

Appendix

Glossary of terms and acronyms

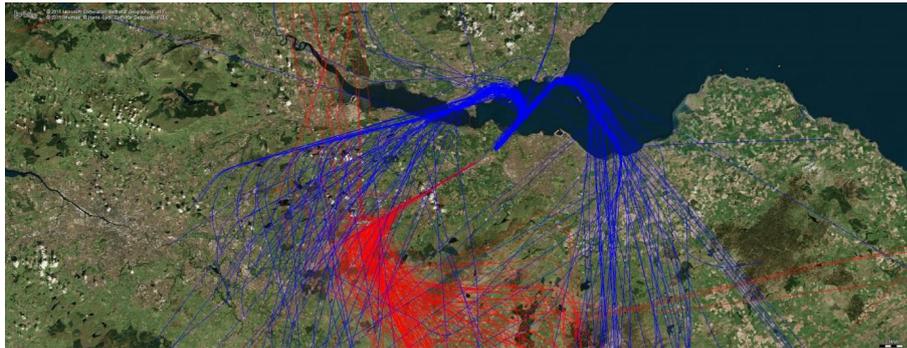
Note	* for more information on terms marked with an * refer to the extracts from “Arriving and departing aircraft at Edinburgh Airport” produced by EAL below
A319	Airbus A319, one of the noise dominant aircraft using EDI
ACP	Air Change Process
AIP	Aeronautical Information Publication
ANCON	The UK’s Aircraft Noise Contour model
A-weighting	A frequency weighting that is applied to the electrical signal within a noise-measuring instrument as a way of simulating the way the human ear responds to a range of acoustic frequencies.
B738	BOEING 737-800, one of the noise dominant aircraft using EDI
CAA	Civil Aviation Authority
CAP1736	Civil Aviation Publication 1736. The CAA’s response of 30/11/18 to EANAB’s challenging of the validity of ERCD’s noise modelling undertaken on behalf of Edinburgh Airport for its airspace change proposal. EANAB do not accept all its conclusions.
dba	Units of sound level on the A-weighted scale.
EAL	Edinburgh Airport Ltd
EANAB	Edinburgh Airport Noise Advisory Board
EDI	Edinburgh International airport
ERCD	the CAA’s Environmental Research and Consultancy Department
GOSAM	* the name of a flight departure route from EDI
GRICE	* the name of a flight departure route from EDI
LAm _{ax}	Noise metric The maximum A-weighted sound level (in dbA) measured during an aircraft fly-by.
NATS	National Air Traffic Services
Runways 06 and 24	* 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
SEL	The Sound Exposure Level generated by a single aircraft at the measurement point, measured in dbA. This accounts for the duration of the sound as well as its intensity
SID	*Standard Instrument Departure route
TALLA	* the name of a flight departure route from EDI

Extracts from “Arriving and departing aircraft at Edinburgh Airport” produced by EAL

This document details the procedures that apply to arriving and departing aircraft at Edinburgh Airport.

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. 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 red and departing aircraft shown in blue.



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

No statutory controls exist for aircraft noise or to prevent aircraft overflying a particular area. Aircraft can operate anywhere in this area 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.



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 centreline 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 vectored by ATC, 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 the majority of 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 air emissions and noise, and also results in cost savings for the airlines.

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

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, but rather ensure that all departures are safe and efficient.

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.

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

The following SIDs are currently in use at Edinburgh Airport:

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 and GRICE 4D.

GRICE 3C is operational when Runway 24 is operational and GRICE 4D is operational when Runway 06 is operational.

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 6000 feet and above. All aircraft climb straight out to a beacon at Livingston before turning north. The Noise Preferential route 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 4000ft for jet aircraft.

A GRICE 4D departure leaves Edinburgh Airport eastbound, turning west 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.

GOSAM

GOSAM is primarily used by aircraft heading south from Edinburgh towards Carlisle. This includes most UK domestic jet services, such as those to the London airports, and flights to France, the Iberian Peninsula, Balearic and Canary Islands, amongst others. GOSAM accounts for over half of all Edinburgh departures.

There are two separate GOSAM departure routings – GOSAM 1C and GOSAM 1D.

GOSAM 1C is operational when Runway 24 is operational and GOSAM 1D is operational when Runway 06 is operational.

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).

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.

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. It is also used by jet aircraft that are flying overhead from Newcastle to destinations in northern, eastern and southeast Europe, and the Middle East. TALLA accounts for around a third of all departures.

There are two separate TALLA departure routings – TALLA 5C and TALLA 5D.

TALLA 5C is operational when Runway 24 is operational and TALLA 5D is operational when Runway 06 is operational.

Aircraft operating on TALLA 5C climb straight out to a beacon at Livingston before turning left or as directed by ATC.

A TALLA 5D departure leaves Edinburgh Airport eastbound, turning left initially (as below) 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.

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 1 mile in each direction from the centre of the SID line, that aircraft are expected to fly when departing from the airport. NPR are not a statutory control but, rather, 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 final destination.

Since July 2015, to alleviate noise intrusion in the Uphall area, we have raised this height/turn level to 4000ft 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 extreme weather conditions in the airport vicinity.