and including 3dB over the limit) = £1000

The noise levels are measured by our noise monitors located in Cramond, Broxburn and Livingston.

## Appendix E – AQ/Water Quality monitoring reports

AQ Reports and information on Water Quality may be accessed and downloaded via Edinburgh Airports *Noise Lab* pages.



## Appendix F – Noise Enquiries Policy

### Complaints Policy

#### How we handle complaints about aircraft activity

We understand that our operations have an impact on our local communities and that residents may want to complain about aircraft activity. This policy explains how we receive and process complaints.

#### Introduction

Policy Objectives:

- The acknowledgement and timely response of complaints.
- The provision of sufficient information to understand the source of the issue, and where appropriate, what action has been taken.
- The consistent recording of all complaint data.
- The establishment and maintenance of a complete record of complaints received transparent to the community, regulator and other stakeholders.
- The utilisation of a digital platform to facilitate these objectives.

#### Summary

- The principal mechanism for registering noise complaints at Edinburgh is through the online Casper system. However, we accept that not everyone has access or the ability to use the internet, and we will also accept complaints received via telephone to our dedicated noise complaints line, 0800 731 3397 (Freephone 24/7) or by letter.
- We will register, acknowledge and investigate all complaints received that have a full name, email address (where available) and postal address. All names, email addresses and postal addresses will be treated as strictly confidential and not used for any purpose other than registering complaints.
- Emails sent to our Executive team will be passed onto the Communications team to log, investigate and respond to on their behalf.
- To the extent we can, we will provide individuals with relevant information to help with understanding the issue raised. We believe that the fairest and most beneficial method for dealing with enquiries from all residents is to be clear and open about existing policies,

the measures used to control noise and how these together affect how the Airport operates.

- We will investigate the cause of complaints arising from specific causes such as poor track keeping but we will not repeatedly supply the same or similar information or substantial amounts of data.
- The Casper complaint database will provide aggregate data that is accessible to third parties.
- We will continue to monitor our overall performance, for example, with respect to track keeping and number of Complaints received within our Performance indicator of 5 working days.
- We will use data to continue to work proactively with airlines and air traffic service providers to enhance noise mitigation performance at the Airport.

#### Receiving Complaints

In order to deliver the intent of this policy and maintain the integrity of the complaints process and data, in line with our commitment to work to engage and improve our communications with the public. Complaints regarding aircraft noise made to the Airport should be submitted via our dedicated complaints web portal (Casper): <https://noiselab.casper.aero/edi/>

In circumstances where the complainant does not have access to the internet complaints can be made by letter to our postal address at the end of this document or by telephone to our dedicated noise complaints line, 0800 731 3397 (Freephone 24/7). Complaints received by post and telephone will be entered into the Casper system by our staff, to maintain a single, uniform and transparent record of all complaints.

We will register, acknowledge and, where appropriate, investigate all complaints received. For statistical purposes, it is essential that we are provided with a full name, valid email address (where available) and postal address and the reason for the complaint, otherwise the complaint cannot be logged.

Names, email addresses and postal addresses given will not be made public or used for any purpose other than registering complaint details, and to allow direct response to the complainant. Complaint reports by postal code area are recorded through Casper and published. We can only provide information on aircraft that operate to and from Edinburgh Airport.

We receive a number of complaints made by images taken from apps such as Flight Radar. This does not provide the information we need to investigate complaints, which we do by using our own noise and track keeping software. When complaints are provided in this format, we will request that residents provide the required information detailed above.

#### Specific Enquiries

Complaints regarding specific flights must be individually registered. For complaints regarding specific departures we will, in line with this policy, supply details of the flight which is the subject of the complaint, such as airline, flight number and height. Where complaints are registered regarding a number of flights, we will endeavor to provide general information which will add to an individual's understanding of the situation.

In the case of arriving aircraft, there is no requirement for track keeping as is the case with departing aircraft, however we will supply information to help explain the reasons for an unusual event, for example, a change to a normal operating pattern. Where it is deemed to help understand the noise relating to a particular area, we will supply typical days' tracks of aircraft overflight and background information relating to operations.

#### Provision of Information

We provide a full and comprehensive information service and our policy is to make available as much detail about aircraft operations as is reasonably practical, (for example, noise limits, runway direction and aircraft heights within Noise Preferential Routes). All this information is publicly accessible through Casper and Edinburgh Airport's Noise Website: <https://noiselab.casper.aero/edi/>

Each request for information over and above that publicly provided through Casper or given to answer the individual complaint will be considered on its merits, based on the circumstances of the request. We will take into account the amount of information that has already been made available, the resources required to process the information asked, and whether the information seems likely to enhance further understanding. We may however decline to undertake extensive data gathering exercises in support of individual complaints.

#### General Enquiries

We will supply information which explains aircraft routes and procedures, which includes maps showing typical tracks relating to individual postcodes, to be transparent and accurate about the possible impacts of aircraft operations for those living near Edinburgh Airport.

The Edinburgh Airport Noise Website: <https://noiselab.casper.aero/edi/> provides detailed information on aircraft activity and how aviation may impact local communities, as well as hosting the dedicated complaints handling portal detailed above.

#### Persistent Complainants

We sometimes receive a large number of complaints from individuals. Whilst we take all concerns seriously, we will take a view on whether an individual's request for information is taking up a disproportionate amount of time and resources.

We have adopted a three-stage process to investigating and responding to multiple complaints received by one individual.

Step 1:  
We will fully investigate and respond in detail to the first complaint received.

Step 2:  
If we are then contacted again and asked for additional information, we will review our original response and, if appropriate and necessary, provide additional information.

Step 3:  
If a complainant contacts us a third time and we believe there is no additional information that can be provided to enhance understanding, we will inform the complainant that the complaint will be logged but will not be further responded to.

We work directly with Community Councils to understand concerns of local residents and communities. You may also wish to speak to your Community Council representative who can provide you with more information or pass feedback onto us.

### **Monitoring of Noise Abatement Procedures & Complaints**

We will analyse complaints on a quarterly basis to establish trends, ensuring we can keep track of community concerns and where appropriate improve our communication on these issues and look into possible mitigation actions.

We will report on our complaints data at our quarterly EACC meetings, to Edinburgh Airport Noise Advisory Board (EANAB) and in our quarterly community newsletter. The EACC and EANAB meetings allow us to share information between interested parties including representatives of Community Councils and local resident's groups. We can also share this information with other Community Councils if requested.

We will make Quarterly noise reports available online via our Edinburgh Airport noise lab web pages.

We will report on the number of complaints received, the number of complainants, any complainants that reached step 3 in the complaints process, a summary of key concerns and highlight any significant changes or trends that have emerged to ensure all complaints are publicly and transparently reported.

### **Abusive Complaints**

Edinburgh Airport Limited will not respond to any complaints made that are of an abusive or threatening nature or containing obscene language. Any such complaints may be referred to the Police for investigation.

### **Assurance**

We aim to respond to complaints within 5 working days. When a more detailed investigation is required, we will send an acknowledgment email advising where possible a date when you can expect a full response. We appreciate that the information we provide may be technically detailed and will aim to ensure that our responses are provided in a jargon-free and easily accessible way. When requests for information are made, we will consider each on its merit and while we aim to be as helpful and transparent as possible, we must consider the resources available to us, the needs of other complainants and ensure that everyone is treated fairly.

### **Policy Review**

We will keep this policy under periodic review.

### **Postal Address Noise**

Communications Team  
Terminal Building  
Edinburgh Airport Limited  
Edinburgh EH12 9DN  
Scotland

### **Email Address**

noise@edinburghairport.com

## **Appendix G – Edinburgh Airport Noise Advisory Board (EANAB)**

The Purpose of the Edinburgh Airport Noise Advisory Board (EANAB) is to facilitate communication between local communities and Edinburgh Airport (EAL) regarding the impact of airport noise on communities. This communication includes advice, information provision and recommendations from both EANAB to EAL and from EAL to EANAB.

The remit of EANAB is to mitigate and reduce Edinburgh Airport noise levels on local communities.

The Board consists of local community representatives; airport employees; an independent Chair whose purpose is to facilitate the work of the Board, and any co-opted persons with specialist knowledge as may be required. It operates through a series of sub-groups drawn from the membership, though all substantive outputs/decisions must be endorsed by the whole Board.

The Board recognises the economic importance of the airport to the whole of Scotland, and that safety is of overwhelming importance in all operating procedures. It aims to achieve its purposes through the provision of information to the communities it represents, and by using knowledge and information to influence the airport's actions and policies through inputs such as those in relation to flightpaths, especially the current Airspace Change Plan (ACP); this Noise Action Plan; the airport's charging schemes, and the 'Noise Abatement Departure Procedures' adopted by airlines.

The Board recognises that night-flights are of particular concern to over-flown communities and that the gradual replacement of older, noisier, and less fuel-efficient aircraft with newer generations of conventionally powered aircraft will be one of the most effective ways of reducing the noise footprint of individual aircraft, at least through the rest of this decade. We are working with the airport to ensure that the definition of the night time period reflects the impacts and minimises night noise impact where possible. It appreciates the lengths that the airport has gone to incorporate the Board's ideas into its ACP, especially where this has required changes to controlled airspace.

<https://www.eanab.org.uk/>

## Appendix H – Noise Lab and site links

In 2018 we upgraded our Noise and Track Keeping (NTK) System, moving to an online system. The NTK system is a state of the art monitoring system that is specifically designed as an intuitive system for noise and aircraft track analysis. In developing the system close attention has been paid to easing analysis and reporting, in order to improve the quality and efficiency of communication to all stakeholders.

As well as improved analysis and reporting, the online tool will also allow you to check aircraft noise levels and flight specific information such as flight position, runway usage and altitude using our own radar data in addition to viewing and downloading historic data and information on our Insulation Scheme and how to apply.

Please follow the link below to access the NTK system.

<http://noiselab.casper.aero/edi>



## Appendix I – Flight Profiles and our work with To70

Flight Profiles and our work with To70, EANAB Aviation and Noise Subgroup, To70 and Edinburgh Airport are currently investigating how the Departure profiles of aircraft may impact communities under our flight paths. Operations require careful balancing, using a reduced thrust setting during aircraft take-off can lower NO<sub>x</sub> emissions when compared to full thrust.

While this approach benefits the area around the airport by reducing emissions, it may cause a slight increase in noise for residents further from the airport along the departure flight path, as the aircraft ascends at a shallower angle. Work on this will continue and will be published on the EANAB website once concluded. Previous work carried out by To70, EDI and EANAB AAN may be downloaded from the EANAB website.



## Appendix J

# Arriving and departing aircraft at Edinburgh Airport

# Contents

<b>Introduction</b>	<b>174</b>
<b>Runway and flight direction</b>	<b>175</b>
<b>Arriving aircraft</b>	<b>177</b>
The Instrument Landing System (ILS)	177
Visual Approach	178
Non-Directional Beacon Approach	178
Continuous Descent Approaches (CDAs)	178
<b>Departing aircraft</b>	<b>179</b>
Standard Instrument Departure (SID) routes	179
Noise Preferential Routes (NPR)	179
Track keeping	179
SIDs - GRICE, TALLA, and GOSAM	180
Continuous Climb Departures (CCDs)	181
<b>Noise Lab and Flight Tracker</b>	<b>181</b>
<b>Noise Monitoring and Fining</b>	<b>183</b>
Email	183
Writing	183
Website	183
<b>Airspace Change Project (ACP)</b>	<b>184</b>

## Introduction

Edinburgh Airport is Scotland's busiest airport with over 14.4 million passengers passing through the terminal in 2023 for business or leisure. Whilst air travel provides us with many benefits, aircraft noise can impact on people who live or work near airports and under flight paths.

Whilst we can't eliminate it completely, we are working to minimise it. We are also committed to explaining what you're hearing and why.

Noise is caused by air going over the aircraft's fuselage (body) and wings - known as airframe - and its engines. When air passes over the aircraft's airframe, it causes friction and turbulence, which results in noise. The level of noise generated varies according to aircraft size and type and can differ even for identical aircraft. Engine noise is created by the sound of the engine's moving parts and by the sound of air being expelled at high speed.

Aircraft have been getting progressively quieter as designs and engine technology has advanced and it is expected that today's airlines will be operating even quieter models in the future.

To help address noise, we work collaboratively with the Civil Aviation Authority who set the Airspace Policy, airlines, and Air Traffic Control (ATC) who advise the aircraft where to fly. Edinburgh Airport is a member of Sustainable Aviation, a coalition of UK aviation stakeholders spanning aircraft manufacturers, airlines, airports and air navigation providers.

As an industry, the four main things we are doing are:

- designing airframes and engines to reduce noise generation
- tightening the regulations on noise
- improving the way aircraft and airports operate
- providing noise insulation and compensation for people who experience high levels of noise

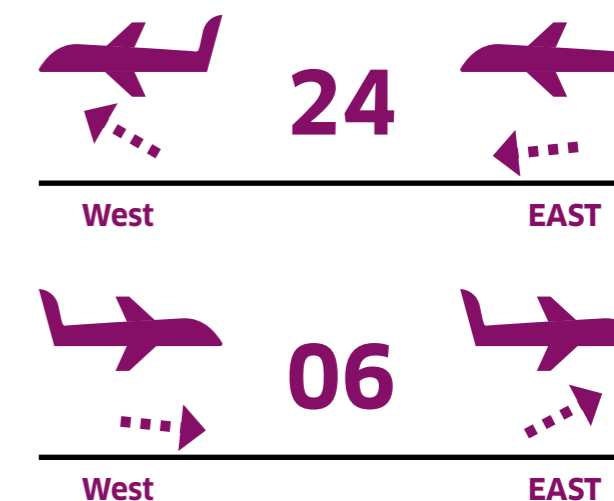
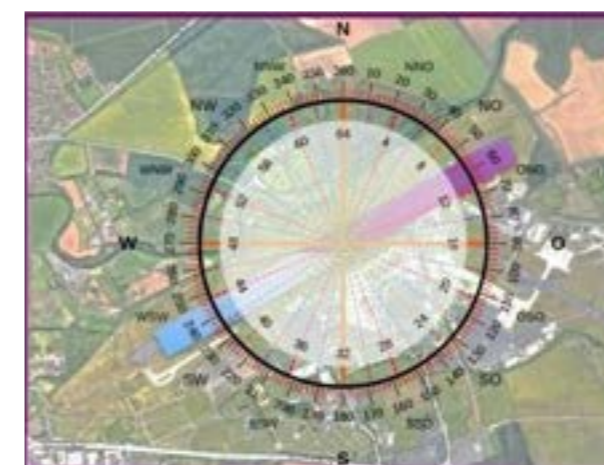
As long as there is a want, and need, to fly, there will be noise from aircraft landing and taking off. However, today's aircraft are typically 75% quieter than those used in the 1960s. The latest figures published by the Civil Aviation Authority show Edinburgh Airport to be quieter today than at any point in the past. This is because older and noisier aircraft are being phased out and replaced with quieter and more environmentally friendly models.

In May 2006, Edinburgh Airport chose to introduce a voluntary system of noise fining in line with those operated by Heathrow, Gatwick and Stansted. Any aircraft that breaks the stated noise thresholds set down by the UK Government is now fined, with the level of the fine dependent on the level of infringement. Two different noise thresholds are used, one for daytime and one for night time. The level of fines imposed were doubled in 2007 and since the introduction of this new system, Edinburgh Airport has seen a significant fall in the number of aircraft making excessive noise on departure from the airport. All money raised from noise fines is placed into the Edinburgh Airport Community Fund.

This document details the procedures that apply to arriving and departing aircraft at Edinburgh Airport, providing information on our flight paths to help the public understand what noise they may hear and help share information on our noise and flight tracker.

## Runway and flight direction

Edinburgh Airport has one primary runway (Runway 06/24), which operates in two directions. When Runway 06 is in operation, aircraft arrive from the west and depart to the east. When Runway 24 is in operation, aircraft arrive from the east and depart to the west.

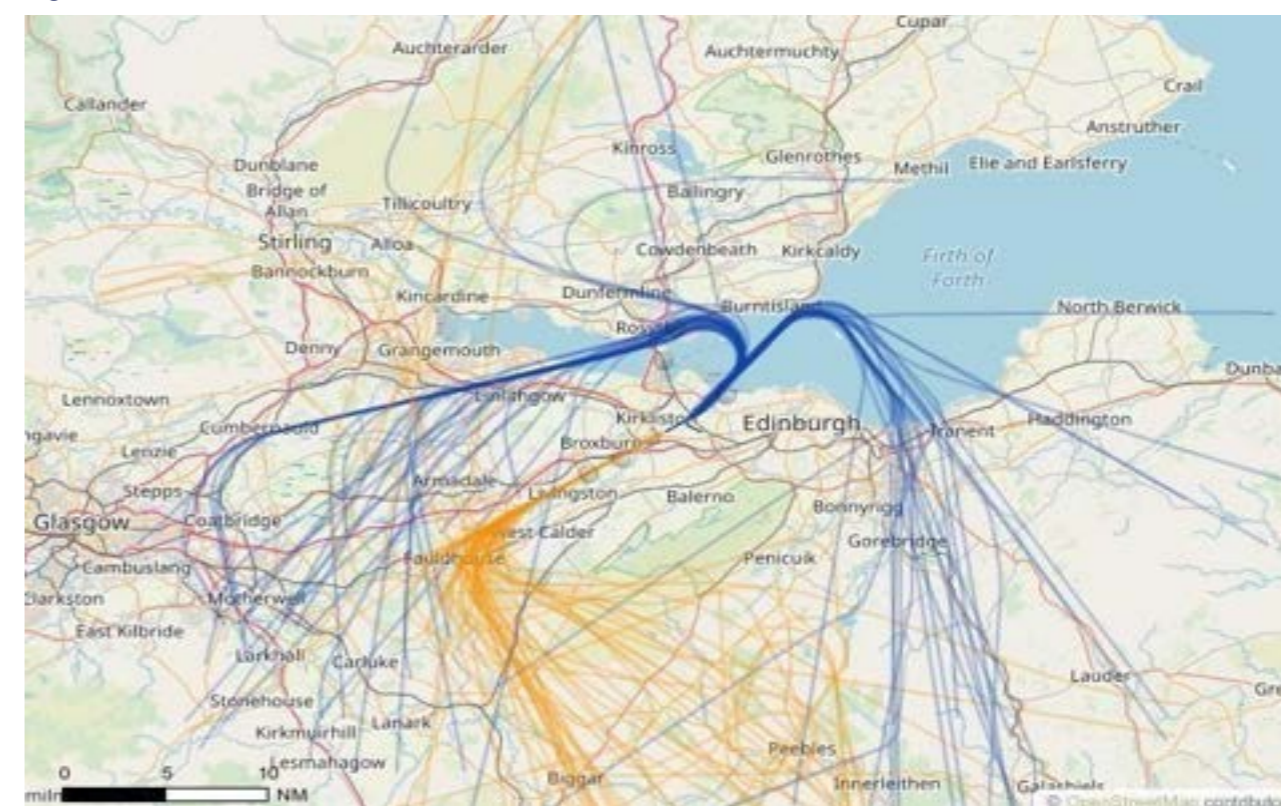


The direction of operation is entirely dependent on weather conditions as, where possible, aircraft will take off and depart into wind. Changes in runway use can happen at any time. Due to local weather conditions (south-westerly is the prevalent wind direction at Edinburgh Airport), R24 is in operation

approximately 70% of the time and R06 is in operation approximately 30% of the time.

A typical day of **Runway 06** operations can be seen below, with arriving aircraft shown in orange and departing aircraft shown in blue.

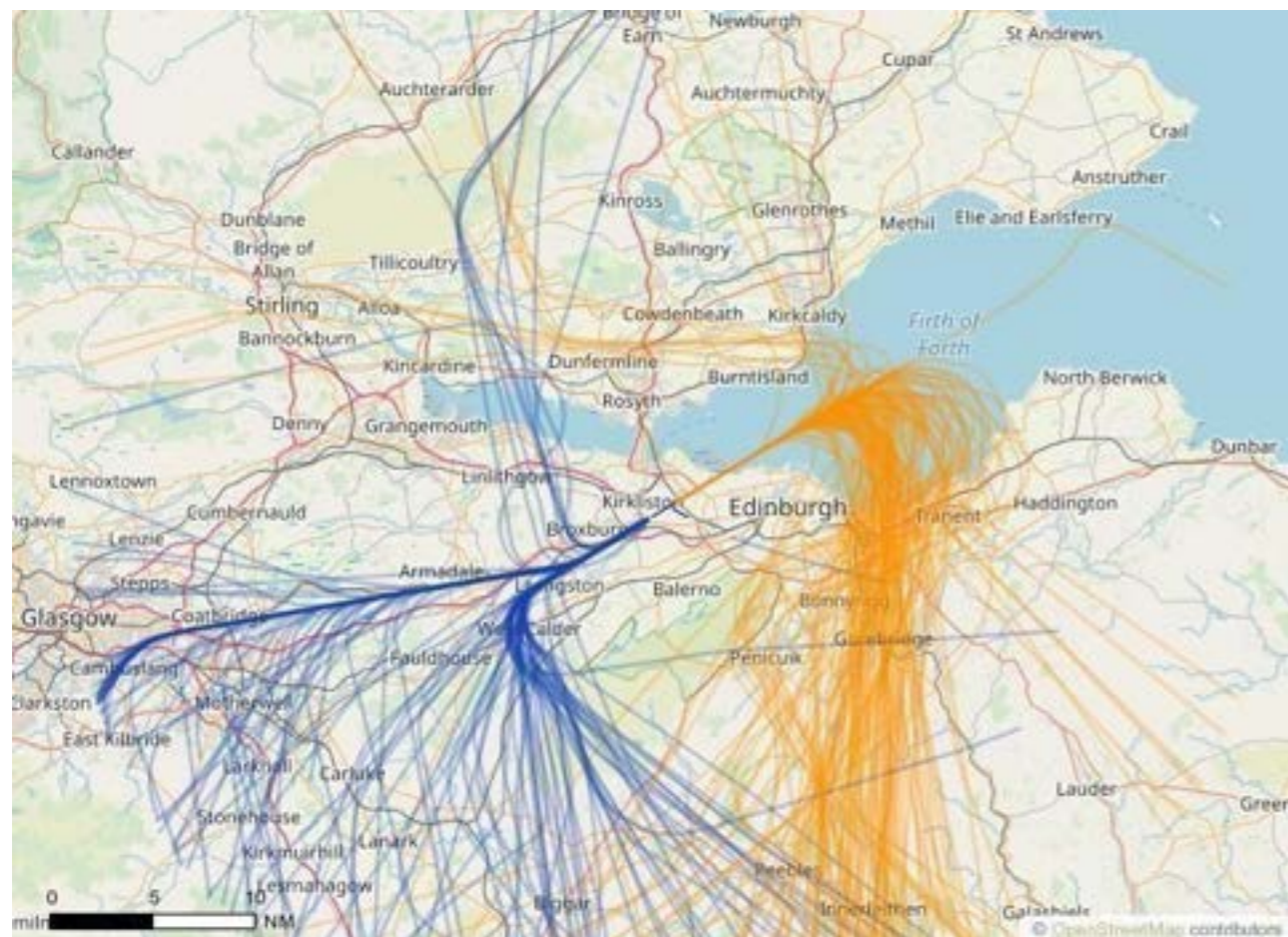
Figure 19





A typical day of **Runway 24** operations can be seen below, with arriving aircraft shown in orange and departing aircraft shown in blue.

Figure 20



No statutory controls exist for aircraft noise or to prevent aircraft overflying a particular area. Aircraft can operate anywhere within our airspace as Air Traffic Control (ATC) maintain an orderly flow of air traffic, whilst ensuring safe aircraft separation. ATC integrate arriving and departing aircraft and as safety is paramount, flexibility is necessary to achieve this.

However, we are aware of the impact that aircraft operations can have on our local communities and work closely with our Air Traffic Control provider ANS and our airline partners to encourage compliance with the procedures detailed in this document.

## Arriving aircraft

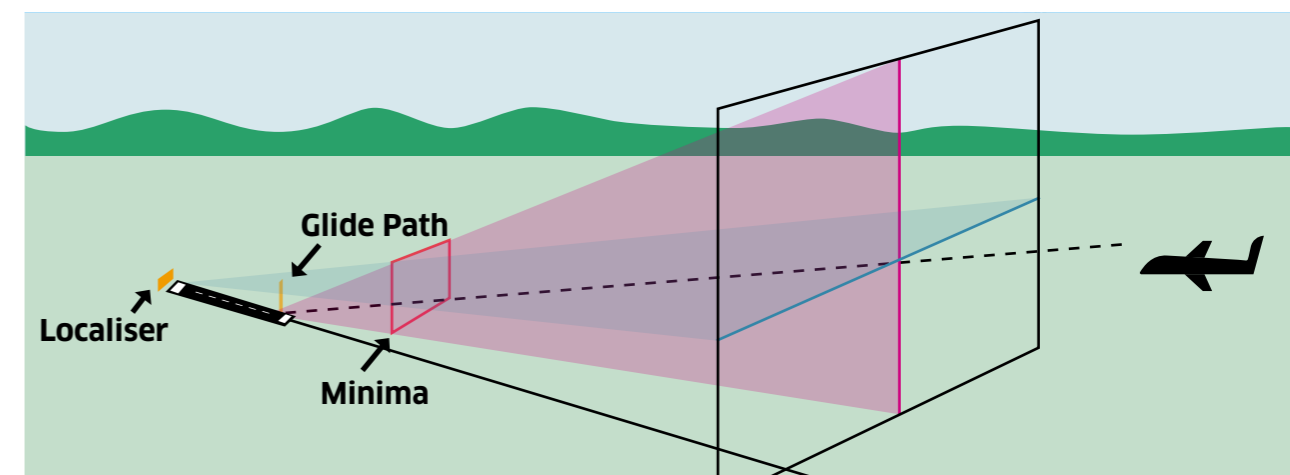
### The Instrument Landing System (ILS)



The most common approach to the runway uses the Instrument Landing System (ILS).

The ILS is a radio system that transmits two beams, the localiser and the glide path. The localiser beam defines the centerline of the runway and extends

along the approach path for approximately 20 nautical miles. The glide path beam defines the glide slope that aircraft should fly while following the localiser course to approach the runway.



Aircraft arriving descend at a 3° angle, the ILS provides a safe and manageable descent to the runway ensuring that an aircraft's final descent is controlled in an assured manner.

Arriving aircraft do not have a specified route to follow before joining the ILS. They will be advised, also known as 'vectored', by ATC, to follow a safe route on approach, this means there is more variation in the position of arriving aircraft.

Aircraft join the final approach at heights consistent with the use of the ILS, however, pilots are generally instructed to maintain an altitude of at least 2,500 feet until they are turned towards the ILS by ATC.

### Visual Approach

Although most arrivals will follow the ILS, there are times when aircraft will use a visual approach and the pilot will land using visual references. These are required as part of a pilot's training schedule and will be authorised by, and under the control of, Air Traffic Control.

### Non-Directional Beacon Approach

Should the ILS be out of service, a Non-Directional Beacon (NDB) approach is used. These are also required as part of a pilot's training schedule so may, on occasion, be used even when the ILS is operational.

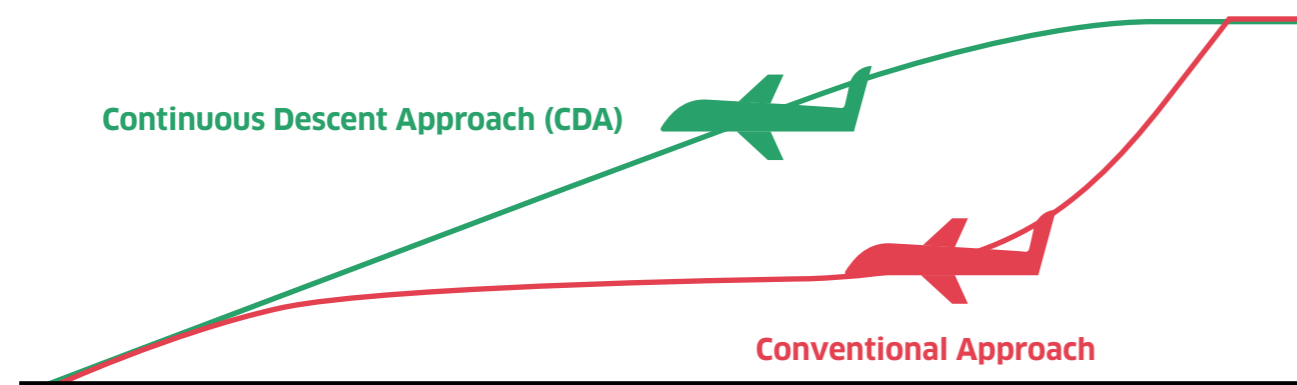
An NDB is a single aerial transmitter which transmits directional information to an aircraft. Instrumentation on board the aircraft will home into the transmissions, and the aircrew will fly towards the beacon, making adjustments to the track as they fly towards the runway. When an NDB approach is used, aircraft are positioned approximately five degrees east of the ILS localiser.

As the NDB beacon is located off to one side of the runway, the NDB flight path over the ground can vary slightly and, therefore, is not so precise as an ILS approach.

### Continuous Descent Approaches (CDAs)

Arriving aircraft are encouraged to use Continuous Descent Approaches. This encourages aircraft to stay higher for longer, by descending at a continuous rate. This requires significantly less thrust leading to reduced emissions and noise, resulting in cost savings for the airlines. Improvements in CDA rates at Edinburgh are estimated to be saving airlines over £150,000 worth of fuel per year.

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, emissions, and less noise exposure for communities under the arrivals flight path.



## Departing aircraft

### Standard Instrument Departure (SID) routes

Standard Instrument Departure routes are a set of instructions which a pilot will refer to when departing from the airport. These routes are not compulsory, they are there to ensure that all departures are safe and efficient.

In the 1970s, when Runway 06/24 was designed and built, SID development was not as rigorous or sophisticated as it is today. There was limited technology, so instructions were simple, involving directions to be taken once an aircraft had reached a certain height or travelled a certain distance.

SIDs are depicted as lines on maps, however, recognising that aircraft are unable to follow this line exactly, aircraft fly within a corridor known as a Noise Preferential Route (NPR).

### Noise Preferential Routes (NPR)

Noise Preferential Routes are corridors, extending one mile in each direction from the center of the SID line, which aircraft are expected to fly when departing from the airport. NPRs are not a statutory control but are used to reduce noise disturbance on our local communities.

Departing aircraft are required to follow the NPR until they reach an altitude of 3,000ft. When they reach 3,000ft they can depart these routes and fly towards their destination. Since July 2015, to alleviate noise intrusion in the Uphall area, we raised this height/turn level to 4,000ft for jet aircraft.

On occasion, and to ensure aircraft safety, aircraft may be permitted to deviate from the NPR. The most common reason for this is difficult weather conditions.

### Track keeping

All arriving and departing aircraft are monitored using our Noise and Track Keeping (NTK) system. Track keeping refers to aircraft flying in the NPRs. If an aircraft is found to be off-track, we will contact ATC and the airline directly to understand why, and work with the airline to ensure they understand the correct procedures and follow these in the future.

### The following SIDs and their NPR routes currently in use at Edinburgh Airport are:

GRICE 3C	GRICE 4D
GOSAM 1C	GOSAM 1D
TALLA 5C	TALLA 5D

SIDs are given their name by a place or position/point that they lead to. For example, GRICE is a point in rural Perthshire and TALLA is near Carlisle. More detail on each is given on the next page.

At weekends when gliding is taking place at Portmoak we stop using GRICE 3C, and traffic is instead routed up over Fife away from the gliding. This is an arrangement made between the gliders and the CAA which also affects traffic from Glasgow and Prestwick Airports and is in accordance with CAA regulations.



## SIDs – GRICE, TALLA and GOSAM

Table 24

GRICE	
GRICE is used by approximately 5% of departures comprising mainly Scandinavian and Highland and Islands services and occasionally Middle East aircraft.	
There are two separate GRICE departures: GRICE 3C is operational when Runway 24 is being used GRICE 4D is operational when Runway 06 is being used	
GRICE 3C	A GRICE 3C departure leaves Edinburgh Airport westbound before turning north and veering east before crossing the Forth and overflying the GRICE point at heights of 6,000 feet and above. All aircraft climb straight out to a beacon at Livingston before turning north. The NPR terminates at 3,000ft, and aircraft may turn when they are above this height. Since July 2015, to alleviate noise intrusion in the Uphall area, we have raised this height/turn level to 4,000ft for jet aircraft.
GRICE 4D	A GRICE 4D departure leaves Edinburgh Airport eastbound, turning left over the Forth and heading to GRICE. All aircraft on this departure are required to turn left on a 045 degree heading at 500 feet or at 0.5 nautical miles (whichever is reached earlier) to avoid the Cramond area of Edinburgh.

Table 25

GOSAM	
GOSAM is primarily used by aircraft heading south from Edinburgh towards Carlisle. This includes most UK domestic jet services, such as flights to London, France, the Iberian Peninsula, Balearic, and Canary Islands, amongst others. GOSAM accounts for over half of all Edinburgh departures.	
There are two separate GOSAM departures: GOSAM 1C is operational when Runway 24 is being used GOSAM 1D is operational when Runway 06 is being used	
GRICE 1C	GOSAM 1C is operated in the following way, all aircraft climb straight out to a beacon at Livingston before turning as directed by Air Traffic Control (ATC).
GRICE 1D	A GOSAM 1D departure leaves Edinburgh Airport eastbound, turning left initially and then left and left again over the Forth/South Fife and heading south-west or as directed by ATC. All aircraft on this departure are required to turn left on a 045 degree heading at 500 feet or at 0.5 nautical miles (whichever is reached earlier) to avoid the Cramond area of Edinburgh.

Table 26

TALLA	
TALLA is primarily used by non-jet aircraft to all destinations except north. This includes Aer Lingus flights to Ireland and Flybe all over the UK. TALLA accounts for around a third of all departures.	
There are two separate TALLA departures: TALLA 5C is operational when Runway 24 is being used TALLA 5D is operational when Runway 06 is being used	
GRICE 5C	Aircraft operating on TALLA 5C climb straight out to a beacon at Livingston before turning left or as directed by ATC.
GRICE 5D	A TALLA 5D departure leaves Edinburgh Airport eastbound, turning left initially and then right over the Forth and then right again heading south towards TALLA and/or as directed by ATC. All aircraft on this departure are required to turn left on a 045 degree heading at 500 feet or at 0.5 nautical miles (whichever is reached earlier) to avoid the Cramond area of Edinburgh.

### Continuous Climb Departures (CCDs)

Like Continuous Descent Arrivals, Continuous Climb Departures are encouraged due to fuel savings and noise reduction on local communities. The greatest benefit of continuous climb operations is the significant reduction in CO<sub>2</sub> emissions and the positive impact this has on air quality.

The Sustainable Aviation partnership promotes continuous climb techniques at UK airports, with the procedure being used up until 10,000 feet. Sustainable Aviation is also promoting best practice in take-off and landing cycle operations through the publication of industry standard codes of practice. Climbing to optimum cruising altitude and out of congested airspace can reduce CO<sub>2</sub> per departure by 100-300 kilograms.

Further information on CDAs and CCDs can be found on Sustainable Aviation's website.

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

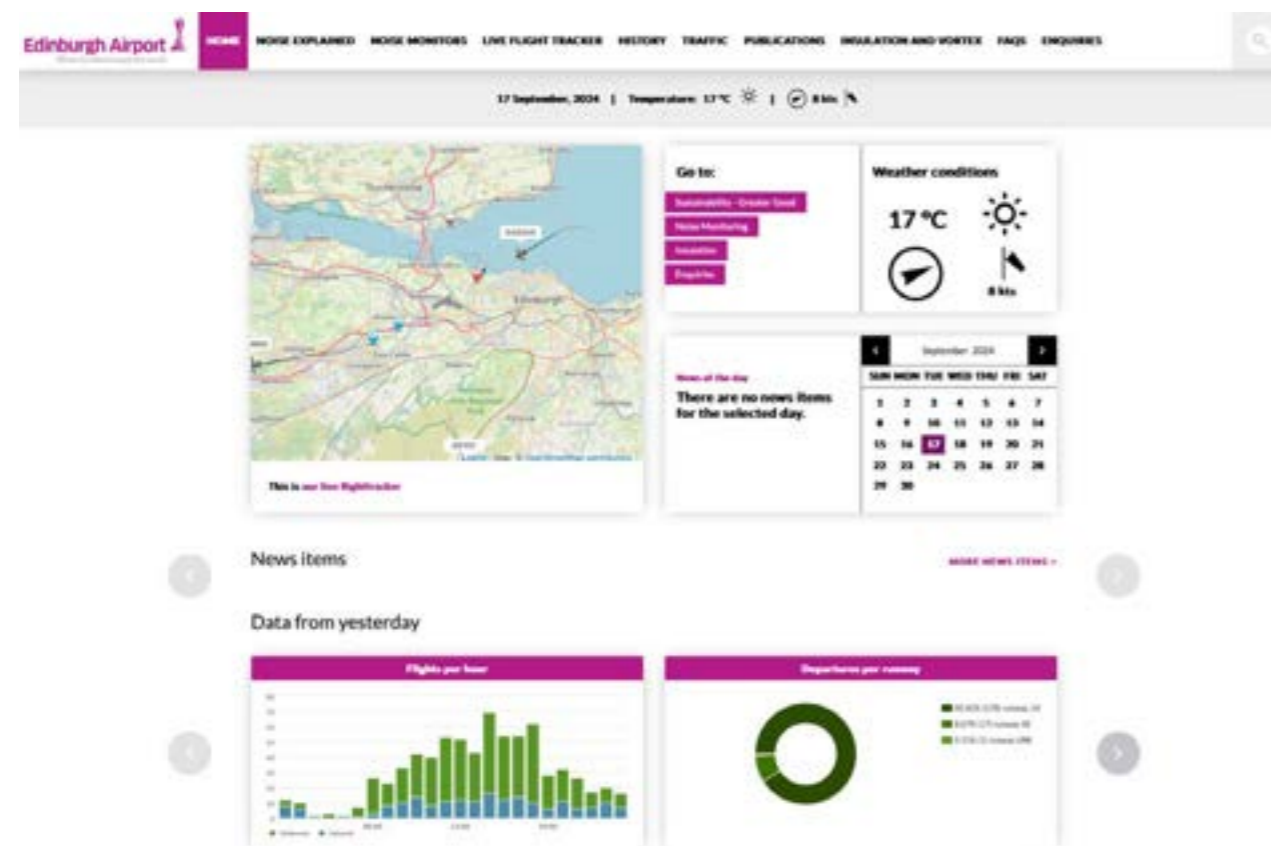
### Noise Lab and Flight Tracker

We have recently upgraded our Noise and Track Keeping (NTK) System, moving to an online system as part of Edinburgh Airport's Noise Lab. The NTK system is a state-of-the-art monitoring system that is specifically designed as an intuitive system for aircraft and noise track analysis.

In developing the system close attention has been paid to making sure the public can easily access and understand the analysis and reporting provided. As well as improved analysis and reporting, the Noise Lab provides information on noise and how, where, and why we measure noise, as well as providing historic data.



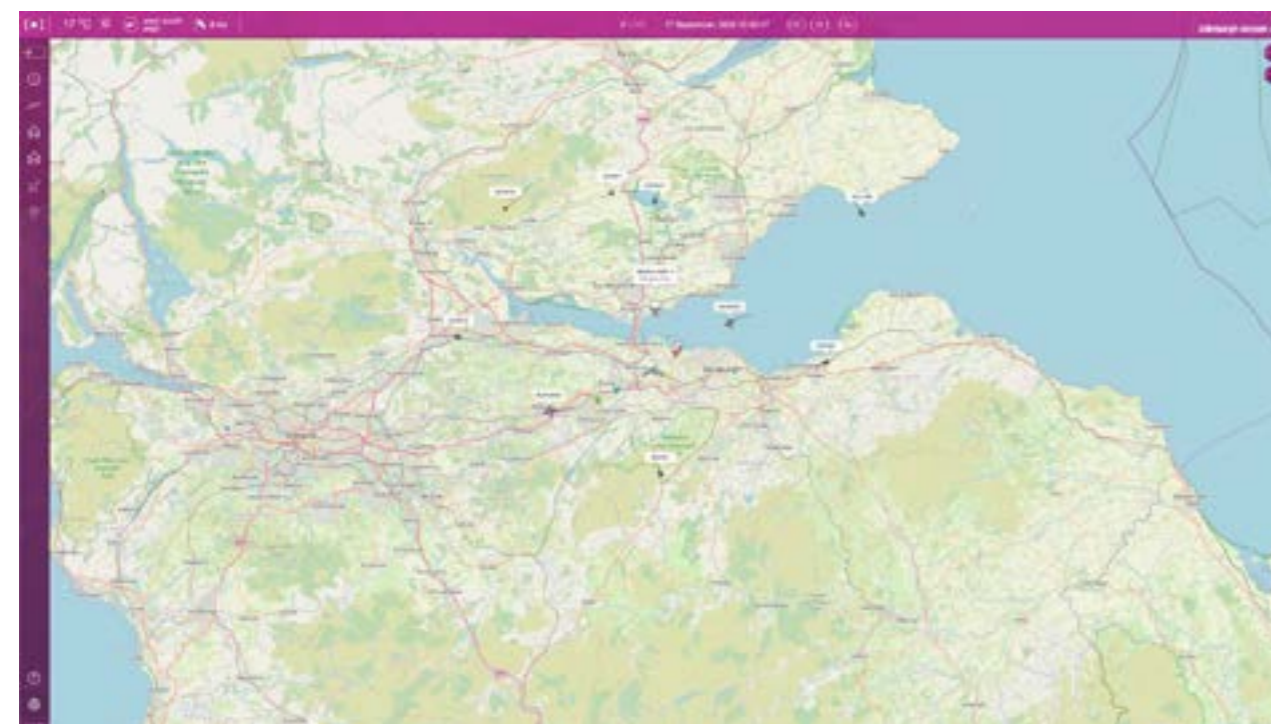
Edinburgh Airport Noise Lab: <https://noiselab.casper.aero/edi/>



Our Flight Tracker allows you to check flight specific information, such as flight position and altitude using our own radar data,

as well as see noise readings. Please follow the links below to access the NTK system.

Edinburgh Airport Flight Tracker: <https://flighttracking.casper.aero/edi/>



## Noise Monitoring and Fining

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

The monitors are positioned in accordance with guidance from the Department of Transport (DfT) and are based on a detailed scientific study carried out for the DfT by the Civil Aviation Authority (CAA). Edinburgh Airport follows this guidance along with Glasgow, Heathrow, Gatwick and Bristol airports amongst others.

To measure the noise from individual aircraft, the noise measurement parameter Lmax is used, this is measured in decibels (dB) and is the measurement of the maximum noise level during one noise event or, in this case, during one 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 Lmax and 87 dBA Lmax respectively. Flights must not exceed these levels and airlines are fined if they do. This is a voluntary policy introduced by Edinburgh Airport to mitigate against noise nuisance in our communities.

We hope the above information has helped explained how flight movements operate at Edinburgh Airport, however, should you have any further questions about this, please contact us via one of the below methods:

### Email

[noise@edinburghairport.com](mailto:noise@edinburghairport.com)

### Writing

Communications Team, Edinburgh Airport, 2nd Floor, Terminal Building, Edinburgh Airport, EH12 9DN. Phone: 0800 731 3397. This is our dedicated noise enquiry line but please leave other queries regarding any of the above here too.

### Website

<https://noiselab.casper.aero/edi/>

## Airspace Change Project (ACP)

### What is airspace?

Airspace is in effect the sky above us. Infrastructure has been developed to allow aircraft to operate safely as they arrive and depart at larger airports and indeed smaller airfields. The airspace is divided into controlled and uncontrolled airspace. The basic difference is that in controlled airspace air traffic controllers are there to issue instructions and advice to enable the safe operation of air traffic.

Edinburgh Airport lies in the Scottish Terminal Maneuvering Area (STMA) which is class D airspace. To fly inside this airspace aircraft, need to carry a minimum of equipment and need to obtain a clearance from Air traffic Control (ATC). In uncontrolled airspace there is a wide variety of aviation happening from microlight activity, to parachuting and military operations. ATC may still operate here but aircraft are not required to carry certain equipment and there is more freedom of operation here for pilots. More information about the classes of airspace and the differences between them can be found here.

### What is CAP1616?

CAP 1616 (Civil Aeronautical Publication 1616) is the guidance we follow to enable the airspace change process to be carried out to completion. It's a public document and available on the CAA website: <https://publicapps.caa.co.uk/modalapplication.aspx?appid=11&mode=detail&id=8127>  
The document details the 7-stage process for airspace change implementation.

### Where can I find out more and be kept up to date on this process?

Documentation submitted to the CAA may be viewed via the CAA ACP Portal: <https://airspacechange.caa.co.uk/PublicProposalArea?PID=163>

You may also contact us via the following email address: [airspace\\_change@edinburghairport.com](mailto:airspace_change@edinburghairport.com)

### What is the airspace change process?

The airspace change process is the regulatory process required for changing airspace design. This can involve changes to controlled airspace dimensions, classification of airspace and changes to the flightpaths and routes that aircraft take. The Department for Transport (DfT) are responsible for all aviation policy in the UK and the Civil Aviation Authority (CAA) are responsible for its regulation and the approval of any airspace change plans. Edinburgh Airport is responsible for the airspace up to a height of 7,000 feet and National Air Traffic services (NATS) take responsibility above 7,000 feet. Guidance on the regulatory process for changing the notified airspace design and planned and permanent redistribution of air traffic, and on providing airspace information can be found in CAP 1616.

### Is there a public consultation?

There will be a public consultation as part of this process, and this takes place during Stage 3 which will probably be towards the end of 2024. This consultation does not include responses in reference to the ACP process or submissions.

Thank you for reading our report, if you have any questions, comments or feedback please email:  
[\*\*edcommunications@edinburghairport.com\*\*](mailto:edcommunications@edinburghairport.com)

For more information visit  
[\*\*edinburghairport.com\*\*](http://edinburghairport.com)

Follow us on:

twitter [\*\*@EDI\\_Airport\*\*](https://twitter.com/EDI_Airport)

Facebook [\*\*@EdinburghAirport\*\*](https://www.facebook.com/EdinburghAirport)

Instagram [\*\*@EdinburghAirport\*\*](https://www.instagram.com/EdinburghAirport)