An tÚdarás Inniúil um Thorann Aerárthaí

Aircraft Noise Competent Authority

Regulatory Decision Report

of the Aircraft Noise Competent Authority

November 2026



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Glossary of Terms

Term	Definition
ACP / An Coimisiún Pleanála	Ireland's national independent planning body that decides appeals on planning decisions made by local authorities as well as direct applications. (Authority formerly An Bord Pleanála).
Act of 2019	The Aircraft Noise (Dublin Airport) Regulation Act 2019 which gives additional effect to the Aircraft Noise Regulation.
Act of 2000	The Planning and Development Act 2000
Aircraft Noise Regulation	Regulation (EU) No. 598/2014 of the European Parliament on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Union airports within a Balanced Approach and repealing Directive 2002/30/EC.
ANCA	Fingal County Council acting in its capacity as competent authority for the purposes of the Aircraft Noise Regulation and the Act of 2019 through an independent directorate established for that purpose.
Application	Planning application F23A/0781 for development at Dublin Airport relating to infrastructure and an increase to the permitted passenger capacity.
ATM	Air Traffic Movement – the movement of an aircraft in or out of an airport.
The Balanced Approach	ICAO Balanced Approach – consists of identifying a noise problem at a specific airport and analysing various measures available to reduce noise. The Balanced Approach aims to address noise problems on an individual airport basis and identify the noise related measures that achieve maximum environmental benefit most cost effectively using objective and measurable criteria
CEA	Cost-effectiveness analysis.
daa	The airport authority for Dublin Airport.
dB	Decibels – a common unit used for measuring sound.
DRD	A Draft Regulatory Decision, for the purpose of public consultation, outlining the proposed noise mitigation measures and operating restrictions (if any) to be introduced in order to address any identified noise problem at the airport.
EASA	The European Union Aviation Safety Agency
ECAC	The European Civil Aviation Conference – a European intergovernmental organisation that seeks to standardise civil aviation policies and practices amongst its Member States.
EMRA	The Eastern and Midlands Regional Assembly – part of the regional tier of governance in Ireland, primarily focused on strategic planning.
ENG18	The World Health Organization's Environmental Noise Guidelines for Europe 2018.

Term	Definition
END / Environmental Noise Directive	Directive (EC) 2002/49/EC of the European Parliament relating to the assessment and management of Environmental Noise, as amended by Directive 2015/996 establishing common noise assessment methods, and as amended by Commission Directive (EU) 2020/367 establishing assessment methods for harmful effects of environmental noise and Commission Delegated Directive (EU) 2021/1226 establishing common noise assessment methods, and as amended by EU Regulation 2019/1010 and the associated Commission Implementing Decision (EU) 2021/1967 establishing alignment of reporting obligations in the field of legislation related to the environment.
ENR / Environmental Noise Regulations 2018	Statutory Instrument No. 549 of 2018 European Communities (Environmental Noise) Regulations 2018, as amended by S.I. No. 663 of 2021 European Communities (Environmental Noise) (Amendment) Regulations 2021 – gives effect to the Environmental Noise Directive, as amended.
EPA	The Environmental Protection Agency.
EPNdB	Effective Perceived Noise in Decibels.
ERF	Exposure Response Function
FCC	Fingal County Council
HA	Highly Annoyed – Metric used to describe the number of people calculated to be Highly Annoyed by Aircraft Noise.
HSD	Highly Sleep Disturbed – Metric used to describe the number of people calculated to be Highly Sleep Disturbed by Aircraft Noise
IAA	Irish Aviation Authority – Irish aviation regulator for safety, security and consumer interests.
ICAO	The International Civil Aviation Organization – a specialised division of the United Nations which works with Member States and industry groups to agree on international civil aviation standards and recommended practices and policies in support of a safe, efficient, secure, economically sustainable, and environmentally responsible civil aviation sector.
LAP	The Dublin Airport Local Area Plan.
L_{night}	The long-term average sound level at night determined over all the night-time periods of a year as defined by ENR.
L_{den}	The long-term average sound level determined across all of the day-evening-night (24-hour) periods of a year as defined by ENR.
MPPA	Millions of Passengers per Annum that travel through an Airport.
NAO	A Noise Abatement Objective – this is a policy objective for managing the long-term future of aircraft noise.
NAP	The Noise Action Plan for Dublin Airport.
NNG09	The World Health Organization Night Noise Guidelines for Europe 2009.

Term	Definition
North Runway Relevant Action	Refers to the proposed changes to planning permission applied for under F20A/0668 within the meaning of Section 34C of the Act of 2000.
NIS	Natura Impact Statement – a report required to be produced as part of the Appropriate Assessment of Plans and Projects.
NTK	Noise and Track Keeping System – this is the system used by an airport to record aircraft noise
NQS	Noise Quota Scheme – a 'Noise Budget' for Dublin Airport that allocates a certain number of 'points' to be spent on the night time period across the year. Each aircraft carries a Quota Count ('points') depending on how noisy they are – the louder the plane the higher the points. Each flight takes points off the total noise quota for the year.
The planning authority	Fingal County Council in its capacity as planning authority
RD	A Regulatory Decision, following public consultation of the Draft Regulatory Decision, directing noise mitigation measures and operating restrictions (if any) to be introduced in order to address any identified noise problem at the airport.
RNIS	Residential Noise Insulation Scheme – an Insulation programme that applies to homes based on their location in relation to the planning permission granted for Dublin Airport's north runway under current planning conditions, NRPP F04A/1755; ABP PL06F.217429.
RSIGS	Residential Sound Insulation Grant Scheme – the sound insulation grant scheme proposed for homes who will be affected by night-time noise through planning application F20A/0668.
Runway 10L/28R	The Dublin Airport north runway
Runway 10R/28L	The Dublin Airport south runway.
Runway 16/34	The Dublin Airport crosswind runway.
SEA	Strategic Environmental Assessment – the formal, systematic evaluation of the likely significant effects of implementing a plan or programme before a decision is made to adopt the plan or programme carried out pursuant to Directive 2001/42/EC.
Section 34B	Section 34B of the Planning and Development Act 2000, as amended by the Aircraft Noise (Dublin Airport) Regulation Act 2019.
Section 34C	Section 34C of the Planning and Development Act 2000, as amended by the Aircraft Noise (Dublin Airport) Regulation Act 2019.
Terminal Passenger Capacity Limit	The maximum capacity of Dublin Airport in terms of passenger numbers.
WHO	World Health Organisation.

1. Non-Technical Summary

1.1 Introduction

The Aircraft Noise Competent Authority (ANCA) is the designated competent authority and was established as an independent directorate within Fingal County Council for the regulation of aircraft noise at Dublin Airport.

On 15 December 2023, the airport authority for Dublin Airport (**daa**), the Applicant, lodged a planning application ref. F23A/0781 (**the Application**) comprising of two core aspects:

- a proposal to increase airport passenger numbers requiring an uplift in Dublin Airport's current passenger cap of 32mppa to 40mppa; and
- the provision of airport infrastructure to support and facilitate increased passenger numbers and support the delivery of high-quality international connectivity.

Following a review and noise assessment of the application, ANCA determined that this would lead to a noise problem at Dublin Airport. The determination of a noise problem triggers the process of aircraft noise regulation through the adoption of the International Civil Aviation Organization (ICAO) Balanced Approach as implemented by Regulation (EU) No. 598/2014 and the Aircraft Noise (Dublin Airport) Regulation Act 2019.

ANCA has reviewed and amended the Noise Abatement Objective (NAO) for Dublin Airport to reduce noise from Dublin Airport over the long-term. The achievement of the NAO has been considered in this Regulatory Decision (RD) Report, which has examined existing mitigation measures in place or in the pipeline and proposes measures to be used to address the noise problem arising from the Application. An Environmental Report for the purposes of Strategic Environmental Assessment and Appropriate Assessment Screening Report were prepared for these plans. The final Environmental Report for the purposes of Strategic Environmental Assessment for the RD was completed following public consultation and an SEA Statement will be made upon the making of the RD.

Public consultation on the Draft Regulatory Decision and report in relation to this decision was open for 14 weeks stating the reasons for the authority's decision. Following this, ANCA will make a Regulatory Decision that it will direct the planning authority (Fingal County Council), to include in its decision on the planning application.

1.2 The Noise Abatement Objective

A Noise Abatement Objective (NAO) is a policy objective for managing the effects of aircraft noise on surrounding communities and the environment at an airport. It provides guidance for future decisions relating to the management of aircraft noise associated with airport operations.

The Application triggered a statutory noise assessment under the Aircraft Noise (Dublin Airport) Regulation (**the Act of 2019**), which required ANCA to define, restate, or amend the NAO if a noise problem was identified before considering mitigation measures under Section 9 of the Act. Action 3 of the Noise Action Plan for Dublin Airport 2024–2028 also required

Fingal County Council to review the NAO, taking account of the current noise situation at the airport and relevant policy context.

A Noise Abatement Objective has been in place at Dublin Airport since 2022 (**the 2022 NAO**). Following a statutory review, ANCA developed an amended Noise Abatement Objective for Dublin Airport (**the 2026 NAO**). The findings of this review and the full text of the 2026 NAO are presented in the review report (the **2026 NAO Review Report**), which can be found in **Appendix H**. The 2026 NAO has been developed by ANCA in support of its statutory functions under the Act of 2019 and the European Communities (Environmental Noise) Regulations 2018 (as amended).

The 2026 NAO retains a five-part structure which are:

- **A Policy Objective** – the overarching statement setting out the high-level noise-related outcomes ANCA seeks to achieve at Dublin Airport
- **Explaining the Objective** – which provides further description of how the policy objective is to be applied as part of decision making
- **Measurable Criteria** – how the NAO is to be measured and the metrics that are to be used as part of its measurement
- **Expected Outcomes** – based on the policy objective and the measurable criteria, the expected outcomes that are to be achieved
- **Monitoring** – how the expected outcomes set by the NAO are to be monitored

1.3 Expected outcomes of the 2026 NAO

The 2026 NAO sets a series of expected outcomes to be achieved that focus primarily on a reduction in the number of people 'highly annoyed' (HA) and 'highly sleep disturbed' (HSD) by aircraft noise, particularly at night, against a reference year of 2023.

The measurable criteria described within the NAO are adopted from World Health Organization (WHO) Environmental Noise Guidelines for Europe 2018 (**ENG18**) and the WHO Night Noise Guidelines for Europe 2009 (**NNG09**) and reflect the regulatory framework in place for environmental noise management in the EU and Ireland.

The 2026 NAO aims to reduce the number of people highly sleep disturbed and highly annoyed so that compared to 2023 conditions, the number of people in these categories will reduce by:

- 20% by 2031
- 25% by 2036
- 30% by 2041

The 2026 NAO also tracks:

- The number of residential dwellings, schools and hospitals exposed to aircraft noise above 65 dB L_{den} and/or 55 dB L_{night}, with the expectation that measures will be used to mitigate and/or limit the number of dwellings, schools and hospitals exposed in each relevant year under ENR

- The size of the 55 dB L_{den} and 50 dB L_{night} contours with the expectation that these will reduce compared to 2023 in each relevant year under ENR

ANCA will monitor the implementation of the 2026 NAO through its statutory annual review and reporting functions under Section 21 of the Act of 2019 and through the process of strategic noise mapping and noise action planning under ENR.

1.4 Particulars of any Proposed Noise Mitigation Measures – the Regulatory Decision

Details of the noise mitigation measures relating to the Application are contained in the RD.

The making of an RD is a statutory function of ANCA. The RD outlines the noise mitigation measures to be introduced in order to address the potential noise problem at Dublin Airport related to the Application.

1.5 The Reasons for the Introduction of Noise Mitigation Measures

Following the evidence gathered and analysis presented in this RD Report, ANCA has determined that a more expansive noise insulation scheme shall be provided as part of the Application for the following principal reasons:

1. In accordance with the 2026 NAO and its explanatory text, ANCA considers it appropriate that, as the Airport grows, measures shall be considered to reduce noise impacts where growth may lead to increased airport activity and population noise exposure, as per Aspect 1 of the noise problem (see **Section 7**);

2. As the Application does not propose any additional operational or passive mitigation measures, ANCA has considered the availability and feasibility of additional measures in line with the process of aircraft noise regulation through a process of evidence gathering, review and benchmarking in response to Aspect 2 of the noise problem (see **Section 7**);

3. Existing noise insulation schemes are based on noise exposure metrics that have been superseded by more recent best practice guidance, specifically there is an absence of noise insulation schemes based on the L_{den} metric, which is the appropriate metric for a proposed development leading to increased noise on a 24-hour basis;

4. A more expansive noise insulation scheme comprising a range of insulation measures would be effective to reduce the adverse effects on health and quality of life caused by the aircraft noise associated with the proposed development;

5. Noise insulation schemes can be based on evidence-based noise exposure metrics that can be regularly and reliably monitored, allowing for dynamic eligibility criteria that adapt to the noise situation at Dublin Airport and reduce the impact of forecasting uncertainty; and

6. Through this process, ANCA has benchmarked the noise insulation at Dublin Airport against airports in other European countries and the UK, which has demonstrated that the existing noise insulations schemes, if unchanged following the implementation of the proposed development, would fall behind the ambition and scope of peer airports.

1.6 The Application of the Balanced Approach

Under the Act of 2019, ANCA must apply the Balanced Approach where a noise problem has been identified at the airport.

The Balanced Approach is international guidance developed by the International Civil Aviation Organization (ICAO). It is an approach to managing noise at an airport.

It is given its legal basis in Europe through Regulation (EU) 598/2014 (the Aircraft Noise Regulation), and in Ireland through the Act of 2019.

In applying the Balanced Approach, ANCA considered the various measures available to manage aircraft noise at the airport. These measures are broadly categorised into the four principal elements of the Balanced Approach. These are:

- Reduction of Noise at Source
- Land-Use Planning and Management
- Operational Procedures
- Operating Restrictions

ANCA implemented the Balanced Approach as follows:

1. Outlined measures available
2. Reviewed measures for potential implementation and considered potential effects and feasibility
3. Evaluated and analysed feasible measures against the 2026 NAO

4. Identified the cost-effectiveness of measures

1.7 The Identification of Additional or Alternative Measures that have been Considered

ANCA has applied the Balanced Approach to identify and select mitigation measures. ICAO guidance recommends additional or alternative measures to consider when applying the process of aircraft noise regulation. ANCA considered these in the process of making the draft regulatory decision.

1.8 Measures considered to Address the Noise Problem

ANCA has considered available measures under the Balanced Approach. The process and application of the Balanced Approach require the identification of measures that can address a noise problem. ANCA's consideration of measures is as follows:

1.8.1 Reduction of Noise at Source

The ICAO guidance states that in relation to reduction of noise at source, consideration should be given to:

- integration into aircraft fleets, over time, of technology improvements meeting the latest standards
- specific fleet modernisation plans of airlines operating at an airport
- national plans to adopt the latest noise standard
- adoption by Contracting States of the latest ICAO noise recommendations

As such, any measures which are available to reduce noise at source need to have regard for whether they facilitate, encourage, or incentivise a greater proportion of aircraft meeting the latest noise standards to operate at Dublin Airport.

ANCA has undertaken an analysis of the fleet mix for the forecasts supplied by the Applicant for its assessment including that provided for 2023. This review is presented in **Appendix B**.

1.8.2 Noise Abatement Operating Procedures

Measure	Part of Current Measure	Proposed new/additional measure
Preferential Runway Use	Yes	No

Use of Noise Preferential Routes (NPRs)	Yes	No
Route Alternation	No	No
Noise Abatement Operational Procedures (NAOP)	Yes	No
Continuous Climb Operations	Yes	No
Continuous Descent Approach	Yes	No
Steeper / Segmented Approach Procedures / GBAs	Yes	No
Automated (RNAV) Procedures / Performance Based Navigation	Yes	No
Landing Displaced Thresholds	Yes	No
Reverse Thrust	Yes	No
Auxiliary Power Unit (APU) Usage	Yes	No
Delayed Landing Gear Deployment	Yes	No
Runway Use Respite / Alternate Runway Use	No	No

1.8.3 Land Use Planning and Management

Measure	Part of Current Measure	Proposed new/additional measure
Relocation and Buyout Schemes	Yes	No
Planning Measures and Noise Zoning	Yes	No ANCA has requested the Planning Authority of Fingal County Council to review noise zoning measures
Noise Insulation Scheme	Yes	Yes
Encroachment Management	Yes	No

1.8.4 Operating Restrictions

Measure	Part of Current Measure	Proposed new/additional measure
Runway Use Restriction	Yes	No
Quota Count Scheme	Subject to NRRA determination	No
Aircraft Movement Cap	Yes, and subject to NRRA determination	No
Aircraft Curfew	No	No
Aircraft Type Restriction	No	No
Noise Contour Area and Shape	No	No

1.9 An Evaluation of the Cost-Effectiveness of the Various Methods Considered

ANCA has undertaken an evaluation of the cost effectiveness of the proposed and alternative noise mitigation measures. This is to determine the most cost-effective measure (or combination of measures) for achieving the 2026 NAO and/or addressing the noise problem.

ANCA selected two metrics to evaluate how different measures perform against the 2026 NAO. The metrics selected by ANCA were the percentage reductions in the number of people Highly Annoyed and Highly Sleep Disturbed where interventions apply.

These two metrics were used as part of the entire cost-effectiveness analysis. Where appropriate, wider consideration has been given to metrics that can quantify the performance of the measures.

1.10 The Relevant technical information in relation to any proposed noise mitigation measures

The relevant technical information pertaining to the proposed noise mitigation measure are set out in the conditions within the RD.

1.11 Summary of the Data Examined

In the making of the draft Regulatory Decision, ANCA considered the data submitted on 15th December 2023 in support of the application for planning permission (ref. F23A/0781). ANCA issued a direction to provide information on 1st March 2024. This information was sought to provide context for the enclosed documentation, clarify the approach taken in coordinating the various contributions and to ensure consistency and completeness in the information

provided. The Applicant provided its Response to ANCA's Direction on 21 November 2025 and ANCA's assessment includes consideration of the information contained in that Response.

ANCA also requested and examined data in relation to Appropriate Assessment (AA) and Strategic Environmental Assessment (SEA). An overview of the key documents and data which has been considered by ANCA as provided by the Applicant with the Application and in response to the Direction to Provide Information is summarised in **Appendix A**.

1.12 Public Consultation

The Draft Regulatory Decision and Report were open to public consultation for 14 weeks between 28 May 2026 and 03 September 2026. Submissions and observations may have been made in writing in any one of the following ways:

3) **Online**: https://consult.fingal.ie/en/content/aircraft-noise-consultation.
3) **By email**: aircraftnoiseconsultation@fingal.ie
3) **In writing**: Aircraft Noise Consultation, Aircraft Noise Competent Authority, Fingal County Council, County Hall, Main Street, Swords, Co Dublin K67 X8Y2.

All related documentation (including SEA Draft Environmental Reports, 2026 NAO, AA Screening Reports) were available on the ANCA website https://www.fingal.ie/aircraftnoiseca/aircraftnoiseconsultation2026 to view or download for the duration of the consultation.

A notice detailing the process of consultation and how to make a submission was be published in a national newspaper and on the websites of ANCA and FCC. All documentation was made available for examination free of charge at the ANCA offices.

Component Parts of the Consultation:

- Noise Abatement Objective
- Draft Regulatory Decision and Report
- Draft Environmental Reports for the purposes of Strategic Environmental Assessment of the NAO and DRD

ANCA will consider all submissions/observations made in writing during this consultation prior to making a regulatory decision. We will send a copy of our regulatory decision to everyone that made a submission during this consultation.

2 Introduction to the Regulatory Decision

2.1 Introduction to ANCA

Fingal County Council (FCC) was designated as competent authority for the purposes of aircraft noise regulation at Dublin Airport by the Act of 2019. The Aircraft Noise Competent Authority (ANCA) is the independent directorate established within FCC for the implementation of this function.

2.2 Legal Origin

Regulation (EU) No. 598/2014 of the European Parliament and of the Council of 16 April 2014 (the Aircraft Noise Regulation) establishes the rules and procedures which govern the introduction of noise-related operating restrictions at European Union airports.

The Aircraft Noise Regulation requires EU Member States to define a Competent Authority responsible for the execution of the International Civil Aviation Organization (ICAO) Balanced Approach and the adoption of any noise-related operating restrictions at airports.

The Aircraft Noise Regulation states that:

"The competent authority responsible for adopting noise-related operating restrictions should be independent of any organisation involved in the airport's operation, air transport or air navigation service provision, or representing the interests thereof and of the residents living in the vicinity of the airport. This should not be understood as requiring Member States to modify their administrative structures or decision-making procedures."[1]

The Act of 2019 gives further effect to the Aircraft Noise Regulation on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions for Dublin Airport.

The Aircraft Noise Regulation applies only to airports with more than 50,000 civil aircraft movements per calendar year, with Dublin Airport the only airport in Ireland meeting this criterion.

2.3 ANCA Roles and Responsibilities

ANCA is responsible for ensuring that noise generated by aircraft activity at Dublin Airport is assessed in accordance with national and European legislation and is required to apply the

[1] Regulation (EU) No 598/2014 of the European Parliament and of the Council of 16 April 2014 on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Union airports within a Balanced Approach and repealing Directive 2002/30/EC

Balanced Approach to manage any identified noise problem at Dublin Airport within the wider context of sustainable development.

ANCA's roles and responsibilities as described by the Act of 2019 are to:

- Regulate aircraft noise at Dublin Airport
- Assess the noise situation at Dublin Airport and adopt the Balanced Approach where a noise problem is identified
- Define, restate or amend a Noise Abatement Objective (NAO) for Dublin Airport where a noise problem has been identified
- Assess for potential impacts of aircraft noise through the planning process to determine whether a noise problem may arise
- Amend existing or impose new noise mitigation measures and / or operating restrictions to address aircraft noise from Dublin Airport as appropriate
- Monitor the implementation of noise mitigation measures and operating restrictions at Dublin Airport

ANCA is also a public authority for the purposes of the European Commission (EC) (Birds and Natural Habitats) Regulations 2011 and a Competent Authority for the purposes of the EC (Environmental Assessment of Certain Plans and Programmes) Regulations 2004. As such its functions also include:

- Appropriate Assessment of any proposed NAO or regulatory decision
- Strategic Environmental Assessment of any proposed NAO or regulatory decision

2.4 ANCA's Role in the Planning and Development System

Under the Act of 2019 and through amendments to the Planning and Development Act 2000 (the Act of 2000) under Section 34B, the planning authority of Fingal County Council (FCC) refers any planning applications for development at Dublin Airport to ANCA to assess potential aircraft noise impacts. ANCA reviews planning applications to ascertain whether a more detailed assessment is required. This determination is based on a screening exercise which seeks to identify whether the proposed development contains a proposal requiring the assessment for the need for a noise-related action or new operating restriction. Where ANCA considers this to be the case, the process of aircraft noise regulation as described by the Act of 2019 is carried out.

In addition, the planning authority must refer to ANCA, any application for permission to revoke, amend or replace an operating restriction at Dublin Airport, in which case the process

of aircraft noise regulation as described by the Act of 2019 and Section 34C of the Act of 2000 must be carried out in relation to the proposed changes.

The responsibility for deciding whether a planning application for development at Dublin Airport should be granted or refused is the function of the planning authority of FCC. ANCA can only direct refusal of planning permission if inadequate provision has been made to deal with any noise problem identified and associated with the proposed development. Otherwise, it must identify the noise mitigation measures and / or operating restrictions (if any) that should be included in any decision to grant permission by FCC.

3 Planning Application by the airport authority for Dublin Airport

This section outlines the application by the airport authority for Dublin Airport (daa) seeking an increase in the permitted capacity of the Airport.

3.1 The Application

In December 2023, daa submitted an application for planning permission (F23A/0781) (the Application) for development that consists of:

3.1.1 Increase in permitted passenger numbers per annum

a) An increase in the capacity of the airport from the permitted combined capacity of Terminal 1 together with Terminal 2 of 32 million passengers per annum (32mppa) (as referenced by condition no. 3 of ABP Ref. No. PL06F.220670 (F06A/1248) and condition no. 2 under ABP Ref No. PL06F.223469 (F06A/1843)) to 40 million passengers per annum (40mppa).

b) The increase to the capacity will include all attendant airport operations at Dublin Airport. The proposed increase in passenger numbers will supersede and replace condition no. 3 of ABP Ref. No. PL06F.220670 (F06A/1248) and condition no. 2 under ABP Ref. No. PL06F.223469 (F06A/1843).

3.1.2 Provision of airport infrastructure

The Application proposes the provision of airport infrastructure to include the following Project Elements, namely:

- Project Element 1: North Apron
- Project Element 2: South Apron
- Project Element 3: Terminal 1 Central Search
- Project Element 4: New Apron 7
- Project Element 5: Underpass beneath Runway 16/34 (Underpass)
- Project Element 6: Airfield Drainage Project
- Project Element 7: Ground Transportation Centre
- Project Element 8: Terminal 2 MSCP extension
- Project Element 9: Long Term Car Park (Red)
- Project Element 10: Staff Car Park North

- Project Element 11: Junction Improvements

Full details on the Application and development description are available on the website of the planning authority.

3.2 Relevant Planning History

3.2.1 North Runway Relevant Action (PL06F.314485, F20A/0668)

In December 2020, the Applicant submitted a planning application for a 'relevant action' – the North Runway Relevant Action (NRRA) under Section 34C of the Act of 2000. A 'relevant action' is a planning application that seeks to amend or replace an operating restriction at Dublin Airport including the introduction of new noise mitigation measures. The Relevant Action sought by the Applicant in that application related to amendments of operating restrictions set out in Condition 3(d) and the replacement of the operating restriction set out in Condition 5 of the grant of planning permission for Dublin Airport's North Runway (F04A/1755; ABP PL06F.217429 as amended by F19A/0023; ABP-305298-19) (the 'North Runway Planning Permission') (NRPP), as well as proposing new noise mitigation measures.

Conditions 3(d) and 5 of the NRPP relate to night-time operating restrictions following the commencement of operations on the North Runway. Condition 5 of the NRPP imposed a limit of 65 flights per night (23:00 to 07:00) with Condition 3(d) restricting all but exceptional use of the North Runway during night.

The 'Relevant Action' proposed by the Applicant sought to amend Condition 3(d) to provide for use of the North Runway between 06:00 and 00:00, thus allowing it to be used for two hours during the night, along with Condition 5 being replaced by a Noise Quota Scheme. A night-time noise insulation scheme was also proposed.

Through Section 34C, ANCA commenced an assessment of the proposals, carrying out the process of Aircraft Noise Regulation and exploring alternatives to the proposals made by the Applicant. A 14-week consultation on ANCA's Draft Regulatory Decision on the proposals and an NAO for Dublin Airport commenced in November 2021, with a final Regulatory Decision in June 2022. For the purposes of describing this decision and the associated measures provided by it within the context of this Draft Regulatory Decision, this decision is referred to as the FCC Planning approval[2] which provided for:

- Condition 5 of the North Runway Planning Permission to be revoked and replaced with a Night-time Noise Quota Scheme. This scheme set an annual noise quota for the period 23:00 to 07:00

[2] Planning Reference F20A/0668

- Condition 3(d) of the North Runway Planning Permission to be revised to apply over the period 00:00 to 06:00. This revised condition would provide for use of the North Runway for the first and last hour of the night-time period

- A night-time Residential Sound Insulation Grant Scheme (RSIGS). This scheme focussed on providing noise insulation to residential dwellings exposed to noise above 55 dB L_{night}, a priority value within the Noise Abatement Objective. Eligibility to this scheme was also afforded to residential dwellings that would observe a 9 dB increase and be exposed above 50 dB L_{night} due to the Relevant Action

The FCC Planning Approval[3] was appealed to An Coimisiún Pleanála (ACP) in August 2022. In September 2024, ACP published a Draft Regulatory Decision (DRD) for consultation. This was followed by a Regulatory Decision in July 2025 along with the grant of permission for the NRRA. For the purposes of describing this decision and the associated measures provided by it within the context of this Draft Regulatory Decision, this decision is referred to as the ACP Planning Approval[4].

The ACP Planning Approval retained the measures contained in the ANCA NRRA RD with the addition of:

- a cap of 35,672 night-time aircraft movements per year

- a residential dwelling insulation scheme criterion of 80 dB L_{ASmax}.

The ACP Planning Approval is currently the subject of three sets of judicial review proceedings[5]. All three proceedings remain adjourned generally following the decision of the European Commission dated 10 February 2026 (C(2026) 919 final). The European Commission concluded that the operating restrictions introduced did not fully follow the process set out in Regulation 598/2014 and noted that Ireland was to examine the decision and inform the Commission of its intentions before introducing those operating restrictions.

3.2.2 Condition 5 Enforcement Notice

The planning authority of FCC issued an enforcement notice related to Condition 5 of the North Runway Permission (F04A/1755 ABP PL06F.217429) in July 2023. The High Court has stayed the enforcement notice pending the outcome of a judicial review of the enforcement notice by daa against Fingal County Council (daa v Fingal County Council & the Irish Aviation Authority High Court Record No 2023/916 JR).

[3] Planning Reference F20A/0668
[4] Planning Reference PL06F.314485
[5] SMTW Environmental DAC, Serena Taylor -v- An Coimisiún Pleanála, Ireland and the Attorney General, Dublin Airport Authority [2025/1348 JR], Ryanair DAC v An Coimisiún Pleanála and Ors [2025/1346 JR], Aer Lingus Limited v An Coimisiún Pleanála & Ors [2025/1344 JR].

3.3 Overview of the Application Documents

Information relating directly to the proposed development was first received with the Application which was lodged on 15 December 2023. Following review of the information received, ANCA issued a direction to provide information which was issued on 1 March 2024. This Direction sought to help ANCA further analyse the noise impact of the proposed development and consider the need for potential measures. Information was also requested to support Appropriate Assessment, Strategic Environmental Assessment, and to further examine the forecasts relied on by the Applicant, and to help establish the cost-effectiveness of any additional measures considered by ANCA.

On 21 and 24 November 2025, the Applicant provided their response to the Direction.

An overview of the key documents and data which have been considered by ANCA, as provided by the Applicant with the Application and in response to the Direction to Provide Information is summarised in **Appendix A**.

3.4 Measures Proposed by the Applicant

The Application does not propose any new measures to manage or mitigate aircraft noise.

4 Introduction to Aircraft Noise

This section provides information on sound and noise to assist in the interpretation of the report. It addresses the technical aspects of sound and noise, whilst providing information as to how aircraft noise is measured and quantified.

4.1 Principles of Sound

Sound is the transfer of energy through the air resulting in changes in air pressure which are detected by our ears as sound. As the magnitude of sound energy that is transferred to the air particles increases, this results in the sound detected by our ears being perceived as being louder. The rate at which these changes occur is called the 'frequency' of the sound and different frequencies of sound are detected by our ear as 'pitch'.

4.1.1 Sound Pressure Level

Sound pressure waves are measured in Pascals (Pa). However, the human ear can perceive a wide range of sound pressures, with typical sounds ranging from one 0.00002 Pa to 20,000 Pa. This range makes it difficult for the average person to relate the Pascal scale to real life events.

For this reason, the intensity of a sound is frequently expressed on a logarithmic (compressed) scale as a sound pressure level which is measured in decibels (dB). Table 4-1 provides examples of sound pressure levels (dB) as described by the decibel scale, the equivalent Root Mean Square (RMS) sound pressure (Pa) and a description of an environment or event that is typical of each sound pressure level.

Table 4-1: Example sound pressure levels. Source: Bies & Hansen

Sound Pressure Level (dB)	Sound pressure (Pa)	Description
0	0.00002	Threshold of hearing for a young person with normal hearing
20	0.0002	Recording studio, ambient level
40	0.002	Quiet residential room, ambient level
60	0.02	Department store or restaurant ambient level; conversational speech
80	0.2	Near to a busy highway (dual carriageway); shouting

Sound Pressure Level (dB)	Sound pressure (Pa)	Description
100	2	Blender; factory machinery operating
120	20	Rock concert
140	200	Fireworks at close range

Table 4-2 shows how changes in sound pressure level are perceived as changes in 'loudness' by the human ear. These changes and their apparent perceptible change relate to conditions where two sounds occur immediately following one another. Table 4-2 also equates the change in sound pressure level to the increase or decrease in sound energy (or power).

Table 4-2: Changes in sound pressure level and perception

Change in sound pressure level (dB)	Sound pressure (Pa)		Change in apparent loudness
	Decrease	Increase	
3	1/2	2	Just perceptible
5	1/3	3	Clearly noticeable
10	1/10	10	Half or twice as loud

Perceived or otherwise changes in sound are not the same as a change in noise exposure.

Frequency

Although the ear can detect frequency as 'pitch', this term is often more useful in a musical context where a single note has a dominant frequency. In environmental situations however, sounds tend to be made up of a complex combination of frequencies, and this combination of frequencies influences the character and 'quality' of the sound.

The ear responds to sound across a range of frequencies (20 Hz (Hertz) – 20,000 Hz) but is more sensitive to some frequencies than others. Human response to frequency has been observed through equal loudness experiments. The experiments show that the human ear is most sensitive to sounds in the region between the 1,000 Hz and 10,000 Hz region and becomes less sensitive to sounds outside of this region.

When sound is measured by a microphone, this human response is not captured as microphones have a more uniform response over frequencies. To compensate for this, a number of 'frequency weightings' have been developed from research to allow sound levels as measured by microphones to better represent human hearing.

The most common weighting is the 'A-weighted' sound level. This weighting is used to consider environmental sound and is applied to the measurement of transportation noise, including aircraft noise.

The A-weighting may be written as dBA, i.e., decibels that have been A-weighted, or LA i.e., L is the sound level that has been A-weighted. The A-weighting, like the human ear, effectively tapers off the lower and higher frequencies that the average person cannot hear as easily.

4.1.2 Human Exposure to Sound

Sound is what we hear, whereas noise is unwanted sound. Sounds that are perceived as pleasing to some can be considered unpleasant by others, thereby perceived as 'noise'. The magnitude and context are also relevant - sounds, such as music, that are considered pleasant at one loudness may cause annoyance at higher levels, or a dog barking may be regarded as more annoying at night than during the day.

This difference depends upon who is experiencing the sound, their attitudes towards it and other characteristics of the sound.

How people experience sound and noise depends on three aspects:

- Its magnitude, i.e., how loud it is
- The frequency content i.e., the pitch of the sound
- The duration and occurrence i.e., how long it lasts for and how often it occurs

These descriptors are used to help quantify and describe sound and noise. In combination, these aspects can be used to help describe how a noise may have an impact. Whilst these characteristics are measurable, as outlined above, the way in which sound is perceived is subjective, and differs between people. Noise therefore has both objective (physical) and subjective (perception) components and subjective response to noise varies and is difficult to quantify.

4.2 Aircraft Noise Metrics

For aircraft there are a range of metrics which are used to describe noise. These may be used to describe the level of noise arising from certain aircraft events, such as a take-off or a landing.

Additionally, other metrics can be used to describe relative levels of impact or 'exposure' to aircraft noise. These metrics usually express aircraft noise as an average level of noise.

It is important to understand what information is contained within each metric and the purposes for which it is most appropriate.

4.2.1 Describing Noise from a Single Aircraft Event

Maximum Sound Pressure Level - L_{Amax}

The L_{Amax} is the simplest descriptor of an aircraft noise event and relates to the event's maximum sound level. The L_{Amax} is the maximum sound level that is measured during an aircraft noise event. It is measured in dBA which means that its frequency content has been adjusted to have regard for the 'A-weighting'. The L_{Amax} has been used in a range of studies examining the relationship between aircraft noise events and potential interference with conversation and night-time noise impacts such as sleep disturbance. In general, the higher the L_{Amax} level, the higher the likelihood that the event will lead to disturbance or intrusion.

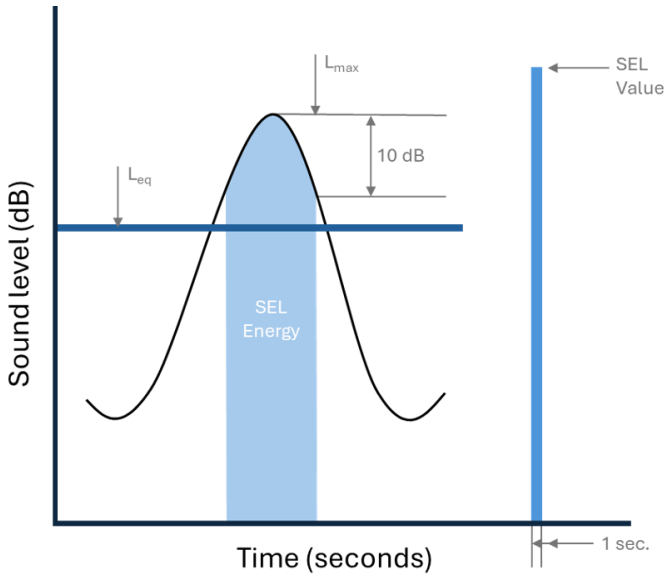
Sound Exposure Level – SEL

The Sound Exposure Level (SEL or LAE) is a means of describing the total amount of sound energy associated with an aircraft noise event.

An event is defined as any occurrence which results in the total ambient sound level to increase by more than 10 dBA over the prevailing ambient sound level. The magnitude of sound energy associated with that event is determined, as is the duration of the sound event. The sound energy is then normalised in the time-domain to one second to determine the equivalent sound energy should that event have occurred for one-second.

In simple terms, the SEL is a measure of the total amount of sound energy from the entire aircraft noise event if it were to last for one second. The figure below presents an illustration of this against the L_{Amax} and the noise level experienced during an aircraft noise event.

Figure 1: Presentation of Aircraft Event Metrics



For aircraft overflights, the SEL is always higher than the L_{Amax}. It is usually the case that the numerical difference between SEL and L_{Amax} is around 10 dB for aircraft on departure, and 8 dB for aircraft on arrival.

Like the L_{Amax}, the SEL can be used to identify the relative difference in sound level between different aircraft events and to indicate interference with task and / or other impacts from aircraft noise events such as risk of awakenings.

Although the human ear does not perceive sound at the SEL level, it is a common metric that allows sound exposures of different durations to be related to one another in terms of total acoustic energy.

4.2.2 Averaged Noise Exposure Metrics

Not all aircraft noise events are the same. They can vary depending upon aircraft type being flown and the procedures being followed in that flight. Furthermore, the locations that surround airports may not always be affected by aircraft noise in the same way. For example, some locations may be affected mainly by departing aircraft but only those using a certain route or runway, which may only occur at particular times of the day. Metrics are required to describe how much noise may be experienced at a location, considering the magnitude of the individual noise events, their duration and occurrence, and the period of interest. This is best described using equivalent continuous sound levels.

Equivalent Continuous Sound Level

The most common metric used to describe noise exposure from environmental sources is the A-weighted equivalent continuous sound level (L_{Aeq}). This metric has been used extensively since the mid-1970s and uses the SEL of individual aircraft events along with their occurrence for each event and the period over which they occur (T) to provide an overall equivalent continuous sound level ($L_{Aeq,T}$) for the period (T). Therefore, when the $L_{Aeq,T}$ is considered, it is important that the circumstances and time for which it has been calculated are clearly understood and presented.

Table 4-3 below presents common examples of L_{Aeq}-based metrics relied on for aircraft noise assessment purposes.

Table 4-3: Examples of equivalent continuous noise exposure metrics

Metric	Description
L_{day}	Annual average daytime A-weighted equivalent sound level. Representative of day period (07:00-19:00).
$L_{evening}$	Annual average evening A-weighted equivalent sound level. Representative of evening period (19:00-23:00).

Metric	Description
L_{night}	Annual average night-time A-weighted equivalent sound level representative of night period (23:00-07:00). Used as an indicator linking noise exposure to sleep disturbance by the EU for the definition of the Exposure Response Function (ERF) between noise and health effect.
L_{den}	Annual average day-evening-night A-weighted indicator. The L_{den} unit is a level for the whole 24-hour period, however, depending on the period of the day the noise occurs, a different weighting is applied. If the noise occurs during the first 12 hours of the day (07:00-19:00), no weighting is applied. If it occurs during the evening (19:00-23:00) a weighting of +5 dBA is added and if the noise occurs during the night-time period (23:00-06:00) a weighting of +10 dBA is added. Each L_{Aeq} period is calculated / measured separately, and respective weighting is applied to the evening and night L_{Aeq} values before the L_{den} can be calculated. This metric is used by the EU for the definition of the Exposure Response Function (ERF) between noise and health effect.
$L_{Aeq,16hr}$	16-hour daytime A-weighted indicator for a period 07:00-23:00. This metric is used within the UK as a measure of aircraft noise exposure and has been used previously for assessment purposes at Dublin Airport. The metric is the equivalent sound level of aircraft noise in dBA for the 16-hour day. The UK metric is based on a 'summer average' which is based on the daily average movements that take place between 07:00 and 23:00 local time during a 92-day period 16 June to 15 September inclusive
$L_{Aeq,8hr}$	8-hour night-time A-weighted indicator for a period 23:00-07:00. This metric is used within the UK as a measure of aircraft noise exposure. The metric is the equivalent sound level of aircraft noise in dBA for the 8-hour night. The UK metric is based on a 'summer average' which is based on the daily average movements that take place between 23:00 and 07:00 local time during a 92-day period 16 June to 15 September inclusive.

As indicated by Table 4-3, L_{Aeq}-based noise exposure metrics correlate with describing long-term health effects. They are also used to inform noise intervention policies. This is the case with the L_{den} and L_{night} metrics. These have relevance to the management and assessment of aircraft noise under the regulatory framework. In addition to single aircraft noise events and L_{Aeq}-based noise exposure metrics, aircraft noise can be described using alternative metrics. These are explored in the following chapters.

4.3 Use of the L_{den} and L_{night} to Quantify the Impact of Aircraft Noise at Dublin Airport

This section describes the metrics used by ANCA to describe the impact of aircraft noise at Dublin Airport.

The European Communities (Environmental Noise) Regulations 2018 (ENR) requires noise exposure from Dublin Airport to be mapped every five years. Under the ENR, aircraft noise exposure must be reported using the annual average night-time metric (L_{night}) and annual average day-evening-night metric (L_{den}). These metrics are also prescribed by the Aircraft Noise Regulation and are used as part of research and guidance in relation to impact of aircraft noise on health and quality of life.

Contour maps relating to situations or assessments carried out in accordance with these legislative standards will be in this format. Many planning conditions associated with Dublin Airport relate to the 92-day day-evening summer period metric ($L_{Aeq,16hr}$). Legislation permits the use of additional metrics such as this where they are relevant to local circumstances.

4.3.1 The Effects of Aircraft Noise

There is growing evidence to show a relationship between aircraft noise exposure and public health concerns. The evidence base used in the regulatory framework for the assessment of environmental noise and its effects on health and quality of life is described by the World Health Organization (WHO) in its publication 'Environmental Noise Guidelines for the European Region 2018' (ENG18). The ENG18 is provided in support of the WHO publication 'Night Noise Guidelines for Europe 2009' (NNG09). Both the ENG18 and NNG09 set health-based recommendations on average environmental noise exposure. In the case of the ENG18, these recommendations are provided for five relevant sources of environmental noise, including aircraft noise. Between the WHO publications, an evidence base is presented for several key health outcomes, including:

- Annoyance
- Sleep disturbance (subjective and objective sleep disturbance including awakenings)
- Cardiovascular, metabolic disease, and mortality
- Mental health, wellbeing, and quality of life
- Children's learning

ANCA has commissioned a review of the latest health evidence[6] (herein referred to as the '**Health Evidence Review**'). This review has been carried out by Charlotte Clark, Professor of Environmental Epidemiology, Population Health Research Institute, St George's, University of London, Cranmer Terrace, Tooting, London, SW17 0RE, United Kingdom. ANCA has published this review alongside this Report.

The Health Evidence Review has considered each health outcome with respect to:

- The latest evidence from systematic reviews or robust large scale primary research studies and national surveys, as well as the evidence underpinning the World Health Organization aviation noise guidelines
- Methodologies for defining policy thresholds for effects – along with consideration of evidence for thresholds for different aviation noise metrics (time-average noise exposure, number of events, maximum levels etc) and vulnerable population groups

[6] Clark. C, State of the evidence for aviation noise effects on health and wellbeing, 2026

- An overall conclusion as to the strength of the evidence for a negative effect of aviation noise on the health outcome

This review has been used by ANCA in support of its functions and decision making.

The regulatory framework surrounding environmental noise is underpinned by ENG18. European Directive 2020/367 describes the establishment of methods for the assessment of the harmful effects of environmental noise, stating:

"At the time of adoption of this Directive, the high quality and statistically significant information that could be used was that of the World Health Organization (WHO) Environmental Noise Guidelines for the European Region, presenting dose-effect relations for harmful effects induced by the exposure to environmental noise. Consequently, the dose-effect relations introduced in Annex III to Directive 2002/49/EC should be based on those guidelines. In particular concerning the statistical significance, the WHO studies were based on representative populations, and the results of these assessment methods are consequently considered relevant when applied to representative populations."

Following consideration of the Health Evidence Review, and in the absence of any local ERF available for Dublin Airport or any national studies for Ireland, ANCA has followed the Second Schedule of ENR, which transposes into Irish law European Directive 2020/367, in quantifying annoyance and sleep disturbance in line with the WHO ENG18.

ANCA has continued to adopt the WHO (ENG 2018) recommended guideline values for aircraft noise within the 2026 NAO when defining measurable criteria for its policy objective. The 2026 NAO includes the number of people highly sleep disturbed and highly annoyed as measurable criteria, taking into account noise exposure from 45 dB L_{den} and 40 dB L_{night}, in line with the ENG 2018. The 2026 NAO includes expected outcomes of reducing the number of people highly annoyed and highly sleep disturbed by 20%, 25% and 30% by 2031, 2036 and 2041 respectively, compared to 2023, as expected outcomes.

The following sections summarise the evidence with respect to aircraft noise annoyance and sleep disturbance as published by the WHO.

Noise Annoyance

Noise annoyance may be considered the most widespread response across a population to aircraft noise. Annoyance and the methods which may be used to describe it, are used throughout European policy to measure the impact of aircraft noise exposure on communities living around airports. These responses are described as ERF and can be used to indicate the percentage of the population Highly Annoyed (% HA) by aircraft noise. The same approach is used for all sources of environmental noise such as road traffic and railway noise. Acoustic factors, such as the character of the sound source and its sound level, account for some of the annoyance responses presented within ERFs. Other factors are also known to contribute

towards annoyance responses and are thought to explain some of the differences which may occur in reported annoyance around different airports. These factors are often referred to as 'non- acoustic' factors and include aspects such as a person's attitude associated with the noise source, their ability to cope, sensitivity to noise, as well as personal factors including age and status. The WHO ENG18 reports an ERF for aircraft noise measured against the L_{den} metric which is summarised in Table 4-4 below.

Table 4-4: WHO ENG18 Exposure Response Function for Annoyance

L_{den} (dB)	%HA
40	1.2
45	9.4
50	17.9
55	26.7
60	36.0
65	45.5
70	55.5

Alongside the ERF for aircraft noise annoyance, the ENG18 makes the following recommendation with regards to aircraft noise exposure. It states that:

"For average noise exposure, the Guideline Development Group strongly recommends reducing noise levels produced by aircraft below 45 dB Lden, as aircraft noise above this level is associated with adverse health effects." "To reduce health effects, the Guideline Development Group strongly recommends that policy-makers implement suitable measures to reduce noise exposure from aircraft in the population exposed to levels above the guideline values for average and night noise exposure. For specific interventions the GDG recommends implementing suitable changes in infrastructure."

These recommendations are described as 'strong' recommendations. A strong recommendation is described as a recommendation which "… can be adopted as policy in most situations", and:

"The WHO guideline values are public health-oriented recommendations, based on scientific evidence on health effects and on an assessment of achievable noise levels. They are strongly recommended and as such should serve as the basis for a policy-making process in which policy options are quantified and discussed. It should be recognized that in that process additional considerations of costs, feasibility, values and preferences should also feature in decision-making when choosing reference values such as noise limits for a possible standard or legislation."

Sleep Disturbance

The effects of aircraft noise on sleep have been considered in a range of studies. These studies used several methods to evaluate the impact of noise on sleep using approaches such as self-reported sleep disturbance through to measurement of increased bodily movement using polysomnography. Table 4-5, which is reproduced from the NNG09 describes the effect of night time noise exposure and the associated health effects as may be observed within the population.

Table 4-5: Effects arising from night-time noise exposure (L_{night})

Average night noise level over a year (L_{night})	Description
Up to 30 dB	Although individual sensitivities and circumstances may differ, it appears that up to this level no substantial biological effects are observed. L_{night}, outside of 30 dB is equivalent to the no observed effect level (NOEL) for night noise.
30 to 40 dB	A number of effects on sleep are observed from this range: body movements, awakening, self-reported sleep disturbance, arousals. The intensity of the effect depends on the nature of the source and the number of events. Vulnerable groups (for example children, the chronically ill and the elderly) are more susceptible. However, even in the worst cases the effects seem modest. L_{night}, outside of 40 dB is equivalent to the Lowest Observed Adverse Effect Level (LOAEL) for night noise.
40 to 55 dB	Adverse health effects are observed amongst the exposed population. Many people have to adapt their lives to cope with noise at night. Vulnerable groups are more severely affected.
Above 55 dB	This situation is considered increasingly dangerous for public health. Adverse health effects occur frequently, a sizable portion of the population is HA and HSD. There is evidence that the risk of cardio-vascular disease increases.

ENG18 makes the following recommendation with regards to aircraft noise in relation to sleep disturbance. It states that:

"For night noise exposure, the GDG strongly recommends reducing noise levels produced by aircraft during nighttime below 40 dB Lnight, as aircraft noise above this level is associated with adverse effects on sleep."

And;

"As the evidence was rated moderate quality, the GDG made the recommendation strong."

The WHO ENG18 recommendations are based on evidence provided by the review of six studies which included a total of 6,371 participants. The outcome of these studies has been used to produce the ERF that can be used to indicate the percentage of the population Highly Sleep Disturbed (%HSD) at different levels of aircraft noise exposure. The model was based on outdoor L_{night} levels between 40 dB and 65 dB only; the lower limit of 40 dB set because of

inaccuracies in predicting lower noise levels. The WHO ENG18 ERF have now been adopted by the EC as the common approach for determining health effects under the revision of Annex III of the END.

The evidence reported from these studies has been rated as moderate quality. Table 4-6, which is reproduced from ENG18, shows the reported association between exposure to aircraft noise (L_{night}) and sleep disturbance (%HSD).

Table 4-6: Association between exposure to aircraft noise (L_{night}) and Sleep Disturbance (%HSD) as reported by WHO ENG18

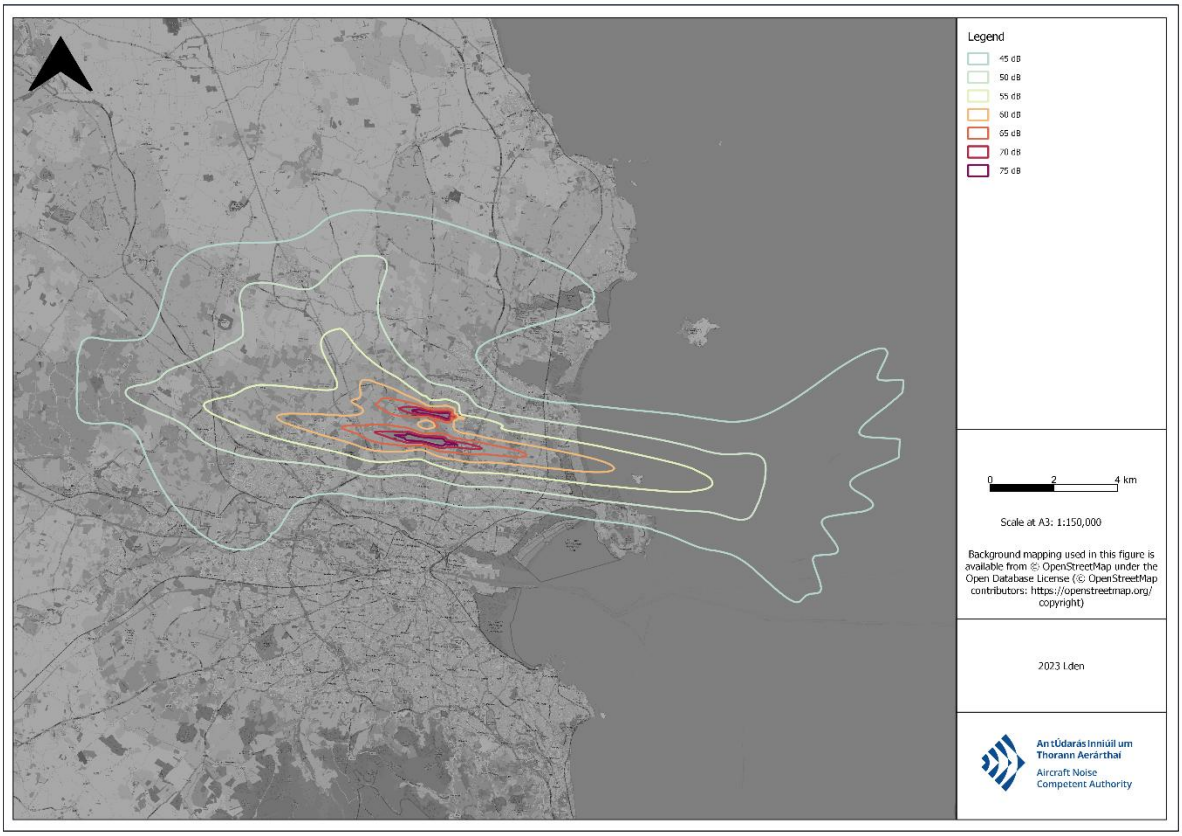
L_{night} dB	%HSD	95% CI
40	11.3	4.72-17.81
45	15.0	6.95-23.08
50	19.7	9.87-29.60
55	25.5	13.57-37.41
60	32.3	18.15-46.36
65	40.0	23.65-56.05

Having regard to the impact on human health, management of aircraft noise should include measures to reduce noise at the source where possible, protect noise sensitive locations, and give priority to the prevention of noise, prior to the implementation of measures to mitigate the impact of noise.

4.4 Noise Modelling

Airport noise assessments and the quantification of its impacts rely mainly on noise modelling. Noise modelling allows the metrics described above to be presented at individual locations or graphically using maps.

Figure 2: Example Noise Contour (2023, L_{den})



Modelling can be used to calculate the noise situation at an airport based on data relating to current and historic conditions. Alternatively, it can be used to forecast a noise situation in the future having account for a development proposal or noise-related action.

Airport noise models are underpinned by noise calculation methodologies. The aircraft noise calculation methodology to be used in the context of the regulatory framework is set out in Annex II of the END, as amended, being a duplicate of the European Civil Aviation Conference-CEAC Doc. 29 4th Edition (ECAC Doc. 29) calculation methodology.

ECAC Doc. 29 brings together recommended practices for aircraft noise modelling as published by the following aviation bodies:

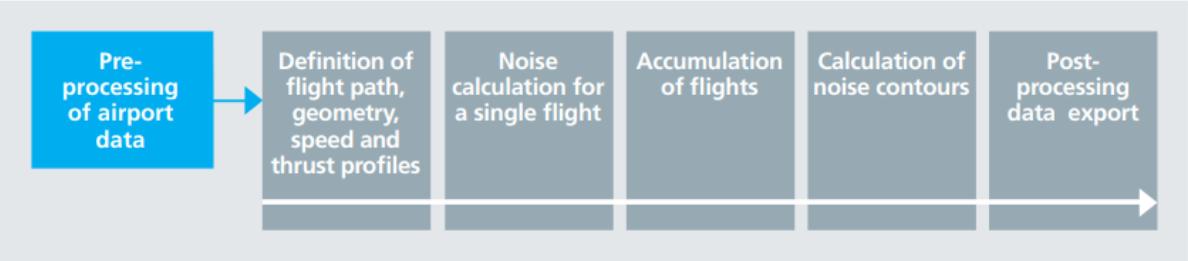
- International Civil Aviation Organization (ICAO)
- European Civil Aviation Conference (ECAC)
- Society of Automotive Engineers (SAE)

Each of these bodies provide guidance on how noise modelling should be undertaken using data supplied by aircraft manufacturers. The detail provided by the bodies differs, however there is a consensus on how noise modelling shall be carried out. This is reflected in ECAC Doc. 29.

ECAC Doc. 29 is a standard method used for computing noise levels around civil airports. Its Fourth Edition was adopted by ECAC-DGCA/147 on 7 December 2016 and allows for consistent computation of noise contours throughout ECAC States. Under the regulatory framework, it is the methodology used for the establishment of airport noise action plans, and under the Aircraft Noise Regulation.

ECAC Doc. 29 can be implemented within a software environment and there are specific tools which are commercially available to carry out airport noise calculations. In general terms, the calculation methodology can be used to calculate the SEL and / or L_{Amax} at a given receiver point for a combination of aircraft types, flight performance and flight paths. This is illustrated in Figure 3 below.

Figure 3: General Process for Calculating Aircraft Noise Level



As indicated in Figure 3 the calculation of aircraft noise levels requires airport data to be made available to inform the calculation. This includes the location of flight paths and the number and type of aircraft and their respective operations by time of day, which can be provided either as a record of activity or as a forecast.

Under the regulatory framework and the guidance provided by the three bodies set out above, it is recommended that aircraft noise modellers utilise the Aircraft Noise and Performance Database[7]. This database provides an international resource for noise modellers and marries aircraft flight performance and aircraft Noise Power Distance data for use with ECAC Doc. 29 and associated guidance[8].

The aircraft performance data which is held within the Aircraft Noise and Performance Database describes how aircraft typically approach and take-off from an airport in the form of 'procedure profiles'. For arrivals, these profiles describe information such as speeds, flaps, and landing gear configurations, along with descent angles. For departures, similar information is held alongside engine power settings and rates of climb.

The Aircraft Noise and Performance Database therefore contains 'default' profiles and associated Noise Power Distance data which may or may not reflect the conditions at an

[7] https://www.aircraftnoisemodel.org/
[8] International Civil Aviation Organization, ICAO 9911, Recommended Method for Computing Noise Contours Around Airports (Second Edition), 2018

airport. Under the regulatory framework, there is scope for competent authorities to use profiles and Noise Power Distance data which better reflect conditions at an airport.

In the UK, the UK Civil Aviation Authority (CAA) has established minimum standards for aircraft noise modelling[9] which describe the circumstances where it is necessary to adjust the noise and profile data for modelling purposes. This discusses and recommends the use of local noise monitoring terminals and local track keeping data to modify the Noise Power Distance and flight profile data.

Under the regulatory framework as it applies to the Aircraft Noise Regulation, the accuracy of noise modelling is also a consideration.

As noise modelling is a core component of the Aircraft Noise Regulation and in supporting ANCA's functions under the Act of 2019, ANCA has commissioned a technical review of the Applicants noise modelling. This review can be found in **Appendix C**.

4.5 Noise and Track Keeping Systems and Community Engagement Tools

Day-to-day noise impacts from airport operations are often captured using Noise and Track Keeping systems (NTK). An NTK system works by matching radar data describing the flight paths of aircraft arriving and departing Dublin Airport with measurements from the Noise Monitoring Terminal (NMT) that are located around it.

Data obtained from NTK systems can be used for a variety of purposes. At Dublin Airport, the primary purpose of the NTK system is to monitor aircraft noise and aircraft track keeping in support of complaint handling. The data obtained from an NTK system can also be used to improve the quality and accuracy of a noise model by providing measurements of aircraft noise events and flight paths as part of a validation exercise.

More modern systems are used to support community engagement. Such systems are accessible to the public via the internet and allow noise and aircraft track information to be viewed and queried. Some systems can provide reports of how many and at what height aircraft have been operating over certain areas.

Dublin Airport uses WebTrak, a web-based service that monitors and provides information on flights arriving and departing Dublin Airport. Used at many international airports, WebTrak provides near real-time information on flight origin and destinations, aircraft types, altitudes and flight paths.

This interactive tool has many uses including allowing users to identify their location by Eircode or map, and view flight data in relation to that specific location. Users can also view

[9] United Kingdom Civil Aviation Authority, CAP2091, CAA Policy on Minimum Standards for Noise Modelling, 2021

noise preferential routes, historical flight information or lodge a noise complaint about a specific aircraft noise disturbance.

WebTrak uses data taken directly from the Airport's radar. A one-hour delay is applied to the replay of 'live' data to ensure all flight track data is presented as accurately as possible. The data shown has not been correlated or 'matched' to an aircraft noise event[10].

In addition, the airport operator noise information portal, InsightFull, contains detailed data about aircraft activity around the airport, including flight frequency, altitude and overflight definitions[11].

[10] https://www.dublinairport.com/corporate/environmental-social-governance/noise/aircraft-noise/webtrak-flight-monitoring-system
[11] https://aircraftnoise.dublinairport.com/

5 Policy & Legislation Overview

This section outlines the Irish and international policy and legislation relevant to aircraft noise regulation at Dublin Airport.

5.1 Regulatory and Policy Framework

The management and assessment of aircraft noise is addressed in legislation as it applies to Dublin Airport. This legislation originates from several European regulations and directives which describe the processes and methods for the management and assessment of aircraft noise. These have been transposed into or given further effect by Irish law and are effective at Dublin Airport. The Act of 2019 also makes additional provision for the regulation of aircraft noise at Dublin Airport.

All of the above legislation has been collectively described in this Report as the Regulatory Framework.

5.1.1 International Aviation Policy

The International Civil Aviation Organization (ICAO) is a specialised division of the United Nations that works with Member States and industry groups to reach consensus on international civil aviation standards and recommended practices and policies in support of a safe, efficient, secure, economically sustainable and environmentally responsible civil aviation sector.

Resolution A33/7 of ICAO introduces the concept of a Balanced Approach to address aircraft noise. The Balanced Approach is considered as the foundation of noise regulation for aviation as a global industry setting international rules and standards implemented in the EU under The Aircraft Noise Regulation[12]. While Resolution A33/7 is not, of itself, binding in Irish law, the Balanced Approach is an integral part of the Aircraft Noise Regulation, which is binding in Irish law.

Under the Balanced Approach, when noise-related actions are taken the combination of measures must reflect the most cost-effective measure or combination of measures[13]. In particular, these measures should not be more restrictive than necessary to achieve the environmental noise abatement objectives set for that airport[14].

[12] Recital 3 of the Regulation 598

[13] Article 5(3) of Regulation 598

[14] Article 5(6) of Regulation 598

5.1.2 European Policy and Legislation

Policy and legislation in respect of aviation noise has been established by the European Commission (EC). Various European Union directives and regulations seek to define a common aviation policy in Europe and implement international regulations set by ICAO.

EU Council Directive 2002/49/EC (the Environmental Noise Directive)

EU Council Directive 2002/49/EC[15] (commonly referred to as the Environmental Noise Directive or the END) relates to the assessment and management of environmental noise. It is the main instrument of the EU to quantify noise pollution levels and trigger action within both Member States and at EU level. The END has the aim of establishing a common approach to avoiding, preventing or reducing the harmful effects due to exposure to environmental noise within the EU.

The aim of the END is to:

"… define a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise."

The END focuses on three action areas:

- The determination of exposure to environmental noise
- Ensuring that information on environmental noise and its effects is made available to the public
- Preventing and reducing environmental noise where necessary and preserving environmental noise quality where it is good

It should be noted that the END only applies to environmental noise to which humans are exposed.

Aircraft noise is a matter considered by the END which requires that Member States prepare and publish, at least once every five years, strategic noise maps and noise action plans for 'major airports', which are defined as those with more than 50,000 movements a year.

The END is supported by six annexes which describe the approaches and methods in support of delivering the aims and objectives of the END.

- **Annex I** describes the noise indicators for which noise exposure must be reported. These are the L_{night}, which is the A-weighted long-term average sound levels as defined in ISO 1996-2, determined over all of the night periods of a year; and the L_{den} which is calculated from the A-weighted long-term average sound levels determined over all

[15] The European Parliament and the Council of the European Union, Directive 2002/49/EC of the European Parliament and of the Council of 25 June2002 relating to the assessment and management of environmental noise - Declaration by the Commission in the Conciliation Committee on the Directive relating to the assessment and management of environmental noise [online]. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32002L0049

the day, evening and night periods of a year. The Annex describes these metrics which should be formulated along with their reference periods. Annex I states that in addition to these metrics, where appropriate it *"may also be advantageous to use special noise indicators and related limit values"* suggesting alternative metrics such as, for example, where appropriate the L_{day}, $L_{evening}$, and the L_{Amax} and SEL, in the case of night period protection from noise peaks

- **Annex II** describes the assessment methods that shall be used to establish the noise indicators set out in Annex I. Section 2 of Annex II sets out the noise calculation methodologies which shall be used. Annex II of the END was replaced by the Annex of Directive 2015/996, which was subsequently amended by a Corrigenda in January 2018 and a Commission Delegated Directive in December 2020. The latest version of the END Annex II assessment method for aircraft noise is a duplicate of ECAC Doc. 29 4th Edition

- **Annex III** describes the assessment methods for harmful effects. Annex III was replaced by the Annex to Directive 2020/367 in March 2020. Annex III sets out methodologies for the assessment of the number of people HA and the number of people HSD due to aircraft noise. The methodology is based on the ERF published within the World Health Organization (WHO) Environmental Noise Guidelines for the European Region 2018

- **Annex IV** sets out the minimum requirements for strategic noise mapping required under the END. Annex IV clarifies that a strategic noise map is *"a presentation of data of an existing, previous or predicted noise situation in terms of a noise indicator".* It states that strategic noise maps may be presented to the public as graphical plots or numerical data in tabular or electronic form. Under Annex IV and having regard for the wider contents of the END, it states that strategic noise maps are to be reported for the L_{den} and L_{night} metrics in 5 dB bands from 55 dB L_{den} and 50 dB L_{night}

- **Annex V** sets the minimum requirements for noise action plans. Noise action plans are to include: the results of the strategic noise mapping; any noise reduction measures in place or under preparation; actions intended to be taken in the next five years; long-term strategy; financial information on budgets, cost-effectiveness and cost-benefits assessments, if available; and provisions on evaluation of results of the action plans.

- **Annex VI** describes the data which is to be sent to the European Commission

The implementation of the END in Ireland is discussed below.

Commission Directive (EU) 2015/996

The Annex of Commission Directive (EU) 2015/996 replaced Annex II of the END and describes the common noise assessment methodology for the END. The Directive describes methodology of calculation for noise from roads, railway, industry, and aircraft.

Directive 2015/996 has subsequently been amended by a Corrigenda in January 2018, and a Commission Delegated Directive in December 2020. The latest version of the END Annex II assessment method for aircraft noise is a duplicate of ECAC Doc. 29 4th Edition. The calculation method is described in Section 2.7 of the Directive and is supported by a set of appendices.

Appendix I of the Directive describes what is in effect a version of the ANP database. This sets out the fundamental components which underpin the computation of aircraft noise levels. This information effectively constitutes 'default' aircraft performance and noise emission data and as such may lead to calculated noise levels which deviate from their true values. Directive 2015/996 recognises this and states that:

"In cases where input data provided in Appendix F to Appendix I are not applicable or cause deviations from the true value that do not meet the conditions presented under 2.1.2 and 2.6.2, other values can be used, provided that the values used and the methodology used to derive them are sufficiently documented, including demonstrating their suitability. This information shall be made publicly available."

This statement cross-references the Directive's 'Quality Framework'. This sets a tolerance for the accuracy of the input values as they affect the noise emission levels at source i.e., the level of noise produced by aircraft and at a specific location, when performing a specific procedure. The Quality Framework requires that all input values affecting the emission level of a source shall be determined with at least the accuracy corresponding to an uncertainty of ± 2 dBA in the emission level of the source (leaving all other parameters unchanged). Regarding the use of default data, it is stated that input data shall reflect the actual use, and in general there will be no reliance on default input data values or assumptions, unless the collection of real data is associated with disproportionately high costs. Specifically for flight paths it is stated they should be derived from radar data whenever they exist of sufficient quality.

Commission Directive (EU) 2020/367

The Annex of Commission Directive (EU) 2020/367 of 4 March 2020 replaced Annex III of Directive 2002/49/EC in describing the assessment of health effects under the END. Directive 2002/367 adopts the ERF published within the WHO ENG18.

Directive 2020/367 reproduces the ERFs for the number of people HA and HSD from aircraft noise.

Regulation (EU) No. 598/2014 (the Aircraft Noise Regulation)

The Aircraft Noise Regulation concerns the establishment of rules and procedures with regards to the introduction of noise-related operating restrictions at European Union airports.

The Aircraft Noise Regulation applies where a 'noise problem' has been identified at an airport and sets procedures which must be followed for the introduction of noise-related operating restrictions at qualifying EU airports. Member States must ensure that where a noise problem has been identified that the Balanced Approach is adopted for the purposes of noise management at an airport.

The Balanced Approach originates from international practice through Resolution A33/7 of ICAO. The Balanced Approach is considered as the foundation of noise regulation for aviation as a global industry setting international rules and standards implemented in the EU under the Aircraft Noise Regulation

The Aircraft Noise Regulation states that:

"The Balanced Approach should remain the foundation of noise regulation for aviation as a global industry. The Balanced Approach recognises the value of, and does not prejudge, relevant legal obligations, existing agreements, current laws and established policies. Incorporating the international rules of the Balanced Approach in this Regulation should substantially lessen the risk of international disputes in the event of third country carriers being affected by noise-related operating restrictions."

When noise-related action is taken, the following combination of available measures is considered, with a view to addressing the noise problem in the most cost-effective way : (a) the foreseeable effect of a reduction of aircraft noise at source; (b) land-use planning and management; (c) noise abatement operational procedures; (d) not applying operating restrictions as a first resort, but only after consideration of the other measures of the Balanced Approach. In particular, these measures should not be more restrictive than necessary to achieve the environmental noise abatement objectives set for that airport[16]. Noise abatement objectives include health aspects, at the level of individual airports, while respecting relevant EU rules, in particular those laid down in the END, and the legislation within each Member State. One of the two objectives of the Aircraft Noise Regulation is to facilitate the achievement of such noise abatement objectives.

According to the Aircraft Noise Regulation competent authorities have to ensure that an assessment of the noise situation at airports for which they are responsible is conducted. Additional noise indicators may also be used providing these have an objective basis. If an assessment conducted under the END concludes that a noise problem has been identified, the Aircraft Noise Regulation is triggered.

[16] Article 5(6) of Regulation 598

5.1.3 Irish Legislation

European Communities (Environmental Noise) Regulations 2018 (ENR)

Statutory Instrument No. 549 of 2018 European Communities (Environmental Noise) Regulations 2018, as amended by S.I. No. 663 of 2021 European Communities (Environmental Noise) (Amendment) Regulations 2021 (ENR) – give effect to the European Union (EU) Directive 2002/49/EC (END), relating to the assessment and management of environmental noise, by transposing it into Irish law for matters relating to the assessment and management of environmental noise. The ENR, as amended, give full effect to Directive 2002/49/EC as amended by EU Regulation 2019/1010 and the associated Commission Implementing Decision (EU) 2021/1967 establishing alignment of reporting obligations in the field of legislation related to the environment. The Second Schedule of ENR transposes Commission Directive (EU) 2020/367 establishing assessment methods for harmful effects of environmental noise into Irish law.

The ENR requires strategic noise mapping to be undertaken using the common assessment methods contained in Annex II of END as amended by Directive 2015/996 establishing common noise assessment methods, and as amended by Commission Delegated Directive (EU) 2021/1226 for the purposes of adapting to scientific and technical progress.

The Regulations provide for the implementation in Ireland of a common approach within the European Community to avoid, prevent or reduce, on a prioritised basis, the harmful effects, including annoyance, due to exposure to environmental noise. The ENR set out the approach to meeting the requirements of the END in Ireland and Dublin Airport is the only designated major airport in Ireland that currently falls under the scope of the END.

The ENR allocates the roles of preparing noise maps and noise action plans for Dublin Airport to the Applicant and FCC respectively. The Applicant is therefore the competent Noise Mapping Body for the production of strategic noise maps, and FCC is the Action Planning Authority responsible for the preparation of the Noise Action Plan.

Under the regulation, the Environmental Protection Agency (EPA) is the designated national authority and shall exercise general supervision over the functions of Noise Mapping Bodies and Action Planning Authorities and provide guidance or advice to such bodies or authorities, where necessary. The EPA also submits information to the European Commission (EC) as required under the END on strategic noise mapping and noise action planning under the Regulations.

The Aircraft Noise (Dublin Airport) Regulation Act 2019

The Balanced Approach is given additional effect in the EU through the Aircraft Noise Regulation and in Ireland through the Act of 2019 which also makes additional provision for the regulation of aircraft noise at Dublin Airport. In addition to requiring ANCA to adopt the

Balanced Approach where a noise problem is identified at Dublin Airport, the Act of 2019 amends the Act of 2000 to cater for a situation where a planning application for proposed development at Dublin Airport contains a proposal requiring the assessment for the need for noise related action, indicates that a new operating restriction may be required, or is for a Relevant Action only.

Fingal County Council (FCC) was designated as the competent authority for the purposes of aircraft noise regulation at Dublin Airport by the Act of 2019. The Aircraft Noise Competent Authority (ANCA) is the independent directorate established within FCC for the implementation of this function.

5.1.4 Relevant National Policy

A National Aviation Policy for Ireland 2015

Aviation policy for Ireland is established at national level through the 'National Aviation Policy for Ireland 2015'.

The primary objective of the National Aviation Policy is to facilitate and enhance Ireland's air connectivity in a safe, competitive, cost-effective and sustainable manner, in the wider context of supporting Ireland's economic and social goals. Section 4.5 of the Policy concerns the future capacity needs of Ireland's airports and states:

"Air transport requires a specific level of airport infrastructure, both in terms of quantity and quality, to facilitate the optimum level of air services for Ireland. This includes terminal and runway capacity as well as surface access to airports, and is particularly relevant to the development of Dublin Airport as a secondary hub."

"Existing capacity at State airports should be optimised in conjunction with timely planning to enable expansion of air service connections in all relevant markets delivering wider economic benefits for Ireland."

Specifically, regarding Dublin Airport, Action 4.5.1 states:

"The process to develop the second runway at Dublin Airport will commence, to ensure the infrastructure necessary for the airport's position as a secondary hub and operate to global markets without weight restrictions is available when needed."

The policy defines the specific policy positions and actions to demonstrate Ireland's commitment to working with its EU and international partners to mitigate the impacts of aviation on the environment and facilitate the sustainable growth of the sector with actions that support the implementation of the Aircraft Noise Regulation.

The National Aviation Policy sets out a need for technology improvements in aircraft and engine design to help combat aviation emissions; for effective land-use planning to balance

the operational needs of airports with protection for residents and amenities; and for implementation of the Balanced Approach to noise management at Irish airports.

Project Ireland 2040 – National Planning Framework – First Revision April 2025

In Ireland, the National Planning Framework and The National Development Plan combine to form Project Ireland 2040. The Project Ireland 2040 National Planning Framework[17] recognises high-quality international connectivity as crucial for overall international competitiveness and addressing opportunities and challenges from Brexit through investment in our ports and airports. This is in line with sectoral priorities already defined through National Ports Policy and National Aviation Policy and signature projects such as the north runway for Dublin Airport.

The Project Ireland 2040 National Planning Framework recognises the importance of proactive noise management which is implemented through the following objectives 66 and 94:

National Policy Objective 66

"The planning system will be responsive to our national environmental challenges and ensure that development occurs within environmental limits, having regard to the requirements of all relevant environmental legislation and the sustainable management of our natural capital."

National Policy Objective 94

"Promote the pro-active management of noise where it is likely to have significant adverse impacts on health and quality of life and support the aims of the Environmental Noise Regulations through national planning guidance and Noise Action Plans."

National Policy Statement on Airport Charges Regulation (2017)

The Policy Statement seeks to ensure (amongst other things) that continued economic development/airport capacity is in the best interests of the customer/consumer and in the national interest. In terms of environmental requirements, the Policy Statement requires the regulator to have regard to Government policy on climate change and sustainability as part of the regulatory determination process. This is to ensure that future airport capacity development is advanced in accordance with the broad objectives of the National Mitigation Plan[18], which aims to enable transition to a low carbon, climate-resilient and environmentally sustainable economy by 2050.

Policy Statement on Runway Development at Dublin Airport (2018)

[17] Government of Ireland. Project Ireland 2040 – National Planning Framework – First Revision April 2025 [online]. Available at: https://www.npf.ie/

[18] National Mitigation Plan: assets.gov.ie/static/documents/national-mitigation-plan.pdf

This repeats the aims of the National Aviation Policy, i.e., that the Irish Government supports the building of a second runway at Dublin Airport and the development of Dublin Airport as a hub airport. In terms of environmental requirements, the Policy Statement outlines that the Government is required to ensure full compliance with the Aircraft Noise Regulation which governs the imposition of noise-related operating restrictions at airports. It additionally states that Fingal County Council must set out noise mitigation measures or abatement objectives for Dublin Airport to follow (in accordance with the Balanced Approach) and oversee the implementation of any such measures by the Applicant.

National Development Plan 2021-2030

The National Development Plan set out the ten-year capital ceilings to 2030 which will support economic, social, environmental and cultural development across all parts of the of the country under Project Ireland 2040. The NDP supports also the implementation of the NPF and the National Aviation Policy, with particular reference to the importance of significant investment in the north runway.

5.1.5 Relevant Regional and Local Policy

This section describes regional and local policy as it relates to Dublin Airport.

Eastern and Midland Regional Assembly Regional Spatial and Economic Strategy 2019-2031

The Eastern and Midland Regional Assembly (EMRA) is part of regional governance in Ireland, established under local government reform in January 2015. The Fingal and Dublin City regions fall within the Eastern & Midland Regional Assembly (EMRA) region and, therefore, EMRA Regional Spatial and Economic Strategies are implemented for the area. The Regional Spatial and Economic Strategies (RSES) 2019 – 2031[19] set out the strategic plan and investment framework for the EMRA region and include specific policies relating to Dublin Airport. These are summarised in Table 5-1.

Table 5-1: EMRA RSES policy objectives relevant to Dublin Airport

Policy ID	Policy Objective
RPO 8.17	Support the National Aviation Policy for Ireland and the growth of movements and passengers at Dublin Airport to include its status as a secondary hub airport. In particular, support the provision of a second runway, improved terminal facilities and other infrastructure.
RPO 8.18	Improved access to Dublin Airport is supported, including Metrolink and improved bus services as part of BusConnects, connections from the road network from the west and north. Improve cycle access to Dublin Airport and surrounding employment locations. Support appropriate levels of car parking and car hire parking.

[19] Eastern & Midland Regional Assembly (EMRA). Regional Spatial & Economic Strategy (RSES) 2019 – 2031 [online]. available at: https://emra.ie/final-rses/

RPO 8.19	Spatial planning policies in the vicinity of the airport shall protect the operation of Dublin Airport in respect to its growth and the safe navigation of aircraft from non-compatible land uses. Policies shall recognise and reflect the airport noise zones associated with Dublin Airport. Within the Inner Airport Noise Zone, provision of new residential and/or other noise sensitive development shall be actively resisted. Within the Outer Noise Zone, provision of new residential and/or other noise sensitive development shall be strictly controlled and require appropriate levels of noise insulation in all cases.
RPO 8.20	Spatial planning policies for areas located within the Public Safety Zones shall reflect the guidance set out in the ERM Report "Public Safety Zones, 2005" (or any update thereof) commissioned by the then Department of Transport and the Department of Environment, Heritage and Local Government, in assessing proposals for development falling within Airport Public Safety Zones.

The strategy recognises Dublin Airport as a key national asset to Ireland's economic success, which is linked with its global connectivity to trade and tourism markets and requires support to ensure it continues as an economic driver. This is balanced with a recognition that consideration of continued growth of Dublin Airport must include the environmental and safety considerations.

Fingal Development Plan 2023-2029

The Fingal Development Plan 2023 - 2029[20] identifies the need to minimise the adverse impact of noise without placing unreasonable restrictions on development, and to avoid future conflicts between the community and the operation of Dublin Airport. It is a Strategic Policy Objective of the Development Plan to:

"Safeguard the current and future operational, safety, and technical requirements of Dublin Airport and provide for its ongoing development within a sustainable development framework of a Local Area Plan. The plan shall take account of any potential impact on local communities and shall have regard to any wider environmental issues."

The Development Plan includes key policy in relation to how aircraft noise from Dublin Airport will be managed through the planning system. This is addressed through the inclusion of noise zones around Dublin Airport.

The noise zones are established by FCC with reference to wider policy as described in the Government of Ireland's National Planning Framework 2040. National Policy Objective 94 of the Framework set out the following:

"Promote the pro-active management of noise where it is likely to have significant adverse impacts on health and quality of life and support the aims of the Environmental Noise Regulations through national planning guidance and Noise Action Plans".

[20] Fingal County Council (April 2023). Fingal Development Plan 2023 – 2029 – Written Statement [online]. Available at: https://www.fingal.ie/sites/default/files/2023-10/Fingal%20Development%20Plan%2030.08.23_V4_WEB.pdf

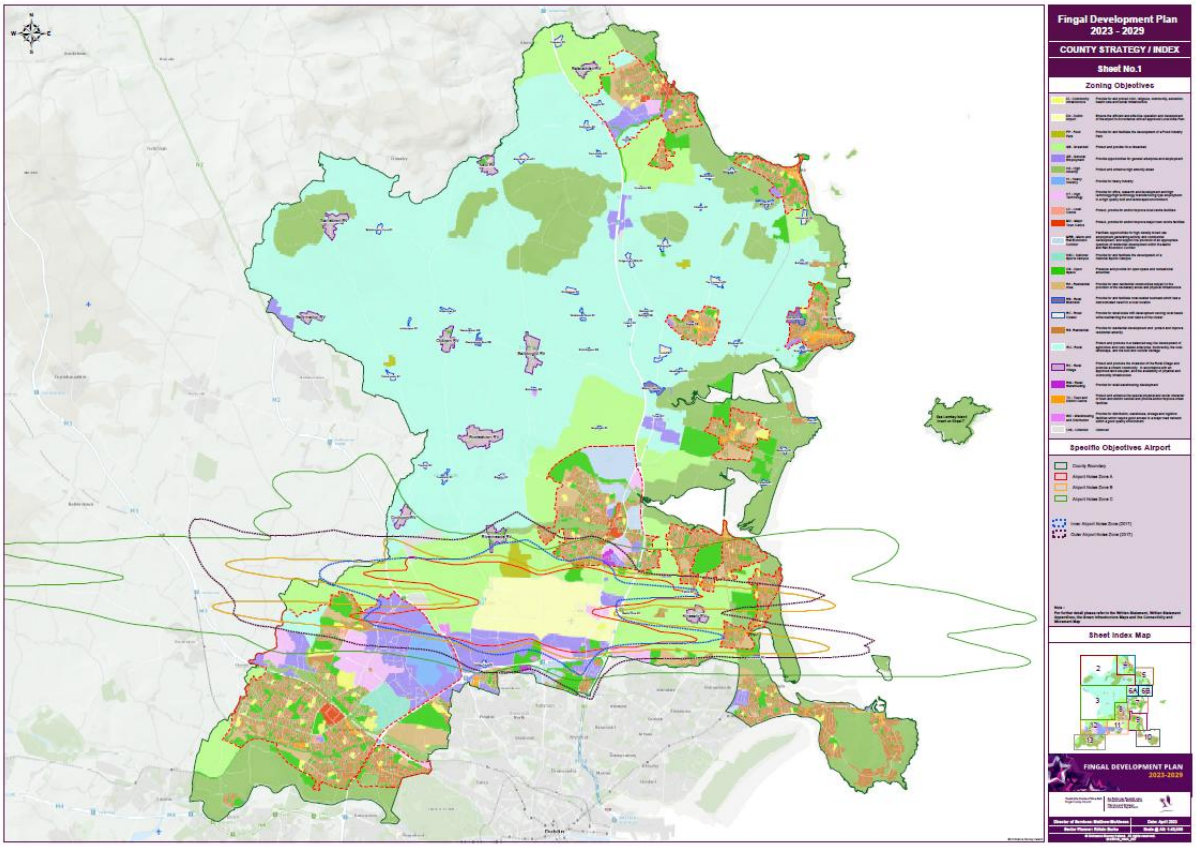
Four noise zones are set out in the Plan, each with their own separate objectives. These are reproduced in Table 5-2 with Figure 4 presenting the respective extents of the zones.

Table 5-2: Aircraft Noise Zones as defined in the Fingal Development Plan 2023 - 2029

Zone	Indication Of Potential Noise Exposure During Aircraft Operations	Objective
D	≥ 50 and < 54 dB $L_{Aeq,16hr}$ and ≥ 40 and < 48 dB L_{night}	To identify noise sensitive developments which could potentially be affected by aircraft noise and to identify any larger residential developments in the vicinity of the flight paths serving the Airport in order to promote appropriate land use and to identify encroachment. All noise sensitive development within this zone is likely to be acceptable from a noise perspective. An associated application would not normally be refused on noise grounds, however where the development is residential-led and comprises non-residential noise sensitive uses, or comprises 50 residential units or more, it may be necessary for the applicant to demonstrate that a good acoustic design has been followed.
C	≥ 54 and < 63 dB $L_{Aeq,16hr}$ and ≥ 48 and < 55 L_{night}	To manage noise sensitive development in areas where aircraft noise may give rise to annoyance and sleep disturbance, and to ensure, where appropriate, noise insulation is incorporated within the development. Noise sensitive development in this zone is less suitable from a noise perspective than in Zone D. A noise assessment must be undertaken in order to demonstrate good acoustic design has been followed. The noise assessment must demonstrate that relevant internal noise guidelines will be met. This may require noise insulation measures. An external amenity area noise assessment must be undertaken where external amenity space is intrinsic to the development's design. This assessment should make specific consideration of the acoustic environment within those spaces as required so that they can be enjoyed as intended. Ideally, noise levels in external amenity spaces should be designed to achieve the lowest practicable noise levels.
B	≥ 54 and < 63 dB $L_{Aeq,16hr}$ and ≥ 55 dB L_{night}	To manage noise sensitive development in areas where aircraft noise may give rise to annoyance and sleep disturbance, and to ensure noise insulation is incorporated within the development. Noise sensitive development in this zone is less suitable from a noise perspective than in Zone C. A noise assessment must be undertaken in order to demonstrate good acoustic design has been followed. Appropriate well-designed noise insulation measures must be incorporated into the development in order to meet relevant internal noise guidelines. An external amenity area noise assessment must be undertaken where external amenity space is intrinsic to the developments design. This assessment should make specific consideration of the acoustic environment within those spaces as required so that they can be enjoyed as intended. Ideally, noise levels in external amenity spaces should be designed to achieve the lowest practicable noise levels.
A	≥ 63 dB $L_{Aeq,\ 16hr}$ and / or ≥ 55 dB L_{night}	To resist new provision for residential development and other noise sensitive uses.

		All noise sensitive developments within this zone may potentially be exposed to high levels of aircraft noise, which may be harmful to health or otherwise unacceptable. The provision of new noise sensitive developments will be resisted.

Figure 4: Dublin Airport Noise Zones



The specific development plan policy objectives related to Dublin Airport presented in Table 5-3.

Table 5-3: Summary of relevant Fingal Development Plan 2023-2029 policy objectives

Reference	Objective
Objective DAO1	Facilitate the operation and future development of Dublin Airport, in line with Government policy, and the Dublin Airport Local Area Plan (LAP) 2020, or any subsequent LAP or extension of same, recognising its role in the provision of air transport, both passenger and freight.
Objective DAO2	Safeguard the current and future operational, safety, technical and developmental requirements of Dublin Airport and provide for its ongoing development in accordance with the Dublin Airport Local Area Plan 2020, or any subsequent LAP or extension of same, having regard to both the environmental impact on local communities and the economic impact on businesses within the area.
Objective DAO3	Engage and collaborate with key stakeholders, relevant agencies and sectoral representatives to ensure that Dublin Airport is developed and promoted as a secondary hub to capitalise on the associated wider economic benefits for Fingal and the wider region.
Objective DAO4	Ensure that the required infrastructure and facilities are provided at Dublin Airport so that the aviation sector can develop further and operate to its maximum sustainable potential, whilst taking into account the impact on local residential areas, and any negative impact such proposed developments may have on the sustainability of similar existing developments in the surrounding area, and the impact on the environment, including the climate.
Objective DAO11	Strictly control inappropriate development and require noise insulation where appropriate in accordance with Table 8.1 in the Development Plan within Noise Zone B and Noise Zone C and where necessary in Assessment Zone D, and actively resist new provision for residential development and other noise sensitive uses within Noise Zone A, as shown on the Development Plan maps, while recognising the housing needs of established families farming in the zone. To accept that time based operational restrictions on usage of the runways are not unreasonable to minimise the adverse impact of noise on existing housing within the inner and outer noise zone.
Objective DAO15	Review the operation of the Noise Zones on an ongoing basis in line with the most up to date legislative frameworks in the area, the ongoing programme of noise monitoring in the vicinity of the Airport flight paths, and the availability of improved noise forecasts.

Regarding Policy Objective DA02, the new Dublin Airport Local Area Plan provides the principal development management tool for the Dublin Airport area and will specify the long-term composition and mix of uses within the designated area together with the infrastructural development necessary to support these uses. On foot of this objective, the Dublin Airport Local Area Plan 2020 was adopted.

Fingal County Council Dublin Airport Central Masterplan (2016)

This Masterplan refers to a study on future aviation demand growth which suggests a doubling of aviation demand by 2050. As such it promotes and supports the role of Dublin Airport as the primary gateway to Ireland, and as an important employment hub and business location in the region. It does this through proposing land use planning which facilitates future airport capacity needs as well as improved transport linkages to the city and region. The Masterplan also comprises a framework for the future development of lands located adjacent to Dublin Airport (for commercial purposes), covering an area of 21.7 hectares.

Dublin Airport Local Area Plan (LAP) (2020 - 2026)- Extended for a further period of 5 years (March 2025)

The strategic aims of the Dublin Airport LAP include supporting the continued sustainable growth of Dublin Airport, as well as timely delivery of required infrastructure to facilitate airport growth. In addition, the LAP sets the baseline passenger and Air Traffic Movements (ATM) forecasts for Dublin Airport at 40 million passengers per annum (mppa) and 265,000 ATMs by 2030, and 54 mppa and 365,000 ATMs by 2050 (the same figures as those in the Review of Future Capacity Needs at Ireland's State Airports). This document was published in 2018 for the Department of Transport, Tourism and Sport and considers the capacity of the existing infrastructure at Dublin Airport, and the priorities for development. It highlights the potential for a new terminal at Dublin Airport to satisfy demand.

The LAP also refers to the Review's identification of the need for a third terminal to facilitate growth beyond 40 mppa and suggests a target date of 2031 for the delivery of such. Achieving the passenger and ATM forecasts is dependent on the following key infrastructure, as outlined in the LAP:

"Improved surface access; Expanded terminal capacity by way of reconfiguration and augmentation of existing facilities (at T1 and T2); Completion of the North Runway; [and] Additional aircraft parking stands supported by accompanying boarding gate and aircraft piers, particularly in the context of growing the hub function of the Airport."

The key strategic sustainability and environmental objectives of the LAP are as follows:

- Adopt a sustainable approach to airport development which responds to important environmental constraints associated with future development and includes mitigation where necessary and appropriate
- To accelerate a transition to a low carbon economy by providing a reduction in CO_2 emissions
- Reduce environmental impacts, build climate resilience and promote quality of life for neighbouring communities

- All development proposals at Dublin Airport shall have regard to the requirement for environmental assessment including screening for Appropriate Assessment, Environmental Impact Assessment and Flood Risk Assessment in accordance with relevant legislation and guidelines

- All proposals for development shall demonstrate compliance with relevant Fingal Development Plan provisions relating to sustainable development and the protection of the environment

- Maintain and improve surface water quality at Dublin Airport

Noise Abatement Objective (NAO)

An NAO for Dublin Airport was formally adopted in 2022. The policy objective of the 2022 NAO was to:

"Limit and reduce the long-term adverse effects of aircraft noise on health and quality of life, particularly at night, as part of the sustainable development of Dublin Airport."

The 2022 NAO also set out expected outcomes to support the achievement of this objective.

As part of the statutory aircraft noise regulation process under the Act of 2019 and in accordance with Action 3 of the Noise Action Plan for Dublin Airport 2024–2028, ANCA proposes to amend the NAO. The rationale for these changes is summarised in the **2026 NAO Review Report**.

The 2026 NAO retains its overarching policy objective to manage the effects of aircraft noise on surrounding communities and the environment at Dublin Airport, ensuring that airport growth occurs in a sustainable manner with respect to noise. Given its importance, the full text of the 2026 NAO, including its five-part structure, is set out in **Section 8** of this report.

Fingal County Council Noise Action Plan for Dublin Airport 2024-2028

The Noise Action Plan for Dublin Airport 2024 – 2028 (the NAP) was prepared in accordance with the provisions of the ENR and END. Noise Action Plans are delivered according to a common approach within the European Union, as set by the END and ENR, and intend to avoid, prevent and reduce on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise.

The NAP reports the findings of the strategic noise maps, as produced by the Applicant as the designated Noise Mapping Body (NMB). The NAP is prepared by FCC as the designated Action Planning Authority (APA) under the Environmental Noise Regulations.

The NAP was subject to public consultation. Whilst the results of the strategic noise maps for 2021 are presented in the Noise Action Plan to provide a common basis of reporting across the EU, the noise situation at Dublin Airport in 2023 was also included to better reflect the

post COVID-19 noise situation and to reflect the opening and introduction of operations from the Airport's North Runway in 2022.

It summarises trends in the noise-related aircraft activity at Dublin Airport along with existing measures available and in place to reduce and manage aircraft noise.

Section 9 of the NAP describes the proposed actions to be taken, along with a long-term strategy. The long-term strategy presented in the NAP is linked to Objective DA13 of the Fingal Development Plan and 2022 NAO.

With regards to noise from Dublin Airport, Objective DAO13 of the Development Plan states:

"Ensure that aircraft-related development and operation procedures proposed and existing at the Airport consider all measures necessary to mitigate against the potential negative impact of noise from aircraft operations (such as engine testing, taxiing, taking off and landing), on existing established residential communities, while not placing unreasonable, but allowing reasonable restrictions on airport development to prevent detrimental effects on local communities, taking into account EU Regulation 598/2014 (or any future superseding EU regulation applicable) having regard to the 'Balanced Approach' and the involvement of communities in ensuring a collaborative approach to mitigating against noise pollution."

The NAP refers to the 2022 NAO as the overarching noise policy framework. The NAP also identifies, as one of its key actions, that the Noise Abatement Objective for Dublin Airport should be reviewed to support sustainable airport and community development in accordance with relevant plans and policies, as stated below.

The NAP identified actions that should be implemented over the duration of the plan to address problems and/or situations that need to be improved at Dublin Airport. These include:

1. Implement all noise mitigation measures at Dublin Airport unless and until updated, replaced or omitted through relevant processes.

2. Carry out the process of Aircraft Noise Regulation at Dublin Airport in accordance with the relevant provisions of the Act of 2019, the Act of 2000 and/or the Aircraft Noise Regulation as appropriate.

3. Carry out a review of the Noise Abatement Objective for Dublin Airport to support sustainable community and airport development in accordance with relevant plans and policies.

4. Undertake an encroachment analysis to ensure that relevant plans and objectives remain effective to ensure that land use planning is an effective component of the ICAO balanced approach at Dublin Airport.

Dublin Airport Capital Investment Programme 2020+

The Dublin Airport Capital Investment Programme (CIP) responds to the capacity constraint issues highlighted through the Review of Future Capacity Needs. In particular, it refers to the following operational processes as critically requiring immediate enhancement.

The CIP states that *"Ireland will implement a 'Balanced Approach' to noise management at Irish airports in accordance with The Aircraft Noise Regulation on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Union airports".*

6 Process of Aircraft Noise Regulation under Section 34B of the Planning and Development Act 2000

The Application (which contains the proposed development) as summarised in **Section 3** proposes amendments to condition no. 3 of ABP Ref. No. PL06F.220670 (F06A/1248) and condition no. 2 under ABP Ref No. PL06F.223469 (F06A/1843) along with wider infrastructure development at the Airport. The Application seeks an increase in permitted passenger numbers from 32 to 40 million passengers per annum (mppa).

Section 34B requires the planning authority of FCC to refer such applications to the competent authority (ANCA) to assess the noise situation and form the opinion as to whether the proposed development requires the assessment for a noise-related action or indicates that a new operating restriction may be required. Where such an opinion is formed, ANCA must apply the Balanced Approach. Under Section 34B, ANCA carries out and discharges its functions by making a 'Regulatory Decision'.

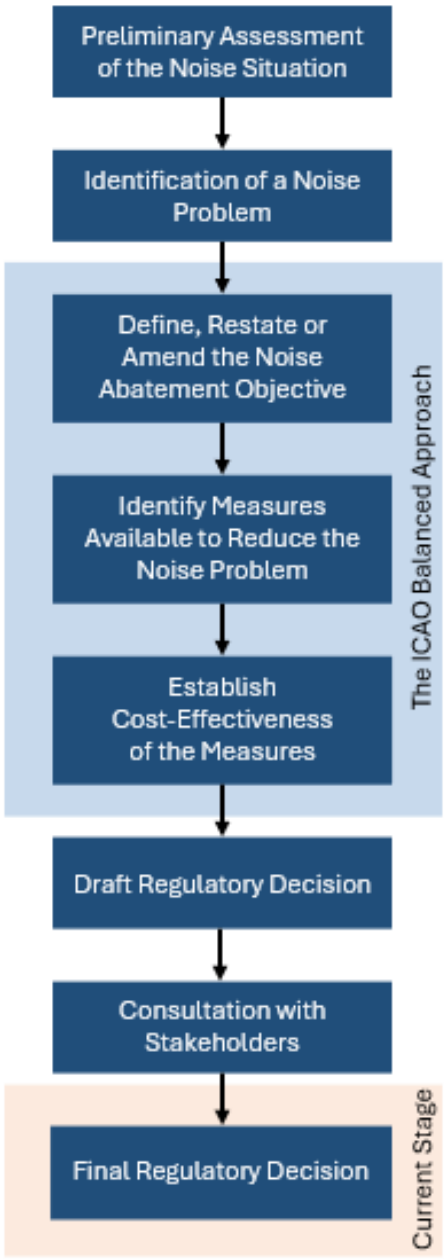
Section 34B describes the process within which the Regulatory Decision shall be made which includes the application of the Balanced Approach. This process is presented in **Figure 5.**

The process starts with an assessment of the noise situation at Dublin Airport. This assessment must have regard for the latest noise action plan, the Dublin Airport Noise Action Plan 2024-2028, as well as information provided with the Application. This information is summarised in **Section 3.2.2** and detailed in **Appendix A.** Having regard the information received, ANCA must determine whether a noise problem would arise from the proposed development. ANCA's identification and determination of a noise problem arising from the proposed development is summarised in **Section 7**.

Where a noise problem has been identified, the process requires the Noise Abatement Objective (NAO) for the Airport to be *"defined, restated or amended"*. ANCA has amended the NAO for the reasons described in the **2026 NAO Review Report**. The 2026 NAO resulting from this review was the subject of public consultation for 14 weeks and is summarised in **Section 8**.

The process continues through the identification of measures available to reduce the noise problem and establishing the cost-effectiveness of these measures. This is carried out through forecasts. In line with Annex I of the Aircraft Noise Regulation, forecasts without new measures are presented in **Section 10** followed by the consideration of additional measures to reduce the noise impact in **Section 11**. The forecasts and additional measures have regard for the current inventory of noise management measures (presented in **Section 9**) and how this may change as a consequence of the proposed development and any other developments that are in the pipeline.

Figure 5: Process of Aircraft Noise Regulation as described under Section 34B



Where ANCA has identified additional measures that can be used to reduce the noise impact, the cost-effectiveness of these measures must be evaluated. This is presented in **Section 12**. The results of the cost-effectiveness are used by ANCA in determining the Regulatory Decision which sets out the selected measures and their reason for selection.

The Draft Regulatory Decision was subject to consultation, with feedback received from consultees considered, before the final decision was made. The consultation took place over a period of 14 weeks. Following this, ANCA will make a Regulatory Decision having regard for the feedback received during the consultation. The planning authority must incorporate ANCA's Regulatory Decision and ANCA's reasons for the Regulatory Decision in its decision on the planning application.

The information and analysis that underpins this RD is supported by aircraft noise modelling and forecasts that have been provided by the Applicant. ANCA has commissioned independent reviews of this data as follows:

- **Appendix A** provides an overview of documents and data considered by ANCA as provided by the Applicant, prepared by Noise Consultants Limited
- **Appendix B** provides a review of the Applicant's passenger and aircraft movement forecasts, prepared by Infrata
- **Appendix C** provides a review of the Applicants aircraft noise modelling, prepared by Noise Consultants Limited
- **Appendix D** provides a benchmark on recent trends on Noise Insulation and Compensation schemes implemented in EU and the UK, prepared by Noise Consultants Limited
- **Appendix E** reviews forecast, runway use and restrictions considered in the noise modelling scenarios provided by the applicant along with associated noise contours, prepared by Noise Consultants Limited
- **Appendix F** presents the existing home insultation and property purchase schemes contour boundaries
- **Appendix G** presents ANCA's Noise Problem Report
- **Appendix H** presents the 2026 Noise Abatement Objective for Dublin Airport
- **Appendix I** 34B(7) Notice to applicant and response
- **Appendix J** presents the information used in the Cost Effectiveness Analysis for the identified measures, prepared by Noise Consultants Limited and Cambridge Economic Policy Associates.
- **Appendix K** The Final Regulatory Decision

7 Assessment and Identification of a Noise Problem

This section summarises ANCA's assessment and identification of the noise problem associated with the proposed development.

Based on the information provided in the Application, ANCA carried out an assessment of the noise situation at Dublin Airport in accordance with the European Communities (Environmental Noise) Regulations 2018 (S.I. No. 549 of 2018) and the Environmental Noise Directive. This assessment has been used to determine whether a noise problem would arise from the proposed development.

7.1 Introduction

Following the referral of the Application to ANCA in December 2023 by the Planning Authority, ANCA commenced its review and assessment. This was supported by technical reviews undertaken by ANCA's consultant team.

The outcome of the assessment was a determination that a noise problem would arise if the Application is granted as proposed. The main implications of the proposed development on aircraft noise exposure and the aspects of the noise problem are set out in the following sections.

7.2 Implications of Aircraft Noise Exposure

Based on the information provided in the NAP and the Application, it is noted that over the period 2006 to 2023, noise exposure levels at Dublin Airport had been increasing, particularly at night.

With respect to the impact of the proposed development, ANCA and its experts made a number of observations. These are summarised below[21]:

- Forecasts indicate that there will be an incremental increase in population exposure to aircraft noise, and consequently of the population highly annoyed (HA) and highly sleep disturbed (HSD), compared with the current 32mppa operational baseline
- The Application proposes an intensification of airport activity, expressed through increased passenger capacity and associated aircraft movements, including during night-time hours
- The Application does not propose new aircraft noise mitigation measures to address the potential increase in aircraft operations arising from the development

[21] Identification of a noise problem arising from planning application F23A/0781

- Existing property insulation schemes are based on the historical $L_{Aeq,16h}$ metric and the 92-day summer assessment period, whereas current evidence and guidance support the use of L_{den} and L_{night} indicators for assessing health impacts

- The Application does not demonstrate that the existing insulation schemes remain appropriate or sufficient mitigation for the predicted daytime and night-time noise impacts associated with the proposed development

7.3 Aspects of the Noise Problem determined by ANCA

Having regard for the outcomes of the assessment set out above, ANCA prepared a report in which a noise problem at Dublin Airport was identified[22]. This report identified two key aspects of a potential noise problem which may arise from the proposed development. They are set out below.

Aspect 1 – Increased Aircraft Activity and Population Noise Exposure. The Application proposes an increase in passenger capacity which will facilitate higher levels of aircraft operations across all assessment periods, including night-time. Forecast operating scenarios indicate that this increased activity has the potential to result in a modest but measurable rise in population exposure to aircraft noise across recognised health-based indicators, including those related to annoyance and sleep disturbance.

Aspect 2 – Absence of Appropriate Mitigation. The Application does not propose additional operational or passive mitigation measures, nor does it demonstrate that existing measures are sufficient to address the forecast increase in activity and exposure.

[22] Identification of a noise problem arising from planning application F23A/0781, January 2026

8 Noise Abatement Objective for Dublin Airport

8.1 Requirement for a Noise Abatement Objective

A Noise Abatement Objective (NAO) is a policy objective that is used to support decision making when managing the effects of aircraft noise. A Noise Abatement Objective is defined under the ICAO Balanced Approach. The objective of the Aircraft Noise Regulation includes facilitating the achievement of specific noise abatement objectives at the level of individual airports. It also requires that measures taken under that Regulation are no more restrictive than is necessary in order to achieve the NAO. The Act of 2019 also requires ANCA to monitor the effectiveness of noise mitigation measures and operating restrictions in achieving the NAO and, where monitoring indicates that the NAO is not being achieved, ANCA is required to take such action as in its opinion would be effective towards achieving the NAO.

The NAO is therefore an essential component of managing the aircraft noise around an airport.

8.2 NAO Review

In 2022, following consultation, ANCA defined a Noise Abatement Objective (NAO) for Dublin Airport ('the 2022 NAO'). The 2022 NAO was defined following the identification of a noise problem resulting from planning application F20A/0668, which sought to amend Conditions 3(d) and 5 of the North Runway Planning Permission (NRPP). That planning application was referred to as the North Runway Relevant Action (NRRA).

In accordance with Section 9 of the Act of 2019, ANCA is required to define, restate or amend the NAO as part of adopting the Balanced Approach where a noise problem at the airport has been identified. In addition, Action 3 of the Noise Action Plan for Dublin Airport 2024–2028 requires Fingal County Council to review the NAO, informed by the current noise situation and the policy context set out in the NAP.

A review of the 2022 NAO, provided in the NAO Review Report, sets out ANCA's considerations resulting in a proposal to amend the NAO. The amended 2026 NAO resulting from this review was the subject of public consultation for 14 weeks and could be viewed or downloaded for the duration of the consultation.

This Regulatory Decision report has been made with reference to the proposed amendments to the 2022 NAO, which is referred to as the 2026 NAO. Public consultation on the proposed amendments to the 2022 NAO was open for 14 weeks and was accompanied by an explanatory report.

8.3 Description of the 2026 NAO

The 2026 NAO for Dublin Airport policy objective is:

"Limit and reduce the long-term adverse effects of aircraft noise on health and quality of life, particularly at night, through measures that mitigate impacts and provide certainty to the communities and the airport operator as part of the sustainable development of Dublin Airport"

The measures and outcomes that the 2026 NAO intends to achieve are key to the assessment undertaken by ANCA in this chapter. The 2026 NAO describes primary measurable criteria which relate to the number of people HSD and HA using the methodology described in the Second Schedule of the ENR, which transposes Commission Directive 2020/367 into Irish law, which is based on the WHO Environmental Noise Guidelines 2018. The 2026 NAO requires that these measures are calculated from 45 dB L_{den} and 40 dB L_{night} which reflect the WHO recommendations.

The expected outcomes are re-baselined against the noise situation in 2023 rather than 2019. This reflects 2023 as being the most recent situation provided in the (NAP) and representative of the airport in its current form following the opening of its North Runway in 2022. It also has regard to the fleet modernisation that has occurred since 2019.

Priorities are also set by the 2026 NAO. These relate to levels of noise exposure where populations may experience harmful effects. These are:

- 55 dB L_{night} (a level of night-time noise exposure described by the WHO as increasingly dangerous for public health)
- 65 dB L_{den} (where a large proportion can be considered HA)

The 2026 NAO requires aircraft noise to be modelled in accordance with Annex II of the END, as amended, having regard for local noise and track keeping performance.

Under the 2026 NAO, noise exposure should be reduced compared to the situation in 2023 so that:

- The number of people highly sleep disturbed and highly annoyed in 2031 shall reduce by 20% compared to 2023
- The number of people highly sleep disturbed and highly annoyed in 2036 shall reduce by 25% compared to 2023
- The number of people highly sleep disturbed and highly annoyed in 2041 shall reduce by 30% compared to 2023

(2031, 2036 and 2041 are chosen to align with ENR – these are the “relevant years” for the purposes of ENR, being the years in which strategic noise maps will be produced for the airport).

The number of dwellings, schools and hospitals exposed to aircraft noise above 65 dB L_{den} and/or 55 dB L_{night} will be tracked, with the expectation that measures will be used to mitigate and/or limit the number of dwellings, schools and hospitals exposed in each relevant year under ENR.

The size of the 55 dB L_{den} and 50 dB L_{night} contours will be tracked with the expectation that these will reduce compared to 2023 in each relevant year under ENR. Noise mitigation measures may also be considered with reference to these contours.

The measurable outcomes set by the 2026 NAO, in form of the expected percentage reduction in the population highly annoyed and highly sleep disturbed are made more stringent than those they replace in the 2022 NAO.

In accordance with the process described in the Act of 2019, the next stage is to identify the measures to reduce the noise impact. This commences in the following section, which sets out the current inventory of noise mitigation measures in place at Dublin Airport and describes the 2023 noise situation as reported in the Noise Action Plan (2024 – 2028 NAP).

9 Current Inventory

This section presents the current noise management inventory and noise situation at Dublin Airport in line with Annex I of the Aircraft Noise Regulation. The current inventory and noise situation is presented for 2023 as this provides the latest situation reported in the NAP and is referenced within the 2026 NAO. In line with Annex I of the Aircraft Noise Regulation, the current inventory reports a description of Dublin Airport, associated aircraft activity and fleet mix, and noise exposure data. The existing noise management measures are also presented.

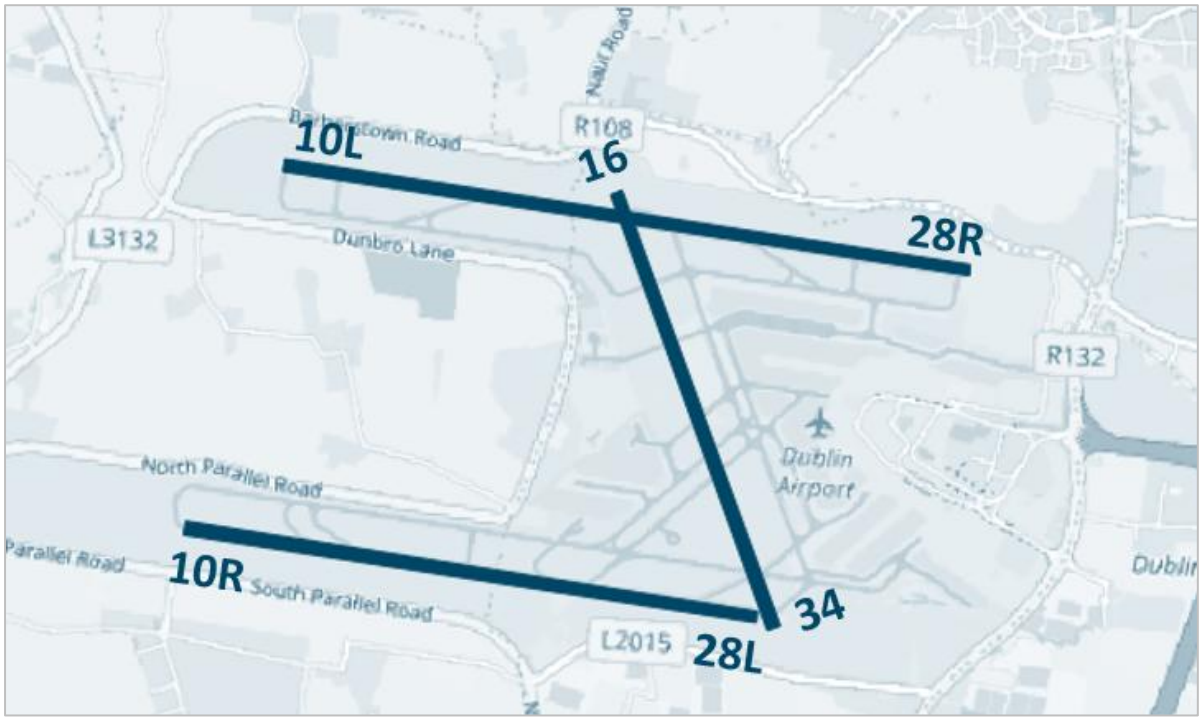
9.1 Description of Dublin Airport

Dublin Airport is located approximately 10 km north of Dublin City Centre, and c.5km from the County town of Swords near the M50 and M1 motorways.

Dublin Airport covers over 1,000 hectares and has three operational runways illustrated in **Figure 6**:

- Runway 10R/28L 'South Runway' (2,637m long) which runs in an east-west direction
- Runway 10L/28R 'North Runway' (3,110m long), which runs in an east-west direction, operational since August 2022
- Runway 16/34 'Crosswind Runway' (2,072m long) which lies on a north-west to south-east orientation

Figure 6: Runway Configuration Dublin Airport



Operations on Dublin Airport's North Runway began in August 2022 on a phased basis. Initially, the runway was in use between 09:00 and 13:00, with operating hours gradually extended until the full permitted schedule of 07:00 to 23:00 was implemented from July 2023.

The introduction of parallel runway operations required associated airspace modifications in 2022, which altered the distribution of aircraft movements and changed how aircraft noise is dispersed in communities surrounding the airport. A further airspace adjustment was introduced in February 2023, affecting westbound departure routes from the North Runway.

The Noise Action Plan sets out the flight paths currently used by aircraft operating at Dublin Airport, and these are illustrated in Figure 7 and Figure 8.

Figure 7: Dublin Airport – Easterly Tracks Post-North Runway presented in the Noise Action Plan for Dublin Airport 2024-2028 (Figure 9)

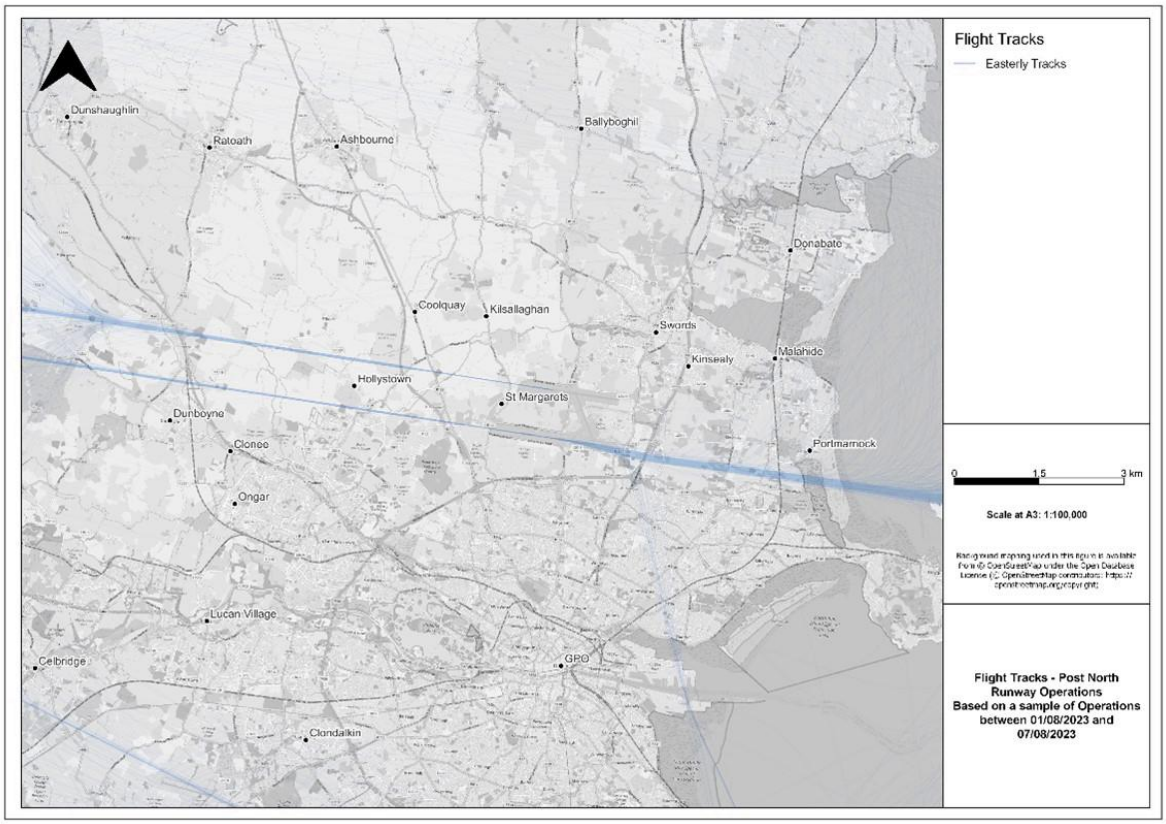
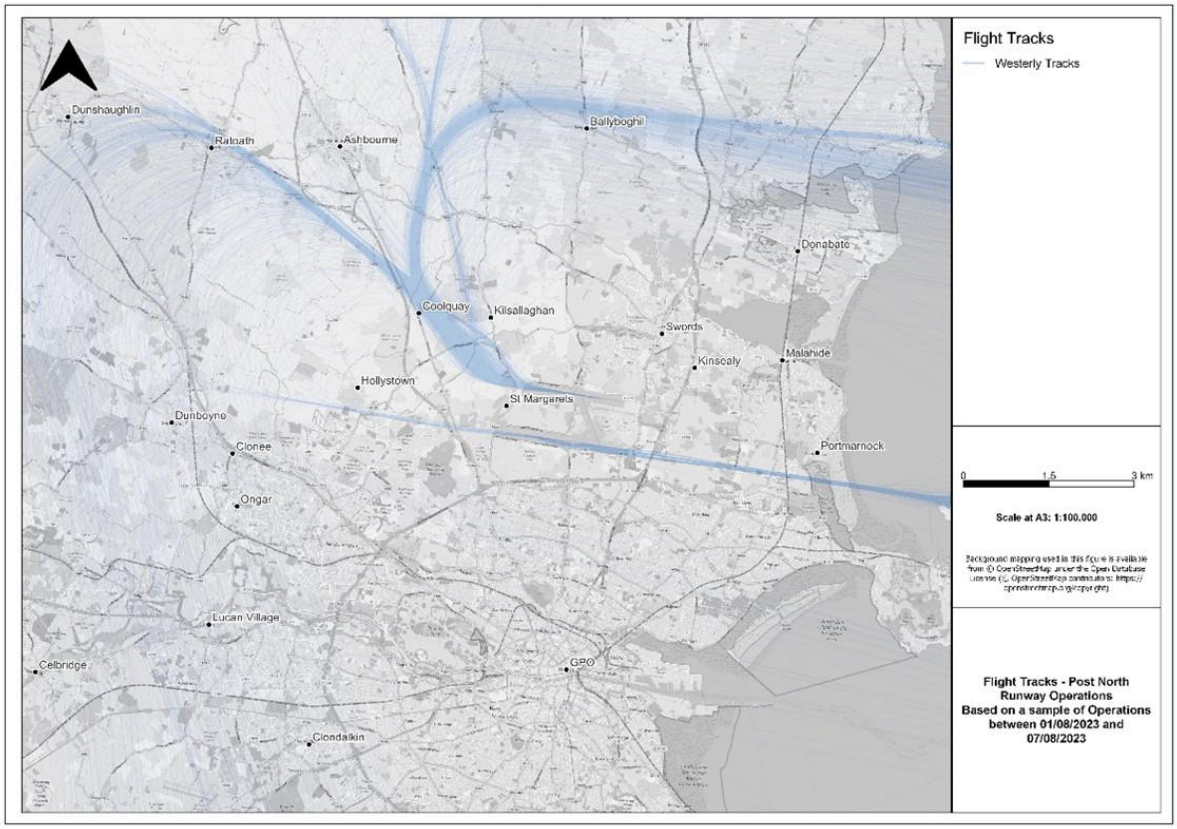


Figure 8: Dublin Airport –Westerly Tracks Post-North Runway presented in the Noise Action Plan for Dublin Airport 2024-2028 (Figure 10)



Data published by the Central Statistics Office (CSO) indicates that Dublin Airport handled 33.5 million passengers in 2023. Passenger numbers had previously peaked at almost 32.9 million served by 238,002 flight movements in 2019[23] prior to the disruption caused by the Covid-19 pandemic. The 2023 figure reflects post-pandemic recovery in economic activity and air travel demand. ANCA has been provided with data which describes airport activity in 2024. The data for 2024 indicates further growth, with passenger numbers reaching approximately 34.6 million and aircraft movements totalling 243,719. In 2025, the CSO reported that Dublin Airport facilitated a total of 245,554 flights, with 36.4 million passengers who travelled through Dublin Airport.

Dublin Airport is home to two major carriers: Ryanair and Aer Lingus. Movements by these carriers comprise most of the aircraft movements at Dublin Airport. Table 9-1 below summarises the fleet mix at Dublin Airport in 2023 as reported by the Applicant. This reporting has been expanded by ANCA to indicate the aircraft generation in this report.

[23] Noise Action Plan for Dublin Airport 2024-2028, Fingal County Council, December 2024

Table 9-1: Aircraft Movements and fleet mix operating at Dublin Airport in 2023.

Annual Movements in 2023					
Aircraft Type	**Generation Type**	**Annual Day**	**Annual Eve**	**Annual Night**	**Annual 24hr**
Airbus A300	G0	0	0	0	0
Airbus A306	G0	55	1	52	108
Airbus A319	G1	2,070	250	189	2,509
Airbus A320	G1	34,819	7,732	6,839	49,390
Airbus A320 neo	G2	6,594	1,562	455	8,611
Airbus A321	G1	1,795	584	944	3,323
Airbus A321 neo	G2	6,294	328	1,326	7,948
Airbus A330	G1	7,567	40	1,346	8,953
Airbus A330 neo	G2	6	1	1	8
Airbus A350	G2	624	1	382	1,007
ATR 42	G1	163	2	1	166
ATR 72	G1	17,398	2,938	1,106	21,442
BAe 146/Avro RJ	G0	0	0	0	0
Boeing 737-400	G0	42	27	555	624
Boeing 737-500	G0	2	0	0	2
Boeing 737-700	G0	253	71	35	359
Boeing 737-800	G1	47,585	17,474	10,204	75,263
Boeing 737 MAX	G2	15,402	5,129	4,889	25,420
Boeing 757	G0	1,651	334	409	2,394
Boeing 767	G0	2,775	518	845	4,138
Boeing 777	G1	1,525	605	805	2,935
Boeing 777X	G2	0	0	0	0
Boeing 787	G2	3,958	1	1,365	5,324
Bombardier CS300	G2	1,509	394	183	2,086
Bombardier Dash 8	G1	421	102	1	524
Convair 580	G0	0	0	0	0
Embraer E190/195	G1	5,277	1,570	601	7,448

Annual Movements in 2023					
Aircraft Type	**Generation Type**	**Annual Day**	**Annual Eve**	**Annual Night**	**Annual 24hr**
Embraer E190-E2	G2	562	265	119	946
HS748A	G0	0	0	0	0
Lockheed C130	G0	0	0	0	0
McDonnell Douglas	G0	0	0	0	0
MD83	G0	0	0	0	0
Piper PA34	G0	0	0	0	0
Shorts SD330/360	G0	0	0	0	0
Airbus A320 neo+	G3	0	0	0	0
Airbus A321 neo+	G3	0	0	0	0
Airbus A350 neo	G3	0	0	0	0
Boeing 787 NG	G3	0	0	0	0
Boeing 797 NMA	G3	0	0	0	0
Other	Assumes G0	7,424	1,431	855	9,710
Total		**165,771**	**41,360**	**33,507**	**240,638**

Table 9-1 shows that over the course of 2023, Dublin Airport operated 240,638 aircraft movements, of which 33,507 occurred during the night-time period. This translates to approximately 92 movements per night over the 2023 calendar year.

Aircraft generation is often used to describe aircraft types that have been designed to achieve progressive noise reductions in line with technological advancements and associated noise standards. Each generation represents a different era of aircraft technology and design.

All aircraft are certified against standards that are set internationally by ICAO. The primary reason for noise certification is to ensure that aircraft entering service are designed to incorporate the latest noise reduction technologies. These are a key contributor in progressively reducing noise impacts around airports. These standards take the form of noise limit values, referred to as 'chapters', and are defined in Volume I of Annex 16 to the Convention on International Civil Aviation.

Generation 2 (G2) aircraft represent the latest generation of aircraft in production. In the context of Dublin Airport, the most prevalent G2 aircraft type operating is the Boeing 737max. The Boeing 737max entered into service in 2017 and was designed to the Chapter 14 ICAO noise standard. The 737max replaced the Boeing 737-800 which is an example of a G1 aircraft.

The Boeing 737-800 entered into service in the late 1990s. Previous generations of the Boeing 737, such as the Boeing 737-400 are examples of G0 aircraft which first flew in the mid-1980s.

Validated noise modelling prepared by the Applicant's noise consultants, and reviewed in **Appendix C**, provides insights into the progressive reduction in aircraft noise through each aircraft generation. Using the Boeing 737 series aircraft as an example, average measured aircraft event levels with respect to the SEL[24] and L_{Amax}[25] metrics as reported by the Applicant at different noise monitoring terminals and for departures and arrivals are presented in Table 9-2 and Table 9-3 respectively.

Table 9-2: Example Average Measured Aircraft Departure Noise Event Levels by Generation at Noise Monitoring Terminals

Generation	Example Aircraft	NMT1 28L Departures		NMT2 10R Departures		NMT10 28L Departures	
		SEL	L_{ASmax}	SEL	L_{ASmax}	SEL	L_{ASmax}
G0	Boeing 737-400	87.6	74.9	84.6	74.1	86.5	76.5
G1	Boeing 737-800	86.5	76.4	85.8	75.4	87.4	77.2
G2	Boeing 737max 8	82.7	73.2	82.1	74.7	81.7	72.4

Table 9-3: Example Average Measured Aircraft Arrival Noise Event Levels by Generation at Noise Monitoring Terminals

Generation	Example Aircraft	NMT1 10R Arrivals		NMT2 28L Arrivals		NMT20 28L Arrivals	
		SEL	L_{ASmax}	SEL	L_{ASmax}	SEL	L_{ASmax}
G0	Boeing 737-400	89.1	82.2	86.6	78.7	83.7	74.6
G1	Boeing 737-800	88.0	79.7	84.8	75.8	82.8	72.6
G2	Boeing 737max 8	86.9	78.4	83.1	73.8	81.6	71.4

Table 9-4 presents the fleet mix reported by the Applicant in 2023 by aircraft generation. This information represents annual aircraft movements broken down by day, evening and night-time noise assessment periods and for the 24-hour day.

[24] SEL values reported by the Applicant are a logarithmic average
[25] LAmax values reported by the Applicant are an arithmetic average

Table 9-4: Fleet mix for 2023 by Aircraft Generation.

Generation	Annual Day	Annual Eve	Annual Night	Annual 24hr
G0	7.4%	5.8%	8.2%	7.2%
G1	71.6%	75.7%	65.8%	71.5%
G2	21.1%	18.6%	26.0%	21.3%
G3	0.0%	0.0%	0.0%	0.0%

The data presented in Table 9-4 shows that over 2023, the fleet mix at Dublin Airport is dominated by older G1 aircraft, with a smaller proportion current G2 aircraft. No G3 aircraft were in operation which is to be expected as these types are yet to enter service.

9.2 2023 Noise Situation

This section presents the current aircraft noise situation at Dublin Airport based on data for the 2023 calendar year. The 2023 dataset reflects post-pandemic recovery in airport activity and provides the baseline year for the noise assessment provided with the Application. The 2026 NAO references the 2023 noise situation however its measurable criteria are framed having regard to long-term average modal split assumptions to ensure stability and consistency over time, particularly when forecasting noise impacts.

Table 9-5: Distribution of aircraft movements between runway directions derived using the 10-year average (2013–2022).

Long-Term Average Modal Split		
Runway	s Arrivals	Departures
10L/10R	22.6%	22.6%
28L/28R	76.4%	76.4%
16	0.71%	0.71%
34	0.29%	0.29%

Following the opening of the North Runway, the Crosswind Runway (16-34) is used only for essential operations (e.g. during periods of strong crosswinds), as set out in Condition 4 of the North Runway planning permission. For the purposes of noise modelling, future usage of the Crosswind Runway is therefore assumed to account for 1% of total aircraft movements, with the remaining 99% of aircraft movements operating on the two parallel runways.

Details of noise contours for the relevant previous years are provided in the Noise Action Plan for Dublin Airport 2024 - 2028[26], prepared in accordance with the European Communities (Environmental Noise) Regulations 2018. The NAP outlines the noise situation reported for

[26] Noise Action Plan for Dublin Airport 2024 -2028, December 2024

2023, identifies areas where improvements may be needed, and includes comparisons with the noise situation reported under earlier rounds of the Regulations in 2021, 2016, 2011, and 2006.

The population exposure statistics are summarised in in Table 9-6.

Table 9-6: Noise exposure statistics for the 2023 noise situation.

Metric	dB Band	Population Exposure	
		2023 Situation Actual Modal Split	2023 Situation Long-Term Average Modal Split
L_{den}	≥45	423,513	434,237
	≥50	134,896	135,015
	≥55	37,454	35,621
	≥60	9,226	9,049
	≥65	321	321
	≥70	20	21
	≥75	0	0
L_{night}	≥40	224,076	225,063
	≥45	66,327	65,260
	≥50	22,738	22,579
	≥55	4,465	4,456
	≥60	168	169
	≥65	8	8
	≥70	0	0
Highly Annoyed (HA ≥45 L_{den})	Total	71,384	72,219
Highly Sleep Disturbed (HSD ≥40 L_{night})	Total	32,563	32,643

Noise exposure contours for 2023 for the L_{den} and L_{night} metrics are presented in Figure 9 and Figure 10 respectively.

Figure 9: Day-evening-night Noise Exposure in 2023 (L_{den})

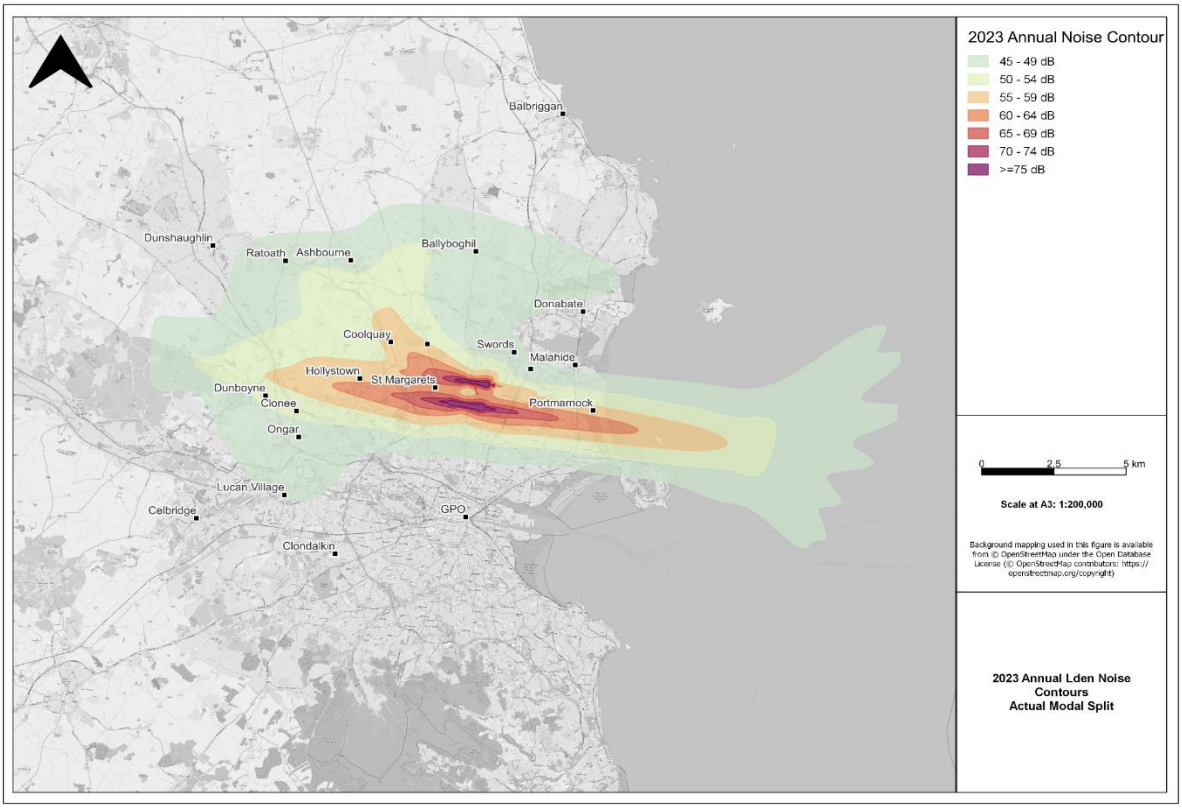
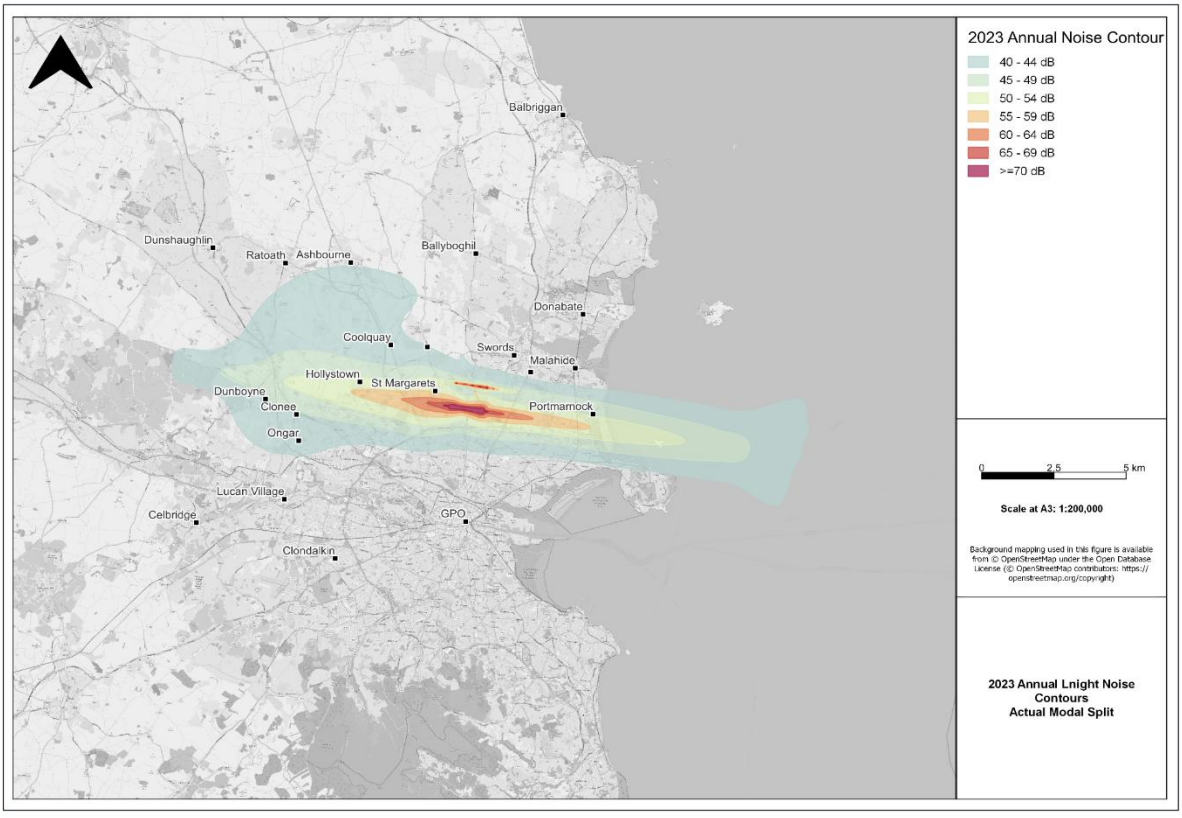


Figure 10: Night Noise Exposure in 2023 (L_{night})



are available on the Fingal County Council website at: https://www.fingal.ie/noise-action-plan.

9.3 Environmental objectives for the airport and the national context

The relevant environmental objectives have been outlined in sections 5 and 8 of this report.

9.4 Existing Noise Mitigation Measures

The latest noise management inventory presenting the existing measures in place at Dublin Airport is set out in the Dublin Airport Noise Management Plan July 2025 – 2028[27].

These measures are summarised in the following sections and are presented with respect to the categories of measures as they relate to the Balanced Approach.

9.4.1 Reduction of Noise at Source

There are currently no specific measures seeking to reduce noise at source at Dublin Airport. NS-1 relates to initiatives which seek to promote and introduce quieter aircraft.

Table 9-7: Actions relating to the Reduction of Noise at Source as reported in the Dublin Airport NAP

Ref	Description	Source
NS-1	Promote quieter aircraft through incentives such as Fly Quiet programmes	FCC NAP

The Applicant has provided an update on these actions[28] in response to the Direction to Provide Information. This response indicates that these actions are being addressed through an Environmental Charging Scheme.

At Dublin Airport the aeronautical charges levied on all aircraft movements now includes a landing fee component based on the aircraft's noise quota count (QC) value. These noise charges are based on a set fee per movement and are outlined in the Dublin Airport Charges 2025 document[29].

ANCA is supportive of such initiatives which seek to promote and encourage the use of quieter aircraft at Dublin Airport.

[27] Dublin Airport Noise Management Plan July 2025 – 2028, https://www.dublinairport.com/docs/default-source/noise-reports/dublin-airport-noise-management-plan--2025-2028.pdf (Accessed: 1 April 2026)

[28] Dublin Airport Infrastructure Application - Initial Response to ANCA Request for Further Information, November 2025, Appendix X and RFI ITEM E-38 Response

[29] Dublin Airport Charges 2025 Including Terms & Conditions of Use in relation to Airport Charges. Effective from 30 March 2025 until further notice.

9.4.2 Noise Abatement Operating Procedures

The Applicant has identified noise abatement (NA) operating procedures which are currently in place at Dublin Airport. These procedures are set out in Table 9-8 below.

Table 9-8: Actions relating to the Noise Abatement (NA) Operating Procedures as reported in the Dublin Airport NAP

Ref	Description	Source
NA-1	Develop incentives for quieter aircraft operations	Dublin Airport Noise Management Plan 2025 - 2028
The Dublin Airport Noise Management Plan 2025 – 2028 states that quieter aircraft types, particularly at night, are promoted through incentives such as a "Fly Quiet" programme or environmental charges scheme should continue to be progressed. Environmental charges at Dublin Airport incorporate aircraft noise performance as measured by aircraft Quota Count. These charges apply to both the day and night-time periods. Details of these charges are provided in the Dublin Airport Charges 2026 including Terms and Conditions of Use in relation to Airport Charges.[30]		
NA-2	Preferential Runway Use	NRPP Condition 3(a)-(c)
Condition 3(a)-(c) of the North Runway Planning Permission describes a three-runway preferential runway use programme. The aim of the measure is for the Airport to use its runways in a manner so that aircraft avoid noise-sensitive areas during take-off and landing. The condition requires that: **a) the parallel runways (10R-28L and 10L-28R) shall be used in preference to the cross runway, 16-34** **b) when winds are westerly, Runway 28L shall be preferred for arriving aircraft. Either Runway 28L or 28R shall be used for departing aircraft as determined by air traffic control** **c) when winds are easterly, either Runway 10L or 10R as determined by air traffic control shall be preferred for arriving aircraft. Runway 10R shall be preferred for departing aircraft** **except in cases of safety, maintenance considerations, exceptional air traffic conditions, adverse weather, technical faults in air traffic control systems or declared emergencies at other airports.**		
NA-3	Noise Preferential Routes (NPRs) and Flight-Track Keeping	AIP
The aim of the measure is to reduce overall noise impacts by directing aircraft along flight paths designed to avoid built-up areas. These designated corridors are known as Noise Preferential Routes (NPRs), or Environmental Corridors. **NPR compliance is defined by close adherence to the published Standard Instrument Departure (SID) track. Aircraft are considered to be operating on-track while within the NPR until either the end of the route is reached or the minimum required altitude is achieved (3,000 ft for the South and Cross Runways and 4,000 ft for the North Runway).**		

[30] Available here: https://www.dublinairport.com/docs/default-source/airport-charges/dublin-airport-charges-2026-terms-and-conditions.pdf?sfvrsn=92ec8522_2 (Accessed: 1 April 2026)

Ref	Description	Source
After this point, Air Traffic Control (ATC) may vector aircraft onto a direct routing toward their onward destination.		
NA-4	Noise Abatement Departure Procedures (NADPs) Climb Profile	AIP
Noise Abatement Departure Procedures (NADPs) are operational climb profiles that specify rates of climb and thrust settings to manage aircraft noise following take-off. These procedures are designed to reduce noise impacts on sensitive receptors either close to, or further from, the airport. **Two standard stepped climb profiles are commonly applied: NADP 1 and NADP 2. Both are defined in ICAO's *Procedures for Air Navigation Services – Aircraft Operations* (Doc 8168, Volume I).** **Under this measure, NADP 2 is the most common procedure operated at Dublin airport, with thrust reduction (cutback) at 1,500 feet**		
NA-5	Continuous Climb Operations	AIP
CCO is a procedure designed to avoid inefficient segments of level flight during the climb profile reducing the noise experienced on the ground and fuel consumption. This is achieved by limiting any interruption in the aircraft's climb profile to a cruise altitude and reduce the noise experienced on the ground caused by changing thrust levels as well as increasing the height of the aircraft above noise-sensitive areas. **The Applicant has confirmed that the airspace designs at Dublin Airport facilitate this with the support of Air Traffic Control (ATC). Details of the CCO procedure were provided by the Applicant in response to the Direction to Provide Information[31].**		
NA-6	Continuous Descent Approach	AIP
CDA is a procedure in which an aircraft descends from an optimal position with minimum thrust and avoids inefficient segments of level flight and keeps the aircraft as high as possible for as long as possible. This procedure is currently in place at Dublin Airport and aims to reduce the noise on the ground. **The Applicant has confirmed that the current procedure is managed by the IAA in their role as the Air Navigation Service Provider (ANSP). Details of the CDA procedure were provided by the Applicant in response to the Direction to Provide Information[32].**		
NA-7	Reverse Thrust	AIP

[31] Dublin Airport Infrastructure Application - Initial Response to ANCA Request for Further Information, November 2025, Appendix X and RFI ITEM A-1-3 Response

[32] Dublin Airport Infrastructure Application - Initial Response to ANCA Request for Further Information, November 2025, Appendix X and RFI ITEM A-1-3 Response

Ref	Description	Source
Reverse thrust is used to assist aircraft deceleration following landing by temporarily redirecting engine thrust. Its use can significantly increase noise levels while the aircraft is on the runway. **To reduce the night-time noise impact, reverse thrust procedure must not be used at night, unless required for safety reasons. This noise abatement procedure is reported within the AIP[33].**		
NA-8	Engine Ground Running	AIP
To reduce noise impacts during the most noise sensitive hours, any engine ground running at Dublin Airport is not allowed to be undertaken between 20:00 and 07:00. Only aircraft smaller than Code C aircraft types are allowed to perform engine tests between 07:00 and 09:00. These measures are set out in AIP[34], which also prescribes specific locations and operational hours for aircraft engine test runs. Permission for all such tests need to be obtained from Dublin Airport.		
NA-9	APU Usage	Dublin Noise Management Plan July 2025 – 2028
The Dublin Airport Noise Management Plan 2025 – 2028 discusses research covering potential APU usage monitoring and reduction. Such initiatives may support reductions in aircraft ground noise and can be achieved through infrastructure such as the use of Fixed Electrical Ground Power (FEGP) and Ground Power Units (GPUs) at stand, and through changes to airline Standard Operating Practices (SOPs) to reduce APU usage during taxiing.		
NA-10	Delayed Landing Gear Deployment	Dublin Noise Management Plan July 2025 – 2028
The Dublin Airport Noise Management Plan 2025 – 2028 discusses research covering Delayed Landing Gear Deployment monitoring and noise reduction. During an aircraft's final approach on landing, aircraft must deploy their landing gear. When landing gear is deployed, aircraft will produce more noise through a combination of increased aerodynamic noise and increase engine use for stablisation purposes. The point at which aircraft deploy their landing gear is set by airlines through their Standard Operating Practices (SOPs). The SOPs specify this point along with associated flap settings. This point is usually defined as an altitude e.g. no later than 1,500ft above the aerodrome level however this will vary between airlines and their fleets. The UK CAA advises that aircraft which deploy their landing gear deployment early can produce 3 – 5 dB more noise than those that delay deployment[35].		

The Applicant has noted that all noise abatement operating procedures in place at Dublin Airport are subject to monitoring and reporting. Under Section 21 of the Act of 2019, ANCA

[33] Aeronautical Information Publication, EIDW AD 2-1, EIDW AD 2.21 NOISE ABATEMENT PROCEDURES, Paragraph 7

[34] Aeronautical Information Publication, EIDW AD 2-1, EIDW AD 2.20 LOCAL TRAFFIC REGULATIONS, Paragraph 5

[35] UK Civil Aviation Authority, CAP1165 Managing Aviation Noise, 2014

as the Competent Authority is responsible for monitoring compliance with noise mitigation measures and operating restrictions, and the introduction of operating restrictions at Dublin Airport.

9.4.3 Land Use Planning

The Applicant has identified three land use planning and management measures currently in place at Dublin Airport. These measures have been confirmed by ANCA and are set out in Table 9-9 below.

Table 9-9: Actions relating to the Land Use Planning and management measures as reported in the Dublin Airport NAP

Ref	Description	Source
LU-1	Residential Noise Insulation Scheme (RNIS)	NRPP Condition 7
The RNIS eligibility boundary was originally based on a forecast 63 dB $L_{Aeq,16hr}$ contour. **This scheme is a requirement of Condition 7 of the North Runway Planning Permission. Condition 7 states that:** ***"Prior to commencement of development, a scheme for the voluntary noise insulation of existing dwellings shall be submitted to and agreed in writing by the planning authority. The scheme shall include all dwellings predicted to fall within the contour of 63 dB L_{Aeq16} hours within 12 months of the planned opening of the runway for use. The scheme shall include for a review every two years of the dwellings eligible for insulation."*** **In accordance with Conditions 7 and 10, the scheme is subject to biennial review. The first such review was completed in 2024, based on 2023 operational data.** **Dublin Airport is responsible for delivering the RNIS. Insulation measures delivered may include:** • **Replacement of external windows and doors of habitable rooms to improve sound insulation** • **Installation of acoustic vents that allow ventilation while reducing noise levels** • **Installation of chimney caps and dampers to minimise noise entering through chimneys** • **Installation of attic and roof insulation** **The total cost of the scheme to date is valued at €14.085m. Given the nature of the scheme, all properties are individual properties with no housing estates included with the costs being considered on a case-by-case basis, therefore we are unable to provide a breakdown of typical costs per house type.**		
LU-2	Voluntary Dwelling Purchase Scheme (VDPS)	NRPP Condition 9

Ref	Description	Source
	The Voluntary Dwelling Purchase Scheme was established in response to Condition 9 of the North Runway Planning Permission, which states: ***"Prior to commencement of development, a scheme for the voluntary purchase of dwellings shall be submitted to and agreed in writing by the planning authority. The scheme shall include all dwellings predicted to fall within the contour of 69 dB $L_{Aeq,16hr}$ within twelve months of the planned opening of the runway for use. Prior to the commencement of operation of the runway, an offer of purchase in accordance with the agreed scheme shall have been made to all dwellings coming within the scope of the scheme and such offer shall remain open for a period of 12 months from the commencement of use of the runway. Reason: In the interest of residential amenity."*** **Eligibility to the scheme is currently based on a forecast 2022 69 dB $L_{Aeq,16hr}$ noise contour, provided at the time the scheme was approved in 2016. The scheme is voluntary and places no obligation on any household to participate. The scheme comprises an offer to purchase the eligible household with a premium on the current market value of the residence.** **Under the VDPS, a total of 41 homes have been offered buy-out, with six purchases completed as of September 2024. Since initiating the Scheme in 2017. daa has offered buy-out to 36 more homes than required under Condition 9 of North Runway's planning permission. Only five dwellings are located within the 69 dB contour; however, participation in the Scheme has been extended to take into account the contours used in the original planning application[36].**	
LU-3	Voluntary School Insulation Scheme (SIS)	NRPP Condition 6
	The Schools Sound Insulation Scheme was established in response to Condition 6 of the North Runway Planning Permission, which states: ***"Prior to commencement of development, a scheme for the voluntary noise insulation of schools shall be submitted to and agreed in writing by the planning authority (in consultation with the Department of Education and Science). The scheme shall include all schools and registered pre-schools predicted to fall within the contour of 60 dB $L_{Aeq\ 16}$ hours within twelve months of the planned opening of the runway to use and, in any event, shall include Saint Margaret's School, Portmarnock Community School, Saint Nicholas of Myra, River Meade and Malahide Road schools. The scheme shall be designed and provided so as to ensure that maximum noise limits within the classrooms and school buildings generally shall not exceed 45 dB $L_{Aeq\ 8}$ hours (a typical school day). A system monitoring the effectiveness of the operation of the scheme for each school shall be agreed with the planning authority and the results of such monitoring shall be made available to the public by the planning authority."*** **The scheme was approved by FCC in 2016 and provides voluntary sound insulation for all schools and registered pre-schools located within a predicted 2022 60 dB $L_{Aeq,16hr}$ noise contour provided at the time the scheme was approved. Condition 6 requires that maximum noise levels within the school buildings shall not exceed 45 dB $L_{Aeq,8hr}$ where the 8-hour period relates to a "typical school day".**	

[36] daa Tranche 2, Cover Letter, June 2025, Section 2.2.1.

Ref	Description	Source
Under the SIS, insulation works have been completed at three schools at a cost of €2m, with works ongoing at a further two schools in 2025[37].		
LU-4	Residential Sound Insulation Ground Scheme (RSIGS)	ACP Planning Approval Condition 6
The Residential Sound Insulation Grant Scheme (RSIGS) is a requirement under Condition 6 of the ACP Planning Approval for the North Runway Relevant Action. The scheme has been developed to help mitigate the night-time noise impacts experienced by some dwellings. The scheme remains subject to planning authority approval; however the daa have indicated that the scheme will seek to improve the sound insulation performance of bedrooms in eligible dwellings through a package of specific noise reduction measures. The daa have indicated that up to €30,000 per dwelling will be made available for noise insulation works however this figure is to be agreed with the planning authority and ANCA. **Eligibility to the scheme is for eligible bedrooms in dwellings exposed to:** • **50 dB L_{night} with an increase of +9 dB arising from the first full year of night-time North Runway operations only** • **Experiencing aircraft event levels of 80 dB L_{Amax} as calculated and reported annually for the previous year** • **Exposed to 55 dB L_{night} to be reviewed every 2 years commencing in 2027** **Attic or loft rooms used as sleeping accommodation do not qualify as eligible bedrooms.** **This ACP Planning Approval is currently the subject of judicial review proceedings. Further detail is provided in Section 3.2.1 of this report.**		

Land use and development planning measures are also in place around Dublin Airport managed through the Fingal Development Plan 2023 – 2029[38], as outlined in section 5.1.5 and the 2026 NAO Review Report. This Fingal Development Plan provides key policy in relation to how aircraft noise from Dublin Airport will be managed through the planning system. This is addressed using noise zones which are presented in areas around Dublin Airport.

9.4.4 Operating Restrictions

There are two existing Operating Restrictions (Table 9-10). There are three Operating Restrictions (Table 9-11) planned to replace the existing Operating Restrictions when introduced.

[37] daa Tranche 2, Cover Letter, June 2025, Section 2.2.1.

[38] Fingal County Council (April 2023). Fingal Development Plan 2023 – 2029 – Written Statement [online]. Available at: https://www.fingal.ie/sites/default/files/2023-10/Fingal%20Development%20Plan%2030.08.23_V4_WEB.pdf

At this time, the following legal proceeding are ongoing:

- Daa has sought judicial review of FCC's decision to enforce Measure NRPP-PC-2 (see Table 9-10) and the High Court has stayed that decision pending determination of those proceedings
- Ryanair, Aer Lingus have applied for judicial review with the aim of quashing Measure NRRA-PC-3 (see Table 9-11) of the ACP Planning Approval
- SMTW Environmental Group has sought judicial review to quash ACP Permission Reference PL06F.314485 dated 16 July 2025 ('the ACP Planning Approval'), which provides for Measures NRRA-PC-1, NRRA-PC-2 and NRRA-PC-3, in its entirety
- The European Commission also notified ACP that it considers that NRRA-PC-3 (see Table 9-11) was not adopted in accordance with Balanced Approach. ACP is considering its response to that notification

As both sets of measures (as described in Table 9-10 and Table 9-11) are presumptively valid, they have both been recorded here as existing and planned measures in the Current Inventory.

Further detail is provided in Section 3.2 of this report.

Table 9-10: Operating Restriction attached to the North Runway Planning Permission

Ref	Description	Source
NRPP-PC-1	Runway 10L-28R shall not be used for take-off or landing between 23:00 and 07:00	NRPP Condition 3(d)
Condition 3(d) of the North Runway Planning Permission requires that: ***"On completion of construction of the runway hereby permitted, the runways at the airport shall be operated in accordance with the mode of operation – Option 7b – as detailed in the Environmental Impact Statement Addendum, Section 16 as received by the planning authority on the 9th day of August, 2005 and shall provide that –*** ***(d) Runway 10L-28R shall not be used for take-off or landing between 2300 hours and 0700 hours*** ***except in cases of safety, maintenance considerations, exceptional air traffic conditions, adverse weather, technical faults in air traffic control systems or declared emergencies at other airports."***		
NRPP-PC-2	The average number of night-time aircraft movements at the airport shall not exceed 65/night (between 23:00 and 07:00 when measured over the 92-day modelling period	NRPP Condition 5

Ref	Description	Source
Condition 5 of the NRPP restricts the number of night-time aircraft movements at Dublin Airport. Condition 5 states that: ***"On completion of construction of the runway hereby permitted, the average number of night-time aircraft movements at the airport shall not exceed 65/night (between 2300 hours and 0700 hours) when measured over the 92 day modelling period as set out in the reply to the further information request received by An Bord Pleanála on the 5th day of March, 2007"***		

Table 9-11: Operating Restriction attached to the ACP Planning Approval

Ref	Description	Source
NRRA-PC-1	Night-time Noise Quota Scheme (NQS) with an annual limit of 16,260	ACP Planning Approval Condition 1
Condition 1 of the ACP Planning Approval revokes the night-time aircraft movement limit set under Condition 5 of the NRPP (see Measure NRPP-PC-2 of Table 9-10) and replaces it with an annual noise quota scheme, as follows: ***"The Airport shall be subject to a Noise Quota Scheme (NQS) with an annual limit of 16,260 between 23:00 and 07:00 (local time) with noise-related limits on the -aircraft permitted to operate at night."*** **Further details of how the NQS is to be applied are detailed in Parts 1 – 4 of the Condition.**		
NRRA-PC-2	Runway 10L-28R shall not be used for take-off or landing between 00:00 and 06:00	ACP Planning Approval Condition 2
Condition 2 of the ACP Planning Permission for NRRA amends Condition 3(d) of the NRPP so that: ***"On completion of construction of the runway hereby permitted, the runways at the airport shall be operated in accordance with the mode of operation – Option 7b – as detailed in the Environmental Impact Statement Addendum, Section 16 as received by the planning authority on the 9th day of August, 2005 and shall provide that –*** ***3(d) Runway 1OL28R shall not be used for take-off or landing between 00:00 and 06:00 (local time) except in cases of safety, maintenance considerations, exceptional air traffic conditions, adverse weather, technical faults in air traffic control systems or declared emergencies at other airports or where Runway 1OL/28R length is required for a specific aircraft type."***		
NRRA-PC-3	The airport shall be subject to an annual aircraft movement limit of 35,672 between the night-time hours of 2300 and 0700 (local time).	ACP Planning Approval Condition 3

Ref	Description	Source
Condition 3 of the ACP Planning Permission for NRRA sets a limit on night-time aircraft movements. It states: ***"The airport shall be subject to an annual aircraft movement limit of 35,672 between the night-time hours of 2300 and 0700 (local time)."***		

10 Forecast without New Measures

In line with Annex I of the Aircraft Noise Regulation this section presents a forecast without new measures. As established in Section **Error! Reference source not found.** which describes the proposed development, the Applicant has not brought forward any new measures with the Application. This section presents forecasts to demonstrate the impact of the proposed development on the noise situation.

10.1 Introduction

This section presents a forecast without new measures and a forecast of a supplemental scenario provided by the Applicant. In line with the Annex I of the Aircraft Noise Regulation, this section provides:

- A description of airport development already approved and, in the pipeline
- Projected future fleet mix and estimated growth
- An assessment and description of the noise climate
- Corresponding forecast noise contours including an assessment of the number of people affected by aircraft noise
- Examination against the NAO.

In line with the description of the Application as set out in **Section 3**, the Application seeks to increase passenger movements from 32mppa to 40mppa through an increase of the permitted passenger capacity and associated infrastructure.

The forecast without new measures consists of two scenarios:

The outcomes associated with Operating Restrictions NRPP-PC-1 and NRPP-PC-2 from the current inventory; ('the **NRPP Scenario**')

The outcomes associated with Operating Restrictions NRRA-PC-1, NRRA-PC-2 and NRRA-PC-3 from the current inventory ('the **NRRA Scenario**')

The Applicant has also provided data, including forecasts, of another scenario ('the Supplemental Scenario') based on the noise environment with the measures proposed in the ANCA/FCC decision on the North Runway Relevant Action Application (FCC Planning Permission Register Reference F20A/0668). Although these were superseded by NRRA-PC-1, NRRA-PC-2 and NRRA-PC-3, an additional forecast based on this scenario ('the **Supplemental Scenario'**) is provided in this section for information only. It will be apparent that the differences between forecasts for the NRRA Scenario and Supplemental Scenario are slight.

As the Applicant has not brought forward any additional noise measures with the Application, the noise inventory in the forecast without new measures can be assumed to remain the same as the current inventory (presented in **Section 6**) save for any changes that would arise through the scenarios as set out below.

Table 10-1: Comparison of Night-time Operating Scenarios and Associated Noise Management Measures

Night-time Operating Scenario	Assumption	Impact on Noise Management Inventory
NRPP Scenario	Night-time operations in line with Conditions 3(d) and 5 of the North Runway Planning Permission.	**Reduction of Noise at Source** Same measures in place as in the current inventory set out in Section 6.
		Noise Abatement Operating Procedures Same measures in place as in the current inventory set out in Section 6.
		Land Use Planning Residential Noise Insulation Scheme (RNIS), School Insulation Scheme (SIS), and Voluntary Dwelling Purchase Scheme (VDPS) in place, as set out in Section 6.
		Operating Restrictions North Runway closed 23:00–07:00 except for safety, maintenance, exceptional ATC, weather, technical faults, or declared emergencies. Average night-time movements capped at 65/night over 92-day modelling period, as set out in Section 6.
NRRA Scenario	Night-time operations in line with ACP's North Runway Relevant Action (NRRA) Regulatory Decision of July 2025, including the annual Noise Quota Scheme and a limit of 35,672 night-time aircraft movements per year.	**Reduction of Noise at Source** Same measures in place as in the current inventory set out in Section 6.
		Noise Abatement Operating Procedures Same measures in place as in the current inventory set out in Section 6.
		Land Use Planning Residential Noise Insulation Scheme (RNIS), School Insulation Scheme (SIS), Voluntary Dwelling Purchase Scheme (VDPS), and Residential Sound Insulation Grant Scheme (RSIGS) in place. The RSIGS provides grants for residential sound insulation to mitigate night-time aircraft noise exposure (including dwellings within the 55 dB L_{night} or N80 L_{Amax} contours), as set out in Section 6.
		Operating Restrictions

Night-time Operating Scenario	Assumption	Impact on Noise Management Inventory
		Routine north runway night-time closure reduced to 00:00–06:00, allowing north runway use between 23:00–00:00 and 06:00–07:00. Annual Quota Count Scheme limit of 16,260 QC units (23:00–07:00). Annual night-time movement limit of 35,672 movements, as set out in Section 6.
Supplemental Scenario	Night-time operations in line with ANCA's North Runway Relevant Action (NRRA) Regulatory Decision of June 2022, allowing use of the North Runway during 23:00–00:00 and 06:00–07:00, with a Noise Quota Scheme (NQS) in place.	**Reduction of Noise at Source** Same measures in place as in the current inventory set out in Section 6.
		Noise Abatement Operating Procedures Same measures in place as in the current inventory set out in Section 6.
		Land Use Planning Residential Noise Insulation Scheme (RNIS), School Insulation Scheme (SIS), and Voluntary Dwelling Purchase Scheme (VDPS) in place, as set out in Section 6. Residential Sound Insulation Grant Scheme (RSIGS) in place. The RSIGS provides grants for residential sound insulation to mitigate night-time aircraft noise exposure (including dwellings within the 55 dB L_{night})
		Operating Restrictions Routine north runway night-time closure reduced to 00:00–06:00, allowing north runway use between 23:00–00:00 and 06:00–07:00. Annual Quota Count Scheme limit of 16,260 QC units (23:00–07:00).

10.2 Forecast Aircraft Movements and Fleet Mix

Three primary situations have been selected for assessment of the noise impact arising from the Application. These consider:

- The forecast situation without the proposed development which adopts an operational baseline of 32mppa
- The forecast situation with the proposed development which adopts an operational throughput of 40mppa

Each of the with and without Proposed Development forecasts have been assessed under the NRPP Scenario, the NRRA Scenario and the Supplemental Scenario.

As outlined above, a series of forecast scenarios and assessment years have been provided with the Application and have been used to present the potential noise impacts of the proposed development. ANCA has considered three assessment years from these forecasts that represent forecast noise exposure with the proposed development:

- 2027 - Identified as the likely worst-case interim year with respect to noise output before the Airport is forecast to reach its proposed 40mppa passenger capacity limit. Forecasts for this year have been evaluated for all scenarios
- 2031 - The first year in which the Applicant forecasts to reach its proposed 40 mppa passenger capacity across its forecasts. Forecasts for this year have been evaluated under the NRRA Scenario and Supplemental Scenario as the Applicant does not forecast reaching the 40mppa passenger capacity with the restrictions set by the NRPP Scenario in this year. This forecast year also aligns with the first evaluation year of the 2026 NAO
- 2034 - the first year in which the Applicant forecasts to reach its proposed 40 mppa passenger capacity under the NRPP Scenario

Table 10-2 presents a summary of the forecast aircraft movements and passenger numbers for all scenarios.

Table 10-2: Forecast passenger numbers and aircraft movements by period under different years, development and night-time operating condition scenarios

Development Scenario	Year and Night-Time Operating Condition Scenario	Annual Passengers (millions)	Annual Aircraft Movements			Summer Aircraft Movements[39]	
		24 - hours	Day	Evening	Night	Day	Night
Without Proposed Development **Assuming the Airport remained capped at 32mppa**	2027 NRPP Scenario	32.0m	159,460	52,082	16,445	59,321	5,200
	2027 NRRA Scenario	32.0m	156,735	50,168	32,890	57,512	10,400
	2027 Supplemental Scenario	32.0m	156,735	50,168	32,890	57,512	10,400
	2031 NRRA Scenario	32.0m	156,735	50,168	32,890	57,512	10,400
	2031 Supplemental Scenario	32.0m	156,735	50,168	32,890	57,512	10,400
	2034 NRPP Scenario	32.0m	159,460	52,082	16,445	59,321	5,200
With Proposed Development **Reflecting proposals made in the Application to increase passenger capacity to 40mppa**	2027 NRPP Scenario	33.2m	162,607	53,561	16,445	60,748	5,200
	2027 NRRA Scenario	35.6m	169,631	51,641	35,167	61,700	11,120
	2027 Supplemental Scenario	35.6m	169,631	51,641	35,167	61,700	11,120
	2031 NRRA Scenario	40.0m	187,974	55,344	35,673	67,608	11,280
	2031 Supplemental Scenario	40.0m	186,739	54,808	37,444	67,048	11,840
	2034 NRPP Scenario	40.0m	194,281	58,156	16,445	71,100	5,200

Annual passenger throughput reflects the demand assumptions set out for each assessment year, increasing to 40.0mppa in 2031 under the With Development forecasts for the NRRA Scenario and Supplemental Scenario, and 2034 for the NRPP Scenario. All forecasts assume

[39] 92-day summer period from 16 June to 15 September inclusive

that the existing flight paths remain unchanged. As such, any changes in predicted noise exposure would occur within areas already affected by existing aircraft operations.

Annual night-time movements across the forecasts and scenarios range from 16,445 to 32,890 without the Proposed Development under the NRPP and NRRA scenarios in 2027 and 2031 respectively. Under the NRRA scenario, night-time movements are higher in 2031 with the Proposed Development than without. With the Proposed Development and with the NRRA, the number of night-time movements is forecast to reach the annual cap set under the ACP Planning Approval[40]. The forecasts therefore indicate that the Proposed Development would facilitate additional growth in night-time movements in 2031 under the NRRA Scenario when compared to the corresponding Without Development scenario. This trend is also observed for the Supplemental Scenario.

The above forecasts have been reviewed by Infrata. A copy of this review can be found in **Appendix B**. The review concludes that the forecasts appear reasonable. Although not all rationale for assumptions made in the forecasts are stated, Infrata conclude that there are plausible reasons behind these assumptions. Infrata highlight one issue in so far that the forecasts include a materially higher passenger-per-ATM figure during the night-time period than for other parts of the day. They conclude that this difference did not exist in 2024 and as such there is a risk that either night-time period passengers are overstated and/or the night-time period aircraft movements are understated. Any understating of night-time movements is not a risk in the context of the NRPP Scenario and NRRA Scenario as the forecasts assume that the airport would be operating at the respective movement limits. In the context of Supplemental Scenario, noise would be managed by a noise quota system with no fixed aircraft movement limit during the night-time. This means that aircraft movements under this scenario could potentially be over or under-stated subject to demand and available fleet mix. Due to the caps and limits under the NRPP and NRRA scenarios, this finding is not expected to understate the night-time noise impacts forecasted.

[40] PL06F.314485

Table 10-3 presents the projected fleet mix for 2027 and 2031, broken down by aircraft generation (G0–G3) for both annual 24-hour operations and annual night-time operations. The table illustrates the proportion of each aircraft type under different development and night-time operating scenarios.

Table 10-3: Forecast fleet mix by Generation for the forecast scenarios in 2027, 2031 and 2034

Development Scenario	Generation / Year and Scenario	Annual 24hr				Annual Night			
		G0	G1	G2	G3	G0	G1	G2	G3
Without Proposed Development **Without Proposed Development** Assuming the Airport remained capped at 32mppa	2027 NRPP Scenario	4.9%	56.2%	38.9%	0.0%	9.2%	53.8%	36.9%	0.0%
	2027 NRRA Scenario	6.1%	57.3%	36.7%	0.0%	18.5%	51.5%	30.0%	0.0%
	2027 Supplemental Scenario	6.1%	57.3%	36.7%	0.0%	18.5%	51.5%	30.0%	0.0%
	2031 NRRA Scenario	5.6%	34.0%	60.4%	0.0%	16.9%	29.2%	53.8%	0.0%
	2031 Supplemental Scenario	5.6%	34.0%	60.4%	0.0%	16.9%	29.2%	53.8%	0.0%
	2034 Without Development NRPP Scenario	1.9%	17.2%	79.3%	0%	6.2%	9.2%	84.6%	0%
With Proposed Development Reflecting proposals made in the Application to increase passenger capacity to 40mppa	2027 NRPP Scenario	4.8%	55.2%	40.0%	0.0%	9.2%	55.3%	40.2%	0.0%
	2027 NRRA Scenario	5.7%	54.9%	39.4%	0.0%	17.3%	48.2%	34.5%	0.0%
	2027 Supplemental Scenario	5.7%	54.9%	39.4%	0.0%	17.3%	48.2%	34.5%	0.0%
	2031 NRRA Scenario	5.0%	31.3%	63.7%	0.0%	15.6%	27.0%	57.4%	0.0%
	2031 Supplemental Scenario	5.1%	31.3%	63.6%	0.0%	14.9%	25.7%	59.5%	0.0%
	2034 NRPP Scenario	1.6%	16.4%	80.4%	0%	6.2%	9.2%	84.6%	0%

Based on the data shown in

Table 10-3, the Applicant is forecasting a significant increase in G2 aircraft types as a proportion of the overall fleet mix, with G2 becoming the dominant category by 2031. This trend is set to continue. The forecasting review provided in **Appendix B** confirms that at an annual level the fleet mix forecasts are directionally consistent with published fleet replacement plans of the major carriers, namely Ryanair and Aer Lingus.

10.3 Forecast Noise Exposure

Noise exposure forecasts have been provided by the Applicant for the scenarios described above. These are reported in Table 10-4 and Table 10-5 below for the L_{den} and L_{night} metrics.

Population datasets include the 2023 dataset, which incorporates additional population allowances for consented developments and zoned land, reflecting future population growth beyond currently constructed dwellings. The forecasts provided by the Applicant have been modelled using an average modal split based on the previous 10 years of runway operations, ensuring that the projections reflect long-term operational patterns in line with 2026 NAO expectations.

Table 10-4: Noise exposure data for the forecast scenarios in 2027

Metric	dB Band	Without Development			With Development		
		2027 NRPP Scenario	2027 NRRA Scenario	2027 Supplemental Scenario	2027 NRPP Scenario	2027 NRRA Scenario	2027 Supplemental Scenario
L_{den}	≥45	354,098	347,485	347,485	356,101	357,390	357,390
	≥50	107,989	131,192	131,192	109,397	135,481	135,481
	≥55	38,609	40,568	40,568	38,768	42,085	42,085
	≥60	7,250	9,468	9,468	7,353	10,184	10,184
	≥65	136	232	232	136	246	246
	≥70	8	18	18	8	18	18
	≥75	0	0	0	0	0	0
L_{night}	≥40	154,353	179,639	179,639	154,353	185,513	185,513
	≥45	45,059	60,527	60,527	45,059	62,486	62,486
	≥50	17,734	22,021	22,021	17,734	23,268	23,268
	≥55	279	5,162	5,162	279	5,542	5,542
	≥60	22	57	57	22	64	64
	≥65	0	3	3	0	3	3
	≥70	0	0	0	0	0	0

Table 10-5: Noise exposure data for the forecast scenarios in 2031 and 2034 for relevant scenarios

Metric	dB Band	Without Development		With Development		Without Development	With Development
		2031 NRRA Scenario	2031 Supplemental Scenario	2031 NRRA Scenario	2031 Supplemental Scenario	2034 NRPP Scenario	2034 NRPP Scenario
L_{den}	≥45	286,385	286,385	308,822	311,047	219,689	241,347
	≥50	101,788	101,788	112,949	114,130	73,421	78,627
	≥55	34,908	34,908	37,593	37,633	28,387	30,442
	≥60	8,714	8,714	9,343	9,410	6,091	6,419
	≥65	205	205	229	229	89	97
	≥70	14	14	18	18	3	6
	≥75	0	0	0	0	0	0
L_{night}	≥40	147,728	147,728	155,143	161,200	79,265	79,265
	≥45	52,717	52,717	55,164	56,348	37,419	37,419
	≥50	17,982	17,982	20,240	21,364	12,733	12,733
	≥55	3,651	3,651	4,767	5,187	189	189
	≥60	44	44	46	52	8	8
	≥65	0	0	3	3	0	0
	≥70	0	0	0	0	0	0

The results confirm that noise exposure outcomes are heavily influenced by the night-time operating scenarios. Across all L_{night} bands, the proportional increases with the Proposed Development are larger than for comparable L_{den} bands, even if absolute numbers are smaller.

For example, in 2027, ≥55 dB L_{night} exposure rises from 279 people in Without Development NRPP Scenario to 5,542 in the With Development NRRA Scenario, a proportionally much larger increase than the comparable change in exposure for the L_{den} metric illustrating that night-time operations are the main driver for the increase in the population exposed.

When isolating the effect of the Proposed Development, population exposure increases across both the L_{den} and L_{night} metrics. Increases occur across all noise exposure bands. For instance:

- Under the NRRA Scenario in 2027, ≥45 dB L_{den} exposure rises from 347,485 people without the Proposed Development to 357,390 with the Proposed Development, with ≥40 dB L_{night} exposure increasing from 179,639 to 185,513
- Similarly, in 2031, under the NRRA Scenario, ≥45 dB L_{den} increases from 286,385 people without the Proposed Development to 308,822 people with the Proposed Development, with ≥40 dB L_{night} exposure increasing from 147,728 to 155,143 people
- Under the NRPP Scenario in 2034, ≥45 dB L_{den} increases from 219,689 people without the Proposed Development to 241,347 people with the Proposed Development

The only exception to this is night-time noise exposure under the NRPP Scenario the Proposed Development is not forecast to result in any additional night-time movements. As such, forecast noise exposure measured by the L_{night} metric is not forecast to change due to the Proposed Development.

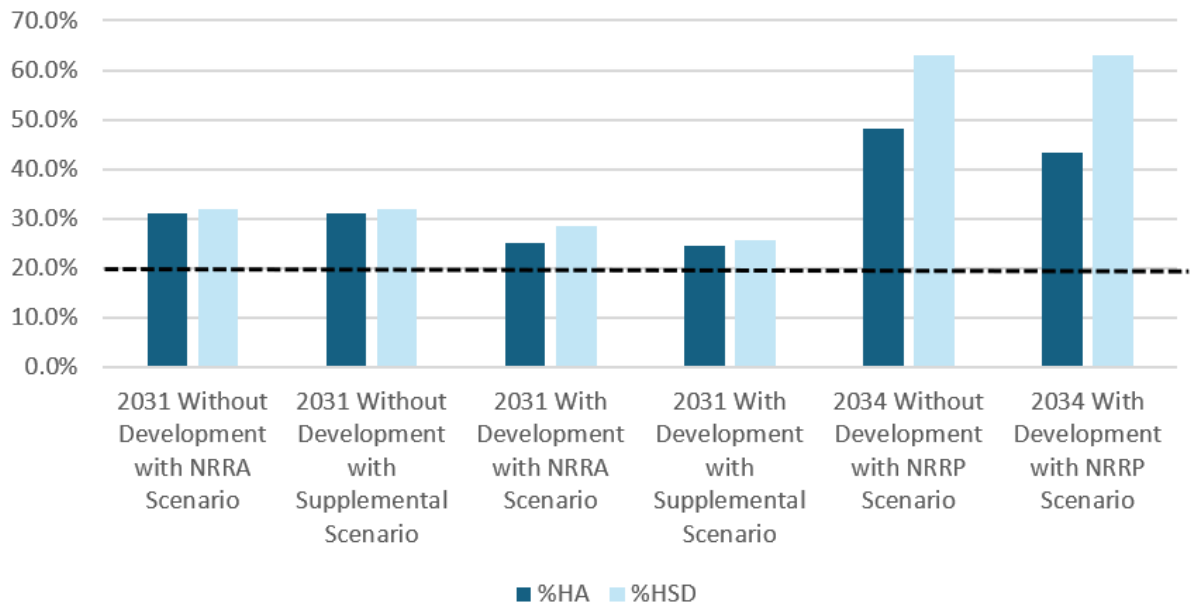
These results reconfirm **Aspect 1** of the Noise Problem, as determined by ANCA (**Section 4**), showing that the proposed development results in measurable increases in population noise exposure across all noise bands.

10.4 Examination against the 2026 NAO

The Applicant has provided data which allows consideration of the forecasts against the 2026 NAO. These forecasts have also had regard for whether Dublin Airport would be operating at and above its current 32mppa terminal passenger capacity limit.

Figure 11 presents a comparison of the forecast population HA and HSD in 2031 with Dublin Airport operating at 32mppa and 40mppa for the NRRA Scenario and Supplemental Scenario. As the forecasts demonstrate that 40mppa would not be reached until 2034 under the NRPP Scenario, these forecasts have also been included in this examination for context.

Figure 11: Percentage reduction in population HA and HSD in 2031 and 2034 compared to 2023 for selected night-time operating restriction and development scenarios



The outputs presented in Figure 11 present the 2026 NAO expected outcome for 2031 allowing a direct comparison of the forecasts with and without the Proposed Development against the expected 20% reduction outcome.

All night-time operating restriction scenarios achieve reductions greater than the expected 20% set by the 2026 NAO for both population highly annoyed and highly sleep disturbed. This analysis confirms that all forecasts would meet the 2026 NAO outcome for 2031, although the margin to which this is achieved reduces with the Proposed Development as a result of increased aircraft activity necessitated by increased passenger numbers.

When considering the additional metrics set by the 2026 NAO, Table 10-6 presents the number of dwellings, schools and hospitals forecast to be exposed to levels of aircraft noise above 65 dB L_{den} and 55 dB L_{night}. In line with the requirements of the 2026 NAO, receptors exposed above these metrics are tracked to monitor changes that arise due to changes in aircraft noise, with the expectation that measures will be used to mitigate and/or limit the number of dwellings, schools and hospitals exposed in each relevant year under ENR.

Table 10-6: Comparison of dwelling, schools and hospitals exposed to aircraft noise levels above 65 dB L_{den} and 55 dB L_{night} in 2031 for the NRRA Scenario and Supplemental Scenario, and 2034 for the NRPP Scenario against the noise situation in 2023

Year and Night-time Operating Restriction Scenario	Dwellings ≥65 L_{den}	Dwellings ≥55 L_{night}	Schools ≥65 L_{den}	Schools ≥55 L_{night}	Hospitals ≥65 L_{den}	Hospitals ≥55 L_{night}
2023 (as occurred)	114	1337	0	0	0	0

Year and Night-time Operating Restriction Scenario	Dwellings ≥65 L_{den}	Dwellings ≥55 L_{night}	Schools ≥65 L_{den}	Schools ≥55 L_{night}	Hospitals ≥65 L_{den}	Hospitals ≥55 L_{night}
Without Development						
2031 NRRA Scenario	70	1144	0	0	0	0
2031 Supplemental Scenario	70	1144	0	0	0	0
2034 NRPP Scenario	31	70	0	0	0	0
With Development						
2031 NRRA Scenario	78	1515	0	0	0	0
2031 Supplemental Scenario	78	1659	0	0	0	0
2034 NRPP Scenario	33	70	0	0	0	0

As shown in Table 10-6, the number of dwellings exposed to aircraft noise above 65 dB L_{den} decreases in all 2031 forecasts compared with the noise situation in 2023, indicating an overall reduction in exposure.

However, the number of dwellings exposed above 55 dB L_{night} varies across scenarios, with the highest exposure occurring in the 2031 with the Proposed Development in the Supplemental Scenario. No schools or hospitals are predicted to be exposed to aircraft noise above 65 dB L_{den} or 55 dB L_{night} thresholds in any of the forecasts or scenarios.

ANCA has observed that night-time noise contour areas are expected to reduce in the NRRA Scenario and Supplemental Scenario compared to 2023, however population exposure would continue to increase compared to 2023 due to the estimated residential development growth. ANCA has examined whether permission for residential development to date include conditions requiring noise insulation as described under the FDP. This analysis, set out in Appendix A to the 2026 NAO Review Report, has confirmed that such conditions are in place and accordingly those measures are expected to mitigate the exposed dwellings.

The 2026 NAO requires the size of the 55 dB L_{den} and 50 dB L_{night} contours to be tracked with the expectation that these will reduce compared to 2023 in each relevant year under ENR. The 2026 NAO states that noise mitigation measures may also be considered with reference to exposure above these thresholds reflecting that measures are most likely to be apparent

in areas exposed above these levels. In all forecasts, the size of these contours is forecast to reduce with or without the proposed development. Figure 12 presents the percentage reduction in the size of these contours across the forecasts and associated scenarios against 2023.

Figure 12: Percentage reduction in the area of the 55 dB L_{den} and 50 dB L_{night} contours against 2023 for relevant with and without Proposed Development scenarios.

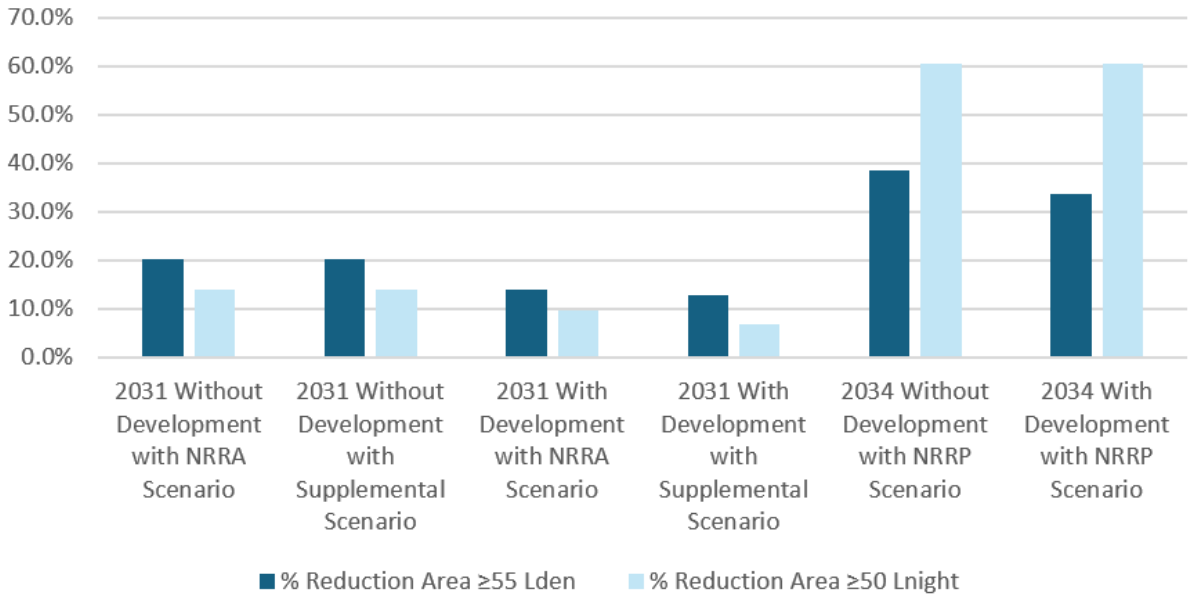


Figure 12 shows that the effect of the Proposed Development is to slow the rate at which these contours would decrease in size. Nonetheless, the analysis shows that with or without the Proposed Development, the noise output of the Airport is expected to decrease compared to the noise situation in 2023.

10.4.1 Conclusion

The forecasts within the Application demonstrate that all expected outcomes of the 2026 NAO are met in 2031 with or without the proposed development under each of the night-time operating restriction scenarios considered and provided with the Application.

The forecast Without New Measures (NRPP Scenario and NRRA Scenario) highlights that the Airport can grow to 40mppa in line with the Application across a range of night-time operating scenarios and meet the 2026 NAO. This is also true of the forecasts for the Supplemental Scenario.

ANCA therefore determines that the proposed development does not require the reconsideration of night-time operating restrictions and that decisions made with respect to these, through other processes, can be compatible with the proposed development.

11 Assessment of Additional Measures

This section provides a review of the measures available to reduce aircraft noise in response to Aspect 1 and Aspect 2 of the noise problem and those which have been taken forward for further assessment and analysis with respect to their cost-effectiveness. This section specifically reviews the measures having regard to information provided by the Applicant.

11.1 Introduction

The process and application of the Balanced Approach require that measures which fall under each pillar i.e., the Reduction of Noise at Source, Noise Abatement Operating Procedures and Land Use Planning and Management, be used to address the noise problem in preference to Operating Restrictions.

As concluded in **Section 10**, ANCA's analysis demonstrates that the expected outcomes of the 2026 NAO can be achieved across the Forecast Without New Measures. This means that operating restrictions are not required to address the noise problem and the measures available to be considered should instead focus on reducing noise impacts. The 2026 NAO is also forecast to be achieved in the Supplemental Scenario.

ANCA's approach to considering additional measures in line with the Balanced Approach is summarised in Table 11-1.

Table 11-1: Approach to Considering Additional Measures in line with the Balanced Approach.

Stage	Approach
1	**Prepare List of Considered Mitigation Measures** This stage involves identifying all potential measures that could reduce aircraft noise impacts, based on current industry practice, regulatory requirements, and proposals and information submitted to ANCA by the Applicant.
2	**Review Considered Measures and Undertake Analysis** For each of the measures identified, ANCA has had regard for whether such measures are already in place as part of the current inventory, the measures (if any) which have been proposed by the Applicant and the feasibility of the additional measures. This is carried out for each element of the Balanced Approach. This has entailed a review of the information provided by the Applicant and has considered the roles and responsibilities associated with developing and implementing each measure by reference to: • Reduction of noise at source

	• Noise abatement operating measures • Land use planning and management In carrying out this exercise, ANCA has had regard for ICAO guidance and best practice. Identified measures are subjected to a screening analysis based on objective criteria to assess whether they have the potential to reduce noise impact in the context of the Proposed Development. This has meant specifically: **1:** Considering which measures are already in place, and whether identified additional measures are feasible and available to reduce the increase in aircraft noise that would arise due to the Proposed Development; and **2:** Whether the existing mitigation measures relied on by the Applicant remain appropriate or whether additional measures can be justified in the context of the proposed development. To support this assessment, the consideration of additional measures has examined measures in place at other European and UK airports. This has, where appropriate, included relevant benchmarking exercises. Specifically, ANCA has considered whether the additional measures can address Aspects 1 and 2 of the identified noise problem. Where an additional measure is considered feasible, viable, and can be implemented in the context of the proposed development, ANCA has taken forward options for further analysis and cost-effectiveness assessment. This approach is in line with the 2022 ANCA NRRA RD, and RDs from Schiphol and Brussels airports included within the benchmarking review.
3	**Identify Cost-Effectiveness of Measures** For each of the measures and options taken forward, a cost-effectiveness assessment (CEA) has been undertaken. This is a requirement of the Aircraft Noise Regulation and is used to inform ANCA's decision making.

11.2 Measures Available to Reduce the Noise Impact

11.2.1Reduction of Noise at Source

ICAO guidance states that in relation to reduction of noise at source, consideration should be given to:

- Integration into aircraft fleets, over time, of technology improvements meeting the latest standards
- Specific fleet modernization plans of airlines operating at an airport
- National plans to adopt the latest noise standard

- Adoption by Contracting States of the latest ICAO noise recommendations

As such, any measures available to reduce noise at source need to have regard for whether they facilitate, encourage, or incentivise a greater proportion of aircraft meeting the latest noise standards to operate at Dublin Airport.

The Applicant has stated that:

"Dublin Airport's current fleet transition is driven by retirement of older Generation 1 (G1) aircraft with the latest Generation 2 (G2) types (generally newer, quieter, and more fuel-efficient models). This transition began around 2017 and, by August 2025, 32% of ATMs were operated by G2 types."

For the purposes of fleet mix analysis, aircraft have been categorised into generations of aircraft technology i.e.:

- Generation 0 (G0) – Older aircraft types, typically developed in the 1970s or 1980s and now generally out of production, eg, B737 Classic (300/400/500), B757, B767, A300, A310

- Generation 1 (G1) – Aircraft types typically developed in the 1990s or 2000s, eg, B737NG (700/800/900), B777, A320ceo, A330ceo, A340, A380, Bombardier CRJ, Embraer EJets, Avro RJ, Bombardier Q400, ATR42/72

- Generation 2 (G2) – Latest aircraft types recently entering production or under development, eg, B737MAX, B787, B777X, A220, A320neo, A330neo, A350, Embraer Ejet-E2

- Generation 3 (G3) – Further new-generation aircraft types not yet in development (expected to enter service in the late 2030s)

ANCA has undertaken an analysis of the fleet mix for the forecast relied upon by the Applicant for its assessment. This work is presented in **Appendix B**. This includes commentary review and opinion regarding the charging scheme in place at Dublin Airport.

It is ANCA's view that any schemes which seek to encourage airlines to operate modern, quieter, and cleaner aircraft is good practice and that such measures should be introduced irrespective of the noise problem identified under this Application.

Aircraft noise performance and fleet mix is a key measure of reducing noise at source under the Balanced Approach.

ANCA's analysis determined that a reasonable proportion of the movements currently and forecast to operate at Dublin Airport up to 2031 will not be impacted by the charging regime. It is difficult to differentiate between expected fleet modernisation rates and the incentive and effect the Airport's environmental charging regime has on the Airport's forecast fleet mix.

It is also accepted that the fleet mix assumptions adopted by the Applicant are consistent with the operators known fleet plans. What is clear from ANCA's analysis is that fleet modernisation and/or environmental charging contributes to a forecast reduction in noise exposure at the Airport. Furthermore, if there are changes to the charges and/or increases outpace the growth of passengers and/or revenues, this has the potential to put at risk the potential financial viability of specific routes. In the context of the proposed development, and the general trends of improving fleet mix and reducing noise output, ANCA does not consider charges and associated regulation regarding the Airport's environmental charging regime a measure for further consideration. However, such charges should be kept under review particularly as and when new generation aircraft enter service.

11.2.2 Noise Abatement Operating Procedures

The following tables present an overview of additional measures as they relate to noise abatement operating procedures as they may be available. For each measure, the Applicant's position is presented alongside ANCA's opinion.

Use of Noise Abatement Procedures	
Measure Part of the Current Inventory	Yes
Responsible for Measure	Airlines, IAA, The Applicant
Description of the Measure	
Noise Abatement Departure Procedures (NADPs) are operational measures applied during the take-off and initial climb phase of flight to reduce aircraft noise exposure on communities surrounding an airport. They form part of the "Noise Abatement Operating Procedures" element of the Balanced Approach as provided for under Regulation (EU) No. 598/2014 on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Union airports[41]. **NADPs are designed to optimise aircraft climb profiles in a manner that balances noise reduction objectives with safety, fuel efficiency, and emissions considerations. In practice, they involve defined thrust settings, acceleration heights, and flap retraction schedules after take-off, enabling aircraft to achieve increased altitude over noise-sensitive areas and thereby reduce ground-level noise exposure[42].** **The International Civil Aviation Organization (ICAO) defines two principal departure noise abatement procedures[43]:** • **NADP 1, which is generally intended to reduce noise exposure for communities located closer to the runway by delaying acceleration and maintaining a steeper climb profile in the initial segment**	

[41] Regulation (EU) No. 598/2014 of the European Parliament and of the Council of 16 April 2014 on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Union airports within a Balanced Approach.

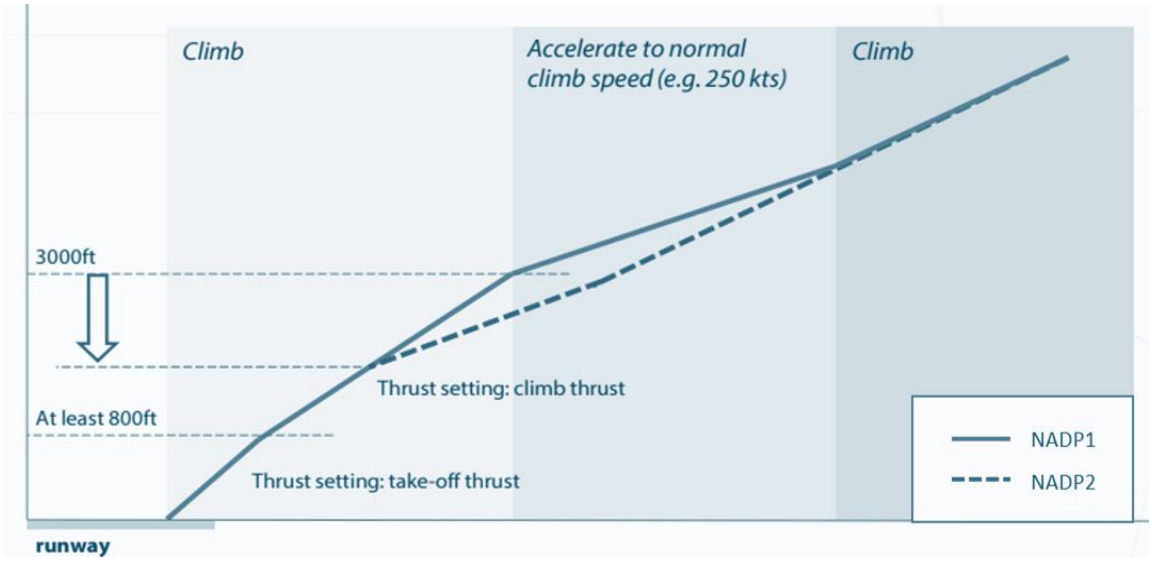
[42] International Civil Aviation Organization (ICAO), Annex 16 to the Convention on International Civil Aviation, Volume I – Aircraft Noise, latest applicable edition.

[43] International Civil Aviation Organization (ICAO), *Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS), Doc 8168*, Volume I, Part I, Section 7 (Noise Abatement Procedures).

- **NADP 2, which is intended to reduce noise exposure at locations further from the runway by permitting earlier acceleration and configuration clean-up while maintaining an efficient climb**

The selection and implementation of a particular NADP is dependent on local environmental priorities, airport layout, airspace structure, and aircraft operator procedures. Aircraft operators are required to publish their standard operating procedures in accordance with ICAO guidance, and compliance is monitored through operational oversight mechanisms[44].

Illustration



Evidence, Benchmarking and Regulatory Context

In 2023, daa reported to ANCA under Section 19 of the Act of 2019 that 13 airlines responded to a survey on NADP usage. These responses indicated that NADP-2 procedures accounted for approximately 75.3% of all departures at Dublin Airport.

As part of the Noise Action Plan for Dublin Airport 2019–2023, Action 5 required Fingal County Council (FCC) to request daa to review Departure Noise Abatement Procedures and publish the findings, which was carried out in 2024 by Anderson Acoustics[45]. This assessment was provided by the Applicant and the key findings are:

- **Approximately 73% of departures already operate using NADP-1, suggesting limited scope for further noise reduction through procedural changes**
- **At the individual aircraft level, NADP-1 generally provides up to 4 dB noise reduction for receptors directly beneath the flight path, although minor increases in sideline noise can occur**
- **At the aggregate level, changes in NADP usage result in marginal changes in overall noise exposure, varying by runway direction and largely representing noise redistribution rather than a net reduction**

[44] International Civil Aviation Organization (ICAO), *Guidance on the Balanced Approach to Aircraft Noise Management*, Doc 9829.

[45] Anderson Acoustics, Dublin Airport Departure profiles noise investigation, Ref: 7669_001R_1-0_JN, October 2024

After reviewing the information provided by the Applicant, ANCA observed discrepancies between the data provided by the Applicant and in other published documents. Therefore, a further assessment of the 2023 departure profiles using radar data was undertaken by ANCA's experts. This confirmed that NADP-2 was effectively used for approximately 75% of departures.

ANCA carried out a review of NADP use and adoption at other international airports to provide context against Dublin Airport's reported NADP usage. The review indicates that at:

- **Amsterdam Schiphol – NADP-2 is recommended for all jet departures in the AIP; NADP-1 is only used for operational reasons. Compliance with this procedure is monitored[46]**
- **Gatwick – NADP-2 is the most current flying procedure[47]**
- **Heathrow – there is no formal mandate on NADP use however operational data indicate that 80–90% of departures use NADP-2[48]**
- **Madrid – NADPs are mandated[49]**

This review demonstrates that NADPs are widely adopted internationally, but their application and enforcement vary, reflecting differences in airport layout, local population exposure, and operational priorities.

Airlines will generally adopt NADPs that align with their dominant hub operations. While airports can provide guidance or recommend preferred procedures, enforcement of NADP use is limited, and mandating a specific NADP could conflict with EU Regulation 965/2012, which requires operational measures to be compatible with airline procedures before imposing practices.

From a noise perspective, the effectiveness of NADPs is closely linked to the distribution of populations beneath flight paths and requires a tailored approach for each runway and departure route if they are to be an effective measure at reducing noise impacts. Key points and considerations include:

- **Marginal benefit: Noise reductions at individual receptors can be marginal, often cited in the range of 1–4 dB in the context of aircraft event levels. This is consistent with ICAO Doc 9829 guidance on the Balanced Approach, which notes that operational measures may produce limited and localised reductions[50] however this is not suggest that such reductions in combination with other measures are not of benefit**
- **Noise redistribution: Benefits from NADPs at one point along the departure are frequently offset by increased noise exposure at other points along it**

[46] Aeronautical Information Publication, EHAM AD 2-1, EIDW AD 2.21 NOISE ABATEMENT PROCEDURES, Paragraph 2.1

[47] NOISE MANAGEMENT BOARD - GATWICK AIRPORT Review of NMB/8, November 2017. https://cagnepcforum.org.uk/wp-content/uploads/2022/01/NDG_8-NMB-WP-Implementation-Report.pdf (Accessed: 1 April 2026)

[48] Noise Abatement Departure Procedures Study, ERCD CAA, May 2024. https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/local-community/noise/nacf/meeting-notes/2024/CAA_Noise_Abatement_Departure_Procedures_Study_NACF_20240529.pdf (Accessed: 1 April 2026)

[49] Aeronautical Information Publication, LEMD AD 2-1, LEM AD 2.1 NOISE ABATEMENT PROCEDURES, Paragraph 2.1

[50] ICAO, Doc 9829 – Guidance on the Balanced Approach to Aircraft Noise Management, ICAO, 2017.

- **Operational constraints: Aircraft weight, weather conditions, air traffic control requirements, and airline standard operating procedures limit the universal application of any single NADP, in line with ICAO PANS-OPS Doc 8168[51]**

- **Policy proportionality: ANCA considers that any noise mitigation scheme proposed should be proportionate with the scale of the proposed development, and that the measures where feasible should aim to provide noise mitigation to all exposed communities. A similar policy on proportionality has been taken by the UK regulator in the CAA Report CAP 1691 which emphasises that measures with limited and localised benefits should not be given disproportionate weight in noise action planning[52]**

Feasibility of Implementation

The feasibility of prescribing Noise Abatement Departure Procedures (NADPs) at Dublin Airport is informed by the evidence base and review outlined above. Airlines generally adopt NADPs that align with their dominant base of operation, such as their central hub airport, as confirmed by ANCA's review of the departure profiles.

While some airports may provide guidance or recommend preferred procedures, they typically do not have formal authority to enforce compliance, a finding reinforced by ANCA's review, which examined practices at Schiphol, Heathrow and Gatwick.

Prescribing specific NADP procedures could conflict with other EU regulations, particularly if the procedure directed by the airport is not one of the two procedures adopted by the airline for a given aircraft type.

From a noise management perspective, the selection and effectiveness of NADPs are closely linked to airport system design and the location of populations beneath each departure route, necessitating a tailored approach for each runway and flight path, as demonstrated in both the Dublin Airport evidence base and the international benchmarking review.

ANCA Opinion

ANCA notes that no single procedure can be said to have a universally better noise impact. Changing from one procedure to another typically results in noise redistribution, producing both localised reductions and increases depending on location along the flight path. Implementation and adherence remain the responsibility of the airlines, and the airport alone cannot easily enforce universal compliance.

[51] ICAO PANS-OPS Doc 8168 – Aircraft Noise Abatement Departure Procedures (NADP) Guidance, ICAO, 2017.

[52] CAP 1691 Departure Noise Mitigation: Main Report, 2018.

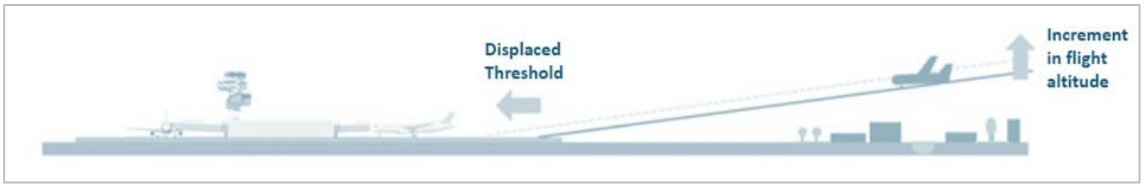
Displaced Landing Thresholds	
Measure Part of the Current Inventory	Yes
Responsible for Measure	The Applicant, IAA

Description of the Measure

A displaced landing threshold (DLT) is a runway threshold positioned at a point further along the runway than its physical start, effectively shortening the available landing distance for arriving aircraft[53]. This measure is primarily implemented to reduce noise exposure for communities located near the approach path, by ensuring that aircraft touch down further down the runway, thereby increasing the distance from sensitive receptors under the approach.[54]

DLTs are commonly applied where residential areas or other noise-sensitive locations are situated close to the runway end, or where safety or obstacle clearance requirements necessitate that aircraft land beyond the physical runway start[55]

Illustration



Evidence, Benchmarking and Regulatory Context

The North Runway already includes displaced thresholds for both runway ends. For westerly arrivals (Runway 10L) the displacement is 280m and for easterly arrivals (Runway 28R) the displacement is 450m[56].

ANCA has considered the potential introduction of displaced landing thresholds on the South Runway (Runways 10R/28L). To inform this consideration, ANCA has requested sensitivity testing to assess the potential noise impacts of such a measure[57].

To provide an indication of potential noise effects, the Applicant has carried out modelling which was undertaken for forecast activity for 2026[58]. A sensitivity scenario was then developed in which displaced thresholds of 300 metres were assumed on both Runway 10R and Runway 28L.

The sensitivity modelling demonstrates that the introduction of a 300m displaced landing threshold on the South Runway results in a redistribution of noise exposure rather than a uniform reduction.

Key findings of this sensitivity test include:

[53] ICAO, Annex 14 – Aerodromes, Volume I, Aerodrome Design and Operations, 8th Edition, 2018.

[54] European Union, Regulation (EU) No 598/2014 on the Balanced Approach to Aircraft Noise, 2014.

[55] FAA, Pilot's Handbook of Aeronautical Knowledge, 2020 – Section on Displaced Landing Thresholds.

[56] Aeronautical Information Publication, EIDW AD 2-1, EIDW AD 2.13 Declared Distances

[57] Noise Modelling Report – ANCA Request (07 February 2025), Tranche 2 – Balanced Approach Report.

[58] Y26P37N2R1- The assessment for 2026 with a passenger cap of 37mppa, night restrictions scenario N2 (in line with ANCA'S NRRA Decision) and runway operations scenario R1(South Runway only 0000 to 0559 and Option 7b at other times).

- **Reductions are most experienced in population exposure within the higher exposure noise bands (≥60 dB L_{den} and ≥55 dB L_{night}), indicating a beneficial effect for receptors closest to the runway threshold and exposed to some of the highest levels of aircraft noise**
- **Increases in population and dwelling exposure within lower and mid-level noise bands for both daytime and night-time metrics**
- **A lateral expansion of the noise contours, particularly to the west of the airport, more pronounced during daytime operations**
- **The combined influence of arrival and departure operations contributing to this redistribution effect**

Overall, the sensitivity analysis indicates that the introduction of displaced thresholds would produce beneficial and adverse changes in aircraft noise depending on receptor location.

ANCA has reviewed international practice at comparable UK and European airports where displaced landing thresholds are in place. This shows that displaced landing thresholds are used either for obstacle clearance, operational efficiency, or noise management purposes.

- **At London Stansted Airport, a 300m displaced threshold is applied on Runway 04[59].**
- **At London Gatwick Airport, displaced thresholds of approximately 393m (Runway 08R) and 424m (Runway 26L) are in place[60].**
- **At Heathrow Airport, displaced thresholds exist on the current runways and form part of long-term expansion proposals. The proposal to move the landing threshold of the third runway by approximately 550m has been identified as a key element of Heathrow's strategy to reduce noise exposure for communities beneath the approach path[61].**
- **At Leonardo da Vinci–Fiumicino Airport, existing displacements include approximately 416m on Runway 07 and 321m on Runway 16R/34L[62]. As part of expansion proposals, a 900m displacement on Runway 16L has been considered as a noise management measure[63].**

The review indicates that displaced landing thresholds are recognised as a tool within airport noise management frameworks. However, their implementation is typically driven by a combination of safety, obstacle clearance, capacity, and environmental considerations rather than noise mitigation alone.

Common concerns identified in international practice include:

- **Safety implications arising from the effective reduction in landing distance available (LDA)**
- **Potential impacts on runway occupancy time, particularly where rapid exit taxiways are affected**
- **Operational limitations for certain aircraft types due to reduced runway length**

[59] Noise Exposure Contours for Stansted Airport 2024 - ERCD REPORT 2503, March 2025.

[60] Noise Exposure Contours for Gatwick Airport 2023 - ERCD REPORT 2402, October 2024.

[61] Aerodrome Manual, Heathrow Airport Limited, November 2020.

[62] Aeronautical Information Publication, AD 2, LIRF 1-7 Runway Physical Characteristics.

[63] https://www.adr.it/piano-sviluppo-aeroportuale (Accessed: 1 April 2026)

- **Capacity implications where runway throughput efficiency may be affected**

The evidence therefore demonstrates that while displaced thresholds can provide targeted noise benefits for communities closest to the runway threshold, their introduction requires careful evaluation of operational and safety implications and may not deliver a net overall reduction in noise exposure.

Feasibility of Implementation

At present, the operational feasibility and safety implications of introducing displaced landing thresholds on the South Runway (10R/28L) have not been fully evaluated by the Applicant[64]. Any such measure would require comprehensive technical, operational and regulatory assessment before implementation could be considered.

A displaced threshold would reduce the LDA (Landing Distance Available), which may restrict certain aircraft types or require payload limitations under specific operating conditions. Changes to touchdown points could also affect runway occupancy times, particularly where existing rapid exit taxiways are no longer optimally located. Interaction with the crossing runway (16/34) may further influence operational efficiency.

The Applicant has stated that[65]:

- **Infrastructure implications could include adjustments to approach lighting systems, potential modifications to Obstacle Limitation Surfaces (OLS), and, if required, construction of additional rapid exit taxiways. Such works could result in runway closures or operational disruption during implementation**
- **There is also potential for unintended operational consequences. Shorter landing distances may increase reliance on reverse thrust, potentially increasing ground-level noise on the runway. Similarly, relocation of exit taxiways could shift noise exposure further along the runway**
- **Determining overall costs and practicality would require coordinated assessment involving daa, the IAA, airlines, air traffic control and other relevant stakeholders. Accordingly, while further feasibility discussions may be undertaken, the operational suitability, cost implications, and proportionality of introducing displaced landing thresholds at Dublin Airport remain subject to detailed investigation**

ANCA Opinion

ANCA has considered the potential introduction of displaced landing thresholds on the South Runway (10R/28L). The assessment indicates that any additional displacement is unlikely to provide significant additional noise reduction, while potentially restricting the operations of certain aircraft types.

Introducing displaced thresholds would require substantial airspace design changes and infrastructure works, including runway markings, lighting, taxiway adjustments, and procedural updates, which could introduce significant costs and operational disruption at Dublin Airport.

[64] Noise Modelling Report, ANCA Request, 07 FEB 2025, Tranche 2, Section 3.3.

[65] daa Tranche 2, Cover Letter, June 2025, Section 2.2.2.

On this basis, ANCA considers it appropriate not to pursue displaced landing thresholds as a noise mitigation measure at this time. However, ANCA recognises that such measures in combination with others could be progressed in the future if operational and technical conditions allow.

Steeper Approaches	
Measure Part of the Current Inventory	No
Responsible for Measure	The Applicant, IAA, Airlines
Description of the Measure	
A steeper approach involves increasing the aircraft's descent angle during final approach (for example, from the standard 3.0° glide slope to approximately 3.1°–3.5° or greater where specifically certified). By maintaining higher altitudes for longer during final approach, aircraft remain further from the ground over communities located at greater distances from the runway threshold, thereby reducing ground-level noise exposure in those areas[66]. **Standard approach procedures are typically designed in accordance with international instrument procedure design criteria[67].** **Implementation of a steeper approach requires:** • **Aircraft certification for operations above 3.0°** • **Flight procedure design and obstacle clearance assessment** • **Safety assessment and regulatory approval** • **Airline operational approval and crew training** **While steeper approaches may reduce noise further from the runway, they can slightly increase noise closer to the runway threshold due to thrust and configuration requirements during an aircraft's approach stabilisation[68]**	
Illustration	

[66] International Civil Aviation Organization (ICAO), *Guidance on the Balanced Approach to Aircraft Noise Management*, Doc 982.

[67] ICAO, *Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS)*, Doc 8168.

[68] ICAO, Doc 9829 – Balanced Approach framework (operational procedures as noise mitigation measures).



Evidence, Benchmarking and Regulatory Context

Approaches to the North Runway and South Runway at Dublin Airport currently operate with a standard 3.0° approach glide path in accordance with published instrument procedures[69].

ANCA has considered the potential introduction of a steeper approach procedure at Dublin Airport as a potential operational noise mitigation measure. To inform this consideration, ANCA requested sensitivity testing to assess the potential noise impacts of such a measure[70].

To provide an indication of potential noise effects, the Applicant has modelled the potential noise impact of a steeper approach based on forecast activity for 2026. A sensitivity scenario was then developed in which all arrivals were assumed to operate at a 3.15° steeper approach.

The modelling demonstrates that the introduction of a steeper 3.15° approach results in a redistribution of noise exposure rather than a uniform reduction.

Key findings include:

- **Reductions in population exposure within the higher noise bands (≥60 dB L_{den} and ≥55 dB L_{night}), indicating a beneficial effect for receptors located further from the runway threshold**
- **Increases in population and dwelling exposure within lower and mid-level noise bands for both daytime and night-time metrics**
- **A lateral expansion of the noise contours, reflecting changes in vertical flight profile and interaction with departure tracks**
- **The combined influence of arrival and departure operations, contributing to the observed redistribution effect**

Overall, the modelling indicates that the introduction of a 3.15° approach would not result in a material change in high-level noise exposure. Instead, the measure would primarily redistribute noise geographically, producing both beneficial and adverse impacts depending on receptor location.

[69] Dublin Airport – *Aircraft Movements | Arrival to Departure* (final approach angle 3° requirement), https://www.dublinairport.com/corporate/environmental-social-governance/noise/runway-and-flight-paths/aircraft-movements (Accessed: 1 April 2026)

[70] Noise Modelling Report – ANCA Request (07 February 2025), Tranche 2 – Balanced Approach Report.

ANCA has reviewed practices at airports where steeper approaches have been introduced for operational, environmental, or obstacle clearance purposes. These include:

- **Heathrow Airport – Following a trial, a small percentage of arrivals now fly slightly steeper approaches at 3.2°. The majority of approaches remain at the standard 3.0° glide slope[71]**
- **Leeds Bradford Airport – Arrivals to Runway 14 use a 3.5° glide slope for obstacle avoidance purposes[72]. Arrivals to Runway 32 use the standard 3.0° glide slope[73]**
- **London City Airport – A 5.5° glide slope is in use for obstacle avoidance. This is an exceptional case requiring specific aircraft certification and operational approval[74]**
- **Frankfurt Airport – A 3.2° CAT I ILS operates in addition to a 3.0° CAT II/III ILS on Runway 07L/25R. This configuration has been live since 2012 with no reported safety concerns and demonstrated environmental benefits for surrounding areas[75]**

Feasibility of Implementation

At present, the operational feasibility and safety implications of introducing a stepper approach at Dublin Airport have not been fully evaluated by the Applicant[76]. Implementation would require a comprehensive assessment of technical, operational, and regulatory factors, including aircraft certification for steeper glide slopes, flight procedure design, obstacle clearance analysis, safety assessment, regulatory approval, airline operational approval, and crew training.

Potential operational implications may include slightly higher noise levels closer to the runway threshold due to thrust and configuration requirements during stabilisation, as well as changes in vertical flight profiles that could influence lateral noise dispersion and interaction with departure tracks.

Coordination with airspace specialists and operators would also be necessary, particularly if only certain aircraft types are certified to operate steeper approaches. Minor infrastructure updates, such as adjustments to instrument landing system procedures and documentation, would also be required.

The Applicant notes that determining overall costs and practicality would require coordinated assessment involving daa, the IAA, airlines, air traffic control and other relevant stakeholders. Accordingly, while further feasibility discussions may be undertaken, the operational suitability, cost implications, and proportionality of introducing steeper approach at Dublin Airport remain subject to detailed investigation[77].

ANCA Opinion

[71] Heathrow Airport, *Slightly Steeper Approaches*, heathrow.com (Accessed: 1 April 2026)

[72] Instrument Approach Chart – ICAO. Leeds Bradford ILS/DME RWY 14. eAIS Package United Kingdom (Accessed: 1 April 2026)

[73] Instrument Approach Chart – ICAO. Leeds Bradford ILS/DME/NDB(L) RWY 32.eAIS Package United Kingdom (Accessed: 1 April 2026)

[74] *The unique challenges of flying into London City Airport*, Bristol GS Aviation, https://www.bristol.gs/the-unique-challenges-of-flying-into-london-city-airport/ (Accessed: 1 April 2026)

[75] Fraport AG, *Active Noise Abatement Measures*, https://www.fraport.com/en/sustainability/dialog-with-neighbors/noise-and-air/measures/active-noise-abatement.html (Accessed: 1 April 2026)

[76] Noise Modelling Report, ANCA Request, 07 FEB 2025, Tranche 2, Section 3.3.

[77] daa Tranche 2, Cover Letter, June 2025, Section 2.2.2.

ANCA has reviewed the potential introduction of steeper approaches based on the sensitivity modelling provided. The assessment indicates that a 3.15° approach would primarily redistribute noise rather than achieve a uniform reduction.

High-level noise exposure (≥60 dB L_{den}, ≥55 dB L_{night}) is not materially increased, but low and mid-level bands may experience small increases depending on receptor location.

Implementation would require substantial coordination with airlines, air traffic control, and regulatory bodies, as well as certification for affected aircraft.

Considering these operational, technical, and regulatory factors, ANCA concludes that it is not appropriate to pursue steeper approaches as a formal noise mitigation measure at this time.

ANCA notes that steeper approaches may be considered in the future if operational, technical, and regulatory conditions allow and sufficient proportional noise benefits can be demonstrated.

11.2.3 Land Use Planning and Management

The following tables present an overview of land use planning and management measures as they may be available to Dublin Airport. For each measure, the Applicant's position and proposals are presented alongside ANCA's assessment.

Noise Insulation Schemes	
Measure Part of the Current Inventory	Yes
Responsible for Measure	The Applicant
Description of the Measure	
Noise Insulation Schemes are a common way of mitigating aircraft noise impacts. Such schemes apply to residential and noise-sensitive buildings. The aim of noise insulation is to reduce noise transmission from outside to inside by improving the acoustic performance of components of the building envelope. This means providing increased acoustic performance of elements such as windows, roof and loft constructions, and by considering ventilation strategies. **In some cases, the NIS may cover all intervention costs, at no cost to the occupants or owners of the building. In others, the scheme may offer contributions to finance the costs of insulation.** **An effective NIS needs must have consideration for:** • **Eligibility criteria and requirements** • **Budget allocated to the scheme and level of financial support** • **Type of interventions and measures** • **Application procedures** • **Duration of the scheme and implementation methods**	
Illustration	



Evidence, Benchmarking and Regulatory Context

Most major airports in Europe and UK have implemented noise insulation schemes (NIS). The Airport currently has one active NIS, the RNIS and one planned NIS, the RSIGS. Details of the RNIS and RSIGS are presented in the current inventory in Section 9.

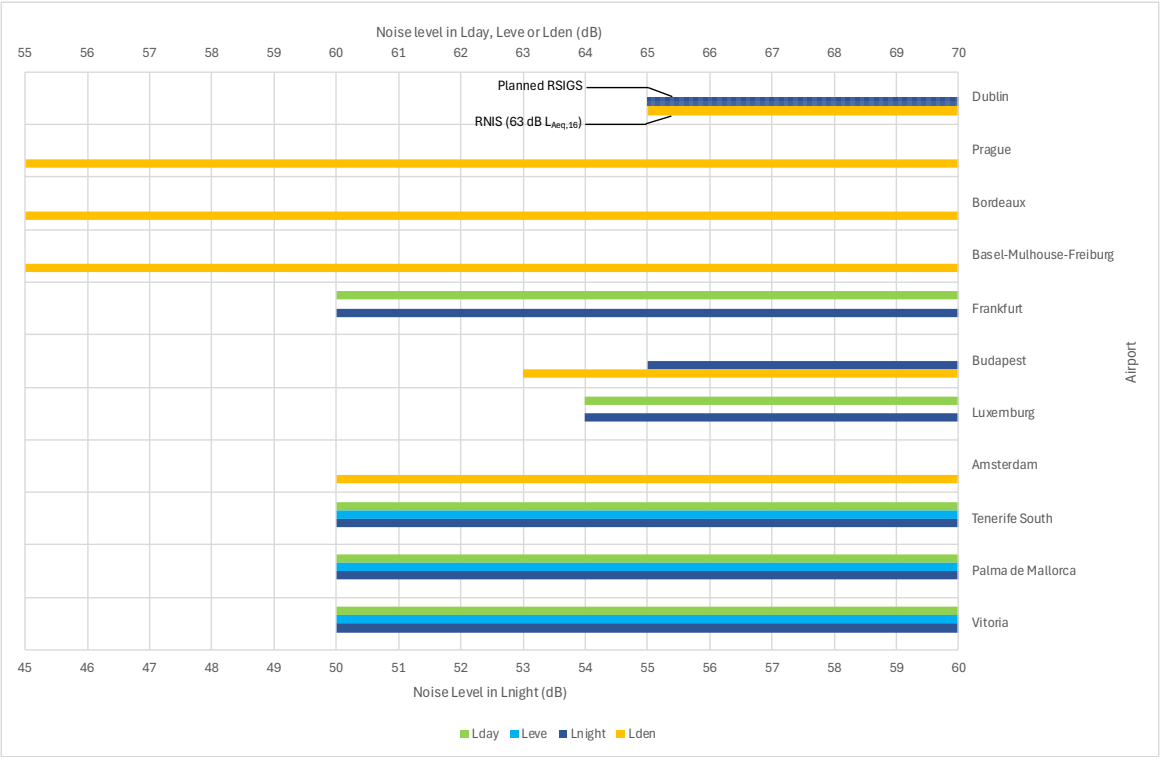
To support ANCA's considerations, a benchmarking exercise has been carried out to identify the recent trends in NIS and Compensation Programmes. This is presented in Appendix D. The benchmarking focuses on the schemes that have been recently proposed and/or implemented at other European and UK airports since 2020 or were created prior to 2020 but updated or extended in the last 5 years.

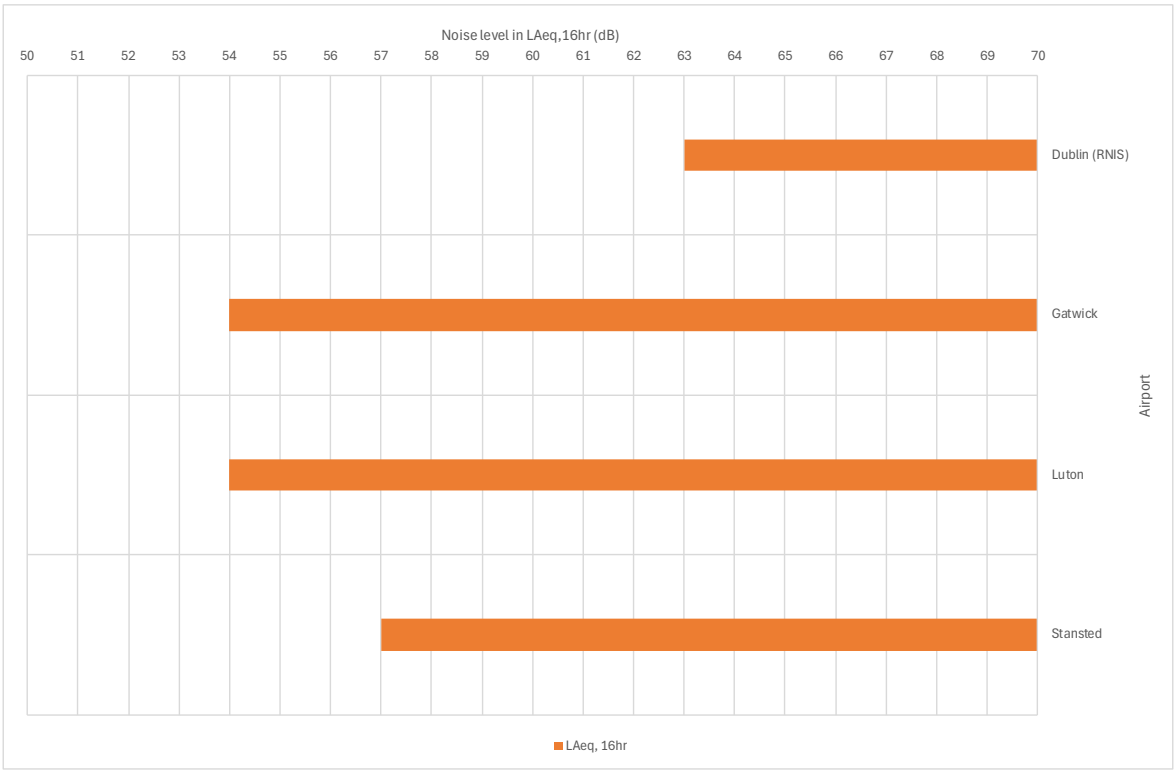
These schemes have been found to have been adopted as part of ongoing airport noise management or in response to the airport development or expansion proposals.

Both residential and noise sensitive buildings are generally eligible to participate to the programmes but in some cases, schemes can be designed to be specific for either residential or sensitive buildings.

Most schemes have noise eligibility criteria expressed through metrics either relating to a 24-hour period (e.g. L_{den}), or a combination of daytime metrics and night-time metrics (e.g. L_{day}, L_{eve} and L_{night}), starting from as low as 55 dB L_{den}.

The following figure illustrates the lower eligibility criteria adopted by EU airports considered in the benchmark defined through the metrics required under the END.





Financial contributions are found to range from 50% and 100% of the intervention costs, with most of the airports included in the benchmarking providing coverage for 100% of the costs of interventions, especially for properties exposed to higher levels of noise.

Generally, the schemes offer window performance improvements, or replacement, along with other insulation works (e.g., insulation of the rolling shutter case). Structural interventions to improve the façade

performance may also be part of the schemes. Some schemes offer either complementary or exclusively ventilation programmes.

In some examples, compensation relative to outdoor noise is also offered. Property purchase, or market value compensation schemes may also be adopted in relation to development/expansion plan at the airport.

At Dublin the Residential Noise Insulation Scheme (RNIS) has been introduced as a requirement of Condition 7 of the North Runway Planning Permission. Condition 7 states that:

"Prior to commencement of development, a scheme for the voluntary noise insulation of existing dwellings shall be submitted to and agreed in writing by the planning authority. The scheme shall include all dwellings predicted to fall within the contour of 63 dB LAeq16 hours within 12 months of the planned opening of the runway for use. The scheme shall include for a review every two years of the dwellings eligible for insulation."

The RNIS eligibility boundary was originally based on the forecast 2022 63 dB $L_{Aeq,16hr}$ contour, with the RNIS to be in place prior to the coming into operation of the North Runway.

In accordance with Conditions 7 and 10, the scheme is subject to biennial review. The first such review was completed in 2024, based on the noise situation in 2023.

The Residential Sound Insulation Grant Scheme (RSIGS) is a scheme that has been accepted in the context of North Runway Relevant Action (NRRA). This scheme seeks to mitigate night-time noise impacts from the Airport's operations on residential dwellings. An Coimisiún Pleanála's Order ABP-314485-22 outcome was for the scheme to provide noise insulation to residential dwellings exposed to noise above 55 dB L_{night}, N80L_{Amax} noise contour or at least 50dB L_{night} in the first full year when the Relevant Action comes into operation, with a change of at least +9dB when compared with the current permitted operation in the same equivalent year.

The scheme has been designed to improve the sound insulation performance of bedrooms in eligible dwellings through the provision of specific insulation measures in the form of a grant in the sum of an index linked amount to be agreed with the planning authority and ANCA. A reduction in indoor noise levels of at least 5 dB is targeted through the scheme.

The RSIGS is one of the measures subject to judicial review and the European Commission's Article 8 review. Further detail is provided in section 3.2.1 and 9.4.3 of this report.

ANCA considers that any noise mitigation scheme proposed should be proportionate with the scale of the proposed development, and that the measures where feasible should aim to provide noise mitigation to all exposed communities. A similar policy position has been taken by the UK regulator in the CAA review CAP 1165 which recommends that airports seeking expansion, and the subsequent economic benefits, should significantly increase their spending on noise insulation schemes[78].

Feasibility of Implementation
Noise Insulation Schemes have several characteristics, including: • **Duration of the scheme and implementation methods**

[78] UK Civil Aviation Authority, CAP1165 Managing Aviation Noise, 2014

- **Eligibility requirements**
- **Application procedures**
- **Isolation measures; and**
- **Financial support.**

Noise Insulation Schemes may be the result of new land management strategies, operational changes at an airport, such as airspace changes or different runway usage, or part of the airport ongoing noise management initiatives. However, the introduction or update of most of noise isolation schemes are associated with airport development plans or expansion projects.

The process for participating and determining eligibility in such schemes differs from airport to airport. The most effective schemes often commence through the airport identifying eligible dwellings to participate. In other cases, residents must apply to the airport or third-party responsible for managing the scheme, who will assess their eligibility and access to the scheme.

An important characteristic of each NIS is the eligibility requirements that identify the homes and buildings eligible in the programme. Eligibility requirements are based on:

- **Threshold criteria: related to the level of noise exposure**
- **Temporal: related to the length of time a property is eligible for the programme**
- **Geographic: related to eligible properties and buildings in the areas identified in the programme**
- **Building type and use: related to the type of building (e.g., schools, hospitals, homes) or specific parts of a property (e.g., bedroom)**
- **Other: for example, exemption criteria including whether a building has accessed other schemes or the date of the building's construction**

Financial support options for a NIS can vary: some plans provide 100% coverage of measures and installation costs, others have funding limits or differentiated financial support depending on the type or number of rooms to be insulated. There are also cases where annual budgets are allocated, with assistance prioritized by level of exposures.

Acoustic insulation measures included in a NIS generally include window and door replacement (double-glazed or double-glazed windows) and the installation of mechanical ventilation systems.

Implementation of the NIS can be carried out through suppliers selected by the airport, benefiting those who can benefit from prices agreed upon between suppliers and the airport. Other options may include a list of suppliers authorized by the airport from whom the applicant must contact for purchase and installation.

Dublin Airport is already implementing several initiatives to reduce the impact of its operation on local communities, including the provision of noise insulation measures through the RNIS programme and has been preparing for the roll out of the RSIGS scheme.

ANCA Opinion

Having regard for the benchmarking presented in Appendix D and the current schemes in place and implemented at Dublin Airport, further consideration should be given to noise insulation as an additional measure. This is for the following reasons:

1. **The benchmarking analysis demonstrates that insulation schemes are being introduced at levels of noise exposure much lower than RNIS. This should be viewed in the context of increasing evidence highlighting aircraft noise effects occurring at lower levels than understood when the RNIS scheme was established, as discussed in the Health Evidence Review.**

2. **The benchmarking analysis highlights increasing expenditure and widening of noise insulation eligibility as part of airport development proposals.**

The following options considered by ANCA are a combination of full/majority and partial funding contributions towards the costs of the noise insulation measures. These options have been developed having regard for schemes identified through the benchmarking exercise at EU and UK airports.

Eligibility Criteria	55dB to 60dB L_{den}	60dB to 65dB L_{den}	> 65dB L_{den}
Option 1	Partial funding	Majority/Full funding	
Option 2	-	Partial funding	Majority/Full funding
Option 3	Partial funding		Majority/Full funding
Option 4	-	Majority/Full funding	

In testing the four options as part of the cost-effectiveness analysis presented in Section 12, ANCA has had regard for each of the with Development forecasts presented in Section 10.

Land Use Planning and Management	
Measure Part of the Current Inventory	Yes
Responsible for Measure	Fingal County Council

Description of the Measure

Land use planning provides a means of ensuring that development near airports is compatible with current and future airport operations and noise impacts.

It is also a tool for airports to ensure that the noise reduction benefits achieved through technological improvements in the latest generation of aircraft are not lost to residential development in the vicinity of the airport.

This can be achieved through a variety of measures including building codes and by designating areas for specific types of development having regard for aircraft noise exposure.

Illustration



Evidence, Benchmarking and Regulatory Context

The primary objective of land-use planning is to minimise the population exposed to airport noise using measures such as zoning and/or by ensuring that aircraft noise impacts are appropriately considered as part of development planning through building codes.

Airport noise contours can be used to define the zoning boundaries which can identify zones where particular polices or measures apply depending on the level of noise exposure. For instance:

• High-exposure zone: within this zone new noise-sensitive developments (e.g., residential buildings, hospitals, schools, etc.) are not permitted. Existing developments may be subject to sound insulation measures with the installation of new windows and ventilation.

• Medium-exposure zones: new developments may be permitted but subject to specific soundproofing and ventilation requirements.

At Dublin Airport, Aircraft Noise Zones consist of Zone A, Zone B, Zone C and Zone D which have been defined in the Fingal Development Plan 2023-2029. The objective of these zones is to balance the impact of aircraft noise from Dublin Airport on the external and internal noise amenity of land allocated for development, setting appropriate requirements for noise insulation.

ANCA Review

As part of the 2026 NAO Report, ANCA commissioned an analysis of changes in population and aircraft noise exposure around Dublin Airport. This analysis has highlighted that increases in residential development within Zone B of the FDP have contributed towards increases in the number of dwellings exposed to levels of 55 dB L_{night} and above. Further future buildout of land zoned for residential development may contribute towards increased dwellings exposed to levels above 55 dB L_{night} as evident in the forecasts considered in Section 10. This analysis also suggests the increment in population exposure that was observed in 2023 may be due to an increment or a different distribution of the noise footprint around Dublin Airport.

ANCA has also made several other observations regarding the noise zones.

1. The zones have yet to be updated with the forecasts of activity in line with the current and future noise management inventories reported in this RD Report;

2.The noise zones were based on forecasts made available to FCC by the Applicant in 2018, prior to the opening of the North Runway. Airspace arrangements subsequently changed following the opening of the North Runway. As such, the noise zones do not fully represent all areas that are or could be affected by aircraft noise.

The noise zones and FDP are policies of FCC, to be adopted and varied in accordance with the procedures set out in the Planning and Development Act 2000. The noise zones are used by FCC to support identifying and allocating land for residential development and provide developers and FCC with direction regarding the requirements for noise assessment and noise insulation measures when bringing forward development proposals.

On 2 March 2026, ANCA wrote to the planning authority to recommend that FDP 2023-2029 airport noise zones be reviewed and that the updated noise zones align with the key metrics of the ENR. The recommendation advised the planning authority that:

"Any such review of land use management around Dublin Airport and how the measures incorporated within the land-use planning regime should be carried out with regard to ICAO guidance, which has the objective to encourage compatible land use around airport facilities, and direct incompatible land use away from airport environs.

The ICAO guidance recommends defining and updating land-use planning noise zones associated with different noise levels taking into account population levels and growth as well as forecasts of traffic growth and establishing criteria for the appropriate use of such land. This will ensure proper land use

planning and management and zoning alignment with current and forecasted airport operations and flightpaths.

The ICAO guidance also promotes close cooperation between local and regional authorities, typically responsible for land use planning and management functions, and airport operators. ANCA will be available to advise the Planning Authority in undertaking a review of the FDP Noise Zones."

On 14 May 2026, the planning authority wrote to ANCA to confirm that it is the intention of the planning authority to review the airport noise zones as part of the overall process to review the Fingal Development Plan 2023-2029 in accordance with the requirements of the Planning & Development Act, 2024.

ANCA will continue to track the number of dwellings, schools and hospitals exposed to aircraft noise above 65 dB L_{den} and/or 55 dB L_{night}, with the expectation that measures, including Land Use Planning and Management, will be used to mitigate and/or limit the number of dwellings, schools and hospitals exposed in each relevant year under ENR.

Relocation Assistance and Voluntary Purchase Schemes	
Measure Part of the Current Inventory	Yes
Responsible for Measure	The Applicant

Description of the Measure

Relocation assistance and voluntary purchase schemes are designed to support those living in areas exposed to the highest levels of aircraft noise to relocate to quieter areas. Those eligible for such schemes in designated zones can receive financial support with the costs of moving to a quieter area, with or without enhanced compensation. Some schemes may also provide for the purchase of homes by airport operators.

Those eligible for such schemes can receive compensation equivalent to a percentage of the sale price of the property, in addition of a lump sum for covering a proportion of the costs of moving home.

Illustration



Evidence, Benchmarking and Regulatory Context

Dublin Airport already operates a Voluntary Dwelling Purchase Scheme[79] (VDPS). This scheme offers homeowners in specific areas the option to sell their properties to Dublin Airport under the following favourable terms:

- **30% Premium on Market Value: Eligible homeowners will receive 30% above the current market value of their property.**
- **Independent Valuation: Homeowners can have their property independently valued at Dublin Airport's expense, ensuring transparency and fairness.**
- **Additional Allowances: Dublin Airport will cover conveyancing fees, stamp duty, tax advice, and moving costs.**
- **Voluntary Participation: Participation in the scheme is completely voluntary, with no obligation for residents to sell their homes.**

[79] Dublin Airport Authority (n.d.) Voluntary dwelling purchase scheme. Available at: https://www.dublinairport.com/corporate/environmental-social-governance/noise/mitigation-schemes/voluntary-dwelling-purchase-scheme (Accessed: 1 April 2026)

To be eligible for the scheme homes must be located within a designated noise contour. The Scheme is subject to review every two years as stipulated in Condition 10 of the North Runway Planning Permission. The first such review was completed in 2024, based on the noise situation in 2023. Both the scheme and the initial eligibility noise contour were set under Condition 9 of the North Runway Planning Permission[80]:

"Prior to commencement of development, a scheme for the voluntary purchase of dwellings shall be submitted to and agreed in writing by the planning authority. The scheme shall include all dwellings predicted to fall within the contour of 69 dB $L_{Aeq\ 16\ hours}$ within twelve months of the planned opening of the runway for use. Prior to the commencement of operation of the runway, an offer of purchase in accordance with the agreed scheme shall have been made to all dwellings coming within the scope of the scheme and such offer shall remain open for a period of 12 months from the commencement of use of the runway. Reason: In the interest of residential amenity."

ANCA has undertaken a review of international practice at comparable European and UK airports where other such schemes are in place.

Heathrow Airport operates a relocation assistance scheme[81] which applies to residential properties around Heathrow that are exposed to a high level of noise (within the 2019 69 dB $L_{Aeq\ noise}$ contour). Eligible homeowners receive a lump sum of £10,000, plus 1% of the sale price of the property (up to a maximum of £20,000). This scheme provides a response to UK aviation policy which sets an expectation that *"… airport operators to offer households exposed to levels of noise of 69 dB LAeq,16h or more, assistance with the costs of moving."*[82]

At Manchester Airport, a Home Relocation Assistance Scheme[83] was launched in 2006 and is available for eligible properties located within the 69 dB L_{Aeq} contour (as defined in 2002). The financial support offered through this scheme is dependent on the sale price. For a sale price up to £125,000, a £3,000 fixed payment is provided. For a sale price above £125,000, £3,000 plus 1% of the sale price is provided (e.g. sale price £150,000 = £3,000 + £1,500 = £4,500). The scheme sets a cap equivalent to the payment on a £250,000 sale price. For homes selling for over £125,000, a further sum to cover Stamp Duty is also paid.

At Gatwick Airport, as part of the Northern Runway DCO, after flights begin to operate from the Northern Runway the scheme will assist homeowners within the 66dB $L_{Aeq,16h}$ by paying an uncapped contribution to cover reasonable costs for moving house (removals and legal costs), stamp duty and a 1% estate agent fee[84].

At Stansted Airport the Sound Insulation Grant Scheme offers households subject to high levels of noise (69 dB $L_{Aeq,16hr}$ or more) assistance with the costs of relocating[85].

The Luton DCO has a Voluntary Acquisition Policy and Residential Hardship Policy. The Voluntary Acquisition Policy applies above 69dB $L_{Aeq,16h}$ and 63dB $L_{Aeq,8h}$ and the airport would purchase the property

[80] Dublin Airport Authority (n.d.) Planning conditions. Available at: https://www.dublinairport.com/docs/default-source/planning/planning-conditions.pdf?sfvrsn=ff46e534_0 (Accessed: 1 April 2026)

[81] Heathrow Airport Limited (n.d.) Get help relocating. Available at: https://www.heathrow.com/company/local-community/noise/what-you-can-do/quieter-neighbourhood-support/get-help-relocating (Accessed: 1 April 2026)

[82] United Kingdom Department for Transport, Aviation Policy Framework, 2013

[83] Manchester Airport (n.d.) Home relocation assistance scheme. Available at: https://www.manchesterairport.co.uk/community/living-near-the-airport/home-relocation-assistance-scheme/ (Accessed: 1 April 2026)

[84] London Gatwick Airport (n.d.) Our future plans. Available at: https://www.gatwickairport.com/company/future-plans.html (Accessed: 1 April 2026)

[85] Uttlesford District Council (n.d.) Stansted Airport: Sound insulation grant scheme. Available at: (Accessed: 1 April 2026)

at the unaffected market value plus uncapped "reasonable moving costs" and a statutory home loss payment capped at £81,000. No properties were exposed above these contours in the Luton DCO. The Residential Hardship Policy applies above 66dB $L_{Aeq,16h}$ and 60dB $L_{Aeq,8h}$ where it can be demonstrated that the owners are unable to sell on the open market and as a result experience exceptional hardship. In this scenario the airport would purchase the property at the unaffected market value but would not cover any other costs including agent/legal fees and moving costs[86].

At Liege Airport, dwellings exposed to levels greater than 70 dB L_{den} are eligible for property buyout and relocation assistance[87].

Amsterdam Schiphol airport offers support with relocation on a case-by-case basis as part of The Schiphol Environmental Fund for dwellings which fall outside of the government insulation programme[88].

Up to 2014 Frankfurt[89] airport has also implemented a purchase scheme for properties overflown at altitudes equal or below 350m offering:

- **For properties within 90m each side of the track, a compensation of €150 per square meter of living spaces or the purchase or the residential at market value for building purchased before 2002, or a compensation of €100 per square meter if the property was purchased after 2002**
- **For properties between 150 and 210m each side of the track, a compensation of €50 per square meter of living spaces or the purchase or the residential at market value for building purchased before 2002**
- **For properties between 90m and 150m each side of the track, a compensation of €50 per square meter of living spaces or the purchase or the residential at market value for building purchased either before and after 2002.**

Feasibility of Implementation

Programs that include property purchase (purchase scheme) or relocation assistance (relocation plan) fall into one of the following three categories, or combinations of these:

- **Mandatory purchase schemes;**
- **Voluntary purchase schemes;**
- **Relocation schemes,**

Eligibility criteria for these programs generally fall into one or more of the following categories:

- **Threshold criteria: relating to the level of noise exposure (e.g., levels expected from airport development);**
- **Temporal: relating to the date the property was built or occupied, and the length of time for which a property is eligible for the programme;**

[86] https://lutonrising.org.uk/our-airport/london-luton-airport-expansion-frequently-asked-questions/

[87] Jossart, L. (2023) Liege Airport in a nutshell [Presentation]. EUROCONTROL Stakeholder Forum on Noise, 26 January. Available at: https://www.eurocontrol.int/sites/default/files/2023-01/eurocontrol-stakeholder-forum-noise-laurent-jossart-presentation.pdf (Accessed: 1 April 2026

[88] Omgevingsfonds Schiphol (n.d.) Individueel gedupeerden. Available at: https://omgevingsfondsschiphol.nl/programmas/individueel-gedupeerden-2/ (Accessed: 1 April 2026)

[89] Gute Nachbarschaft als Programm, Fraport Casa - Fraport AG - Feb 2005

- **Geographic: relating to eligible properties and buildings in the areas identified in the programme;**
- **Building type: relating to the type of building;**
- **Other: any other specified airport eligibility criteria.**

ANCA Opinion

Based on ANCA's review of such measures and the most recent examples of such schemes, the VDPS scheme currently in place at Dublin Airport is comparable with respect to eligibility thresholds in place at other airports with the package of support provided also comparable. The scheme is also aligned with Objective DA012 of the Fingal County Development Plan which provides that no dwelling shall be permitted within the predicted 69 dB $L_{Aeq\ 16\ hours}$ noise contour. Accordingly, it is not proposed to introduce an additional or amended scheme at this time in respect of the proposed development.

11.3 Summary of Identified Measures

Based on ANCA's review of the measures available in Section 11.2, two measures have been identified for further consideration. Both measures related to the land use planning and management elements of the Balanced Approach, as follows:

1. **Land Use Planning and Management** – ANCA is of the opinion that the noise zones attached to the Fingal Development Plan 2023 – 2029 should be reviewed. ANCA's analysis has highlighted a number of reasons why the noise zones should be reviewed, namely the basis upon which the noise zones were defined, the corresponding noise metrics attached to them, and the need for the noise zones to reflect updated forecasts and impacts.

   On 2 March 2026, ANCA wrote to the planning authority to recommend that FDP 2023-2029 airport noise zones be reviewed and that the updated noise zones align with the key metrics of the ENR.

   On 14 May 2026, the planning authority wrote to ANCA to confirm that it is the intention of the planning authority to review the airport noise zones as part of the overall process to review the Fingal Development Plan 2023-2029 in accordance with the requirements of the Planning & Development Act, 2024.

   ANCA will be available to advise the Planning Authority of Fingal County Council in undertaking this review which will be carried out alongside the Planning Authority's wider obligations in updating the Fingal Development Plan. As such, consideration of reviewing and updating the airport noise zones will be made through this process rather than through this Regulatory Decision. ANCA will continue to track the number of dwellings, schools and hospitals exposed to aircraft noise above 65 dB L_{den} and/or 55 dB L_{night}, with the expectation that measures will be used to mitigate and/or limit

the number of dwellings, schools and hospitals exposed in each relevant year under ENR.

2. **Noise Insulation Scheme** – through a process of benchmarking and having regard for the evidence provided in the Health Evidence Review, ANCA is of the opinion that a more expansive noise insulation scheme than the current RNIS should be considered for Dublin Airport. Based on scheme benchmarks identified from other European and UK airports, four options have been identified and have been taken forward into **Section 12** to consider their cost-effectiveness. These options are set out in Table 11-2 below.

Table 11-2: Insulation Scheme Options for Consideration in Cost-Effectiveness Analysis

Eligibility Criteria	55dB to 60dB L_{den}	60dB to 65dB L_{den}	> 65dB L_{den}
Option 1	Partial funding	Majority/Full funding	
Option 2	-	Partial funding	Majority/Full funding
Option 3	Partial funding		Majority/Full funding
Option 4	-	Majority/Full funding	

12 Likely Cost Effectiveness of Measures

This section considers the likely cost-effectiveness of options for an expanded noise insulation scheme at Dublin Airport. In accordance with the Aircraft Noise Regulation and the Act of 2019, the cost-effectiveness of identified noise mitigation measures and operating restrictions (if any) must be evaluated.

As highlighted in Section 11.3, ANCA has identified a more expansive noise insulation scheme as a measure which can address the noise problem as identified with the Application. Four options have been identified following a process of review and benchmarking.

This section considers evidence in relation to the effectiveness of noise insulation as an intervention and establishes unit costs associated with various insulation measures. This has then been used to determine the typical costs of a package of noise insulation measures across a range of residential property types representative of single family houses, scheme dwellings or apartments. The effectiveness of each noise insulation option with respect to its potential to reduce annoyance and sleep disturbance has then been considered. In combination, this analysis considers the cost-effectiveness of the scheme options.

12.1 Effectiveness of Noise Insulation as a Mitigation Measure

The Health Evidence Review notes that emerging research indicating that noise insulation is an effective measure and can be used to reduce annoyance and sleep disturbance for those exposed to the higher levels of aircraft noise.

The Health Evidence Review highlights emerging findings from a follow up study, where following the installation of a package of noise insulation measures provided by Heathrow Airport under its Quieter Neighbourhood Support (QNS) scheme, the percentage of people highly sleep disturbed was found to reduce from 46% to 15% in a three-month period following installation. Whilst the findings of this study support the relevance and importance of noise insulation as a health intervention, further work is required to explore the cost effectiveness and further assess the equity of effects across demographic groups with differing socioeconomic, health, and ethnic vulnerability to the effects of noise on health[90].

Other empirical evidence quantifying the effect or undertaking cost-benefit analysis is scarce. Despite insulation being one of the most common interventions offered to local communities experiencing the highest exposures to aircraft noise, there have been few studies that quantify the effect on the health and quality of life of residents. There also limited research and evidence regarding the cost effectiveness of noise insulation measures with respect to

[90] Civil Aviation Authority, CAP 3165 Aircraft Noise and Health Effects – a six-month Update, 2025

reducing annoyance and sleep disturbance[91]. Nonetheless, it is recognised that noise insulation is an effective way of mitigating the impact of aircraft noise inside people's homes[92].

It is recognised that noise insulation schemes that the insulation measures that are available under them should be proportionate to the level of noise impact[93]. Critically this requires consideration of the recognised effects at given levels of aircraft noise exposure, and how schemes can respond to such effects. For example, a fully funded package of noise insulation at all levels of adverse noise exposure can be considered disproportionate.

12.2 Noise Insulation Options Considered

As presented in Section 0, ANCA has identified four noise insulation scheme options comprising of grants that provide for majority/full funding and/or partial funding of noise insulation measures, subject to the level noise exposure. These options have been developed having regard for benchmarks in place at other airports and the latest evidence in relation to the effects of aircraft noise on health.

Table 12-1: Noise Insulation Scheme Options Considered

Eligibility Criteria	55 dB to 60 dB L_{den}	60 dB to 65 dB L_{den}	> 65 dB L_{den}
Option 1	Partial funding	Majority/Full funding	
Option 2	-	Partial funding	Majority/Full funding
Option 3	Partial funding		Majority/Full funding
Option 4	-	Majority/Full funding	

Noise insulation schemes aim to reduce indoor noise levels, and where possible, target internal ambient noise levels set in the context of relevant acoustic standards or guidelines.

[91] Verhaeghe N, Vandenbulcke B, Lelie M, Annemans L, Simoens S, Putman K. Cost-Effectiveness of Strategies Addressing Environmental Noise: A Systematic Literature Review. Int J Environ Res Public Health. 2025 May 21;22(5):803. doi: 10.3390/ijerph22050803. PMID: 40427916; PMCID: PMC12110787.

[92] Independent Commission for Civil Aviation Noise, ICCAN Review of Airport Noise Insulation Schemes, March 2021

[93] Civil Aviation Authority, CAP1165 Managing Aviation Noise, 2014

12.3 Expected Performance and Costs

The Applicant has previously assumed that the installation of noise insulation will lead to at least a 5 dB reduction for affected dwellings[94]. This level of reduction is targeted by the Applicant's existing noise insulation schemes[95]. Other schemes in Europe and UK also provide for similar levels of target reduction.

Noise insulation measures which can be expected to provide such levels of reduction will require, as a minimum:

- Installation of acoustic double-glazed window units
- Installation of acoustic vents
- Attic insulation

ANCA's analysis as provided in **Appendix J**, shows that by upgrading window units from standard thermal double glazing with non-acoustic ventilators to a mid-specification thermal double glazing with acoustic ventilator can provide a reduction between 5 to 10 dB[96], which is in line with the targets of the existing schemes at Dublin Airport.

Cambridge Economic Policy Associates (CEPA) have provided estimates of the cost of insulating homes in the Greater Dublin Area to support this cost-effectiveness analysis. These estimates consider the noise insulation costs that the Applicant may incur through the implementation of a new insulation scheme.

The development of these estimates has been carried out on a 'bottom-up' basis, drawing on a range of publicly available and online sources and assumptions which are discussed in detail in **Appendix J**.

The following table provides a summary of the estimated costs of each measure and labour that may be associated with the noise insulation scheme.

Table 12-2: Cost Estimates of Noise Insulation Measures

Item	Estimated Costs			
	Unit	Low Value	Base Value	High Value
Window insulation	€ per window	570	1,425	2,280

[94] Dublin Airport Grant Scheme Responses to RFI Nos. 92, 93, 130, 136 and 137," RFI 93, TFT on behalf of daa
[95] https://www.dublinairport.com/corporate/environmental-social-governance/noise/mitigation-schemes/residential-noise-insulation-schemes
[96] Spectrum and room size dependent. Calculation examples provided in Appendix J

Attic insulation	€ for a typical 2/3 bed house	1,450	1,700	2,050
Acoustic Vents	€ per vent	76		
Labour	€ per person per day	179.40		

Based on the above costs, an estimate of the total cost of interventions has been carried out based on the number of habitable rooms to be insulated in eligible dwellings.

Table 12-3: Cost Estimates for Various Property Types

Property Configuration Livingroom (L) + Bedrooms (B)	Window Insulation, €	Attic Insulation, €	Acoustic Vent, €	Labour, €	20% uplift, €	Total, €
1L + 1B	2,280 to 9,120	1,025 to 1,450	76 to 228	718 to 2,153	820 to 2,590	**4,918 to 15,541**
1L + 2B	3,420 to 13,680	1,450 to 1,700	228 to 380	1,435 to 2,870	1,307 to 3,726	**7,840 to 22,356**
1L + 3B	4,560 to 18,240	1,700 to 2,050	380 to 532	2,153 to 3,588	1,759 to 4,882	**10,551 to 29,292**
1L + 4B	5,700 to 22,800	2,050 to 2,550	532 to 684	2,870 to 4,306	2,230 to 6,068	**13,383 to 36,408**
1L + 5B	6,840 to 27,360	2,550 to 3,550	684 to 836	3,588 to 5,023	2,732 to 7,354	**16,394 to 44,123**

1L + 6B	7,980 to 31,920	3,550 to 4,550	836 to 988	4,306 to 5,741	3,334 to 8,640	**20,006** **to** **51,839**

The results presented in **Table 12-3** show that a financial commitment of up to €40,000 would be able to provide a package of noise insulation measures that can cover fully or the majority of the costs associated with the insulation of a range of habitable rooms. Such an offer is in line with the financial contribution of Heathrow's Quiet Neighbourhood Support Scheme which provide up to 100% funding for residential insulation and the installation of noise insulation measures, capped at £35,130[97].

Any partial contribution on the contrary would require homeowners to either insulate only a limited number of habitable rooms or to financially contribute themselves to cover the remaining costs of insulation works. For instance, based on this analysis, a grant providing a financial contribution of €8,100[98] towards noise insulation for eligible properties exposed between 60 dB and 65 dB L_{den} would cover only approximately 50% of the costs required to insulate habitable rooms within a 2-bedroom dwelling.

12.4 Eligibility Considerations

12.4.1 Dwellings Consented with Noise Insulation Measures under the FDP 2023 - 2029

Under the noise zones attached to the Fingal Development Plan 2023 to 2029, homes that have received planning permission after 9th December 2019 will, where appropriate, have been consented with planning conditions that require adequate noise insulation measures to be part of their construction.

[97] Corresponding to approximately €40,500 in 2025 prices and assuming 1.00 GBP = 1.16 EUR currency exchange as per 24/03/2026. This figure is index linked.
[98] Level of contribution offered as part of Gatwick Airport Northern Runway Project DCO Noise Insulation and Compensation Scheme corrected for in inflation and currency exchange, and presented in 2025 prices for property exposed between 57 dB and 60 dB LAeq,16h

Table 12-4: Example of planning conditions for new residential developments in areas where noise insulation is required

Example of planning conditions for new residential developments in areas where noise insulation is required
The development shall be provided with noise insulation to an appropriate standard, having regard to the location of the site within Noise Zone XX associated with Dublin Airport. **REASON: In the interest of public health and to comply with Objective DAO11 of the Fingal County Development Plan 2023-2029.**
Prior to commencement of development, the following shall be submitted for the written agreement of the Planning Authority: **The predicated noise environment of the site with consideration for future airport growth.** **Details, including noise mitigation measures as appropriate, to demonstrate that internal noise levels appropriate for the proposed development can be achieved and maintained.** **REASON: In the interest of proper planning and sustainable development of the area and to comply with Objective DAO11 of the Fingal County Development Plan 2023-2029.**
Prior to the commencement of development, the developer shall submit for the written agreement of the Planning Authority, full details of the proposed noise mitigation measures and expected internal noise levels within each building. **REASON: In the interests of public health and compliance with Objective DAO11 of Fingal Development Plan 2023-2029.**

The current noise zones attached to the FDP 2023 – 2029 replaced noise zones that were first established in the Fingal County Council Development Plan 1999 – 2004 and carried forward into the Fingal Development Plan 2011 – 2017 with policies defined recognising the need to minimise the adverse impact of noise from Dublin Airport without placing unreasonable restrictions on development and to avoid future conflicts between the community and the operation of the airport. Two noise zones were defined in response to these policies: an 'Inner' and 'Outer' zone.

Objective EE52 of the FDP 2011 – 2017 prohibited new residential development within the inner zone save for new housing for farming families. Where such housing was permitted, the policy required noise insulation to be provided with any planning application accompanied by a noise assessment report specifying the proposed noise mitigation. Objective EE51 of the FDP 2011 – 2017 required, where appropriate, noise insulation to be part of new residential development within the Outer Noise Zone. Objective EE51 stipulated: '*Strictly control inappropriate development and require noise insulation where appropriate within the Outer Noise Zone, and actively resist new provision for residential development and other noise sensitive uses within the Inner Noise Zone, as shown on the Development Plan maps, while recognising the housing needs of established families farming in the zone'.* The noise assessment requirements under the FDP 2011 – 2017 to support decisions on whether noise insulation should be incorporated in new residential development proposed within the Outer Noise Zone were not defined as part of Objective EE51.

Objective EE55 further stipulated: *'Review the operation of the Noise Zones on an ongoing basis in light of the EU Directive on Environmental Noise, the ongoing programme of noise monitoring in the vicinity of the Airport flight paths, and the availability of improved noise forecasts'.*

On 9 December 2019, Variation No.1 of the Fingal Development Plan 2017 – 2023 was adopted incorporating policies relating to development within Aircraft Noise Zones. These provided for four zones of assessment/mitigation as follows:

Zone A To resist new provision for residential development and other noise sensitive uses. All noise sensitive developments within this zone may potentially be exposed to high levels of aircraft noise, which may be harmful to health or otherwise unacceptable. The provision of new noise sensitive developments will be resisted.

Zone B To manage noise sensitive development in areas where aircraft noise may give rise to annoyance and sleep disturbance, and to ensure noise insulation is incorporated within the development. Noise sensitive development in this zone is less suitable from a noise perspective than in Zone C. A noise assessment must be undertaken in order to demonstrate good acoustic design has been followed. Appropriate well-designed noise insulation measures must be incorporated into the development in order to meet relevant internal noise guidelines. An external amenity area noise assessment must be undertaken where external amenity space is intrinsic to the developments design. This assessment should make specific consideration of the acoustic environment within those spaces as required so that they can be enjoyed as intended. Ideally, noise levels in external amenity spaces should be designed to achieve the lowest practicable noise levels. Applicants must seek expert advice.

Zone C To manage noise sensitive development in areas where aircraft noise may give rise to annoyance and sleep disturbance, and to ensure, where appropriate, noise insulation is incorporated within the development Noise sensitive development in this zone is less suitable from a noise perspective than in Zone D. A noise assessment must be undertaken in order to demonstrate good acoustic design has been followed.

The noise assessment must demonstrate that relevant internal noise guidelines will be met. This may require noise insulation measures. An external amenity area noise assessment must be undertaken where external amenity space is intrinsic to the development's design. This assessment should make specific consideration of the acoustic environment within those spaces as required so that they can be enjoyed as intended. Ideally, noise levels in external amenity spaces should be designed to achieve the lowest practicable noise levels. Applicants are strongly advised to seek expert advice.

Zone D To identify noise sensitive developments which could potentially be affected by aircraft noise and to identify any larger residential developments in the vicinity of the flight paths serving the Airport in order to promote appropriate land use and to

identify encroachment. All noise sensitive development within this zone is likely to be acceptable from a noise perspective. An associated application would not normally be refused on noise grounds, however where the development is residential-led and comprises non-residential noise sensitive uses, or comprises 50 residential units or more, it may be necessary for the applicant to demonstrate that a good acoustic design has been followed. Applicants are advised to seek expert advice.

These aircraft noise zones are incorporated into the FDP 2023-2029 (Table 8.1: Aircraft Noise Zones). As such, the FDP 2023 – 2029 requires a higher standard of assessment and/or insulation than introduced under previous FDPs and their associated noise zones. It is therefore not possible for ANCA to make reasonably certain assumptions as to the standard to which insulation has been incorporated in respect of dwellings constructed and/or consented prior to December 2019. In the case of the current zones, dwellings constructed within Zone B will have been provided with insulation measures, with adequate insulation provided to dwellings constructed in Zone C where the relevant noise assessment exercise deemed it necessary.

Having regard to the above, ANCA is of the view that only dwellings constructed and/or consented prior to 9th December 2019 should be eligible.

12.4.2 Dwellings Eligible for Noise Insulation Measures under RNIS

The Residential Noise Insulation Scheme (RNIS) was introduced as a requirement of Condition 7 of the North Runway Planning Permission. Condition 7 states that:

"Prior to commencement of development, a scheme for the voluntary noise insulation of existing dwellings shall be submitted to and agreed in writing by the planning authority. The scheme shall include all dwellings predicted to fall within the contour of 63 dB LAeq16 hours within 12 months of the planned opening of the runway for use. The scheme shall include for a review every two years of the dwellings eligible for insulation."

The RNIS eligibility boundary was originally based on a forecast 2022 63 dB $L_{Aeq,16hr}$ contour, with the RNIS required to be in place prior to the coming into operation of the Airport's North Runway.

In accordance with Conditions 7 and 10, the scheme is subject to biennial review. The first such review was completed in 2024, based on the noise situation in 2023. This scheme is comprehensive and as such, any residential dwelling eligible for this scheme should be provided with noise insulation measures under it rather than through any other scheme.

ANCA therefore concludes that dwellings eligible for noise insulation under RNIS should not be considered in the cost-effectiveness analysis for any new scheme options.

12.4.3 Dwellings Potentially Eligible for Noise Insulation Measures under RSGIS

The Residential Sound Insulation Grant Scheme (RSIGS) is a scheme that was conditioned through the North Runway Relevant Action (NRRA). This scheme seeks to mitigate night-time noise impacts from the Airport's operations on residential dwellings. An Coimisiún Pleanála's Order ABP-314485-22 determined that this scheme should provide noise insulation for residential dwellings exposed to noise above 55 dB L_{night}, an N80 L_{Amax} noise contour or where exposure is forecast to be at least 50 dB L_{night} in the first full year when the Relevant Action comes into operation, with a change of at least +9dB in L_{night} noise exposure when compared with the current permitted operation in the same equivalent year.

The scheme has been designed to improve the sound insulation performance of bedrooms in eligible dwellings through the provision of specific insulation measures. The Applicant proposed that grants of up to €30,000 per household may be made available as part of the scheme[99]. The decision of ACP dated 16 July 2025 in respect of the NRRA did not, however, put a financial limit on the RSIGS. As per the daa's other existing schemes, a reduction in indoor noise levels of at least 5 dB is also targeted through the RSIGS scheme.

ANCA has considered options for an expanded noise insulation schemes based on the L_{den} metric as this metric both responds to emerging evidence on health, aligns with the metrics underpinning the 2026 NAO and incorporates night-time noise impacts. As the RSIGS scheme has not been introduced as at the date of this report, the analysis presented in this section seeks to demonstrate the incremental costs of the expanded scheme options alongside those that would occur through RSIGS.

12.5 Estimates of Eligible Dwellings by Scheme Option

[99] https://www.dublinairport.com/corporate/environmental-social-governance/noise/mitigation-schemes/residential-noise-insulation-schemes

Table 12-5 12-5 presents a summary of the estimated number of eligible dwellings for each scheme option outside the RNIS eligibility contours by the type of funding offered under each scheme option and for dwellings constructed and/or consented prior to 9th December 2019. These estimates draw on analysis from the Applicant's modelling of 2027, 2031 and 2034 forecast scenarios with the Development, provided in support of the Application. This is presented graphically in Figure 13.

For context, an estimate of the number of dwellings that would be eligible for noise insulation under each option that may also be eligible for noise insulation under RSIGS is also indicated.

The eligibility estimates highlight that for Options 1 and 4, the majority of dwellings eligible under RSIGS would be eligible for majority/fully funded insulation under these options. Based on all forecasts provided by the Applicant, the 55 dB L_{night} is generally captured by the 60 dB L_{den}.

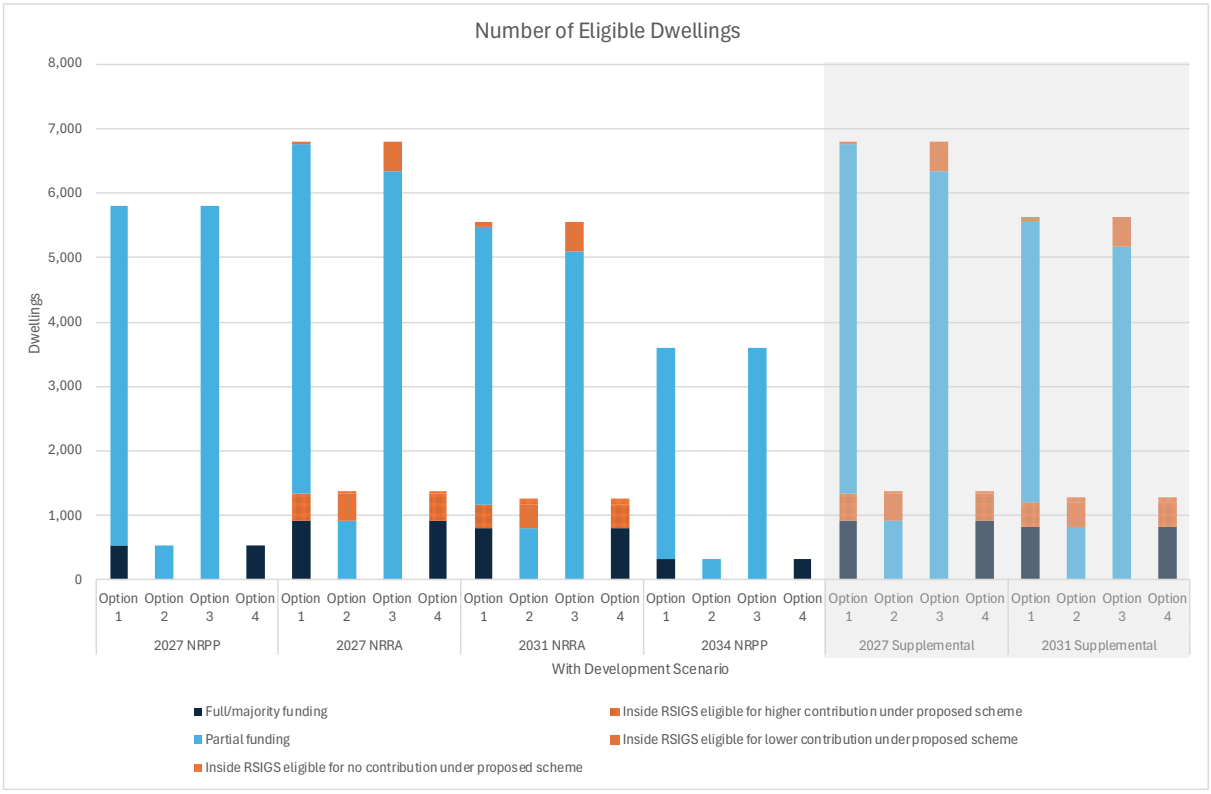
Table 12-5: Estimated Number of Dwellings Potentially Eligible for Noise Insulation for Each Option

Total number of eligible dwellings in 2027 outside RNIS eligibility contours				
Eligibility Criteria	NRPP and NRRA		Supplemental Scenario	
	Partial Funding	Majority/Full funding	Partial Funding	Majority/Full funding
Option 1	5,274 to 5,474 (of which 52 would be eligible under the RSIGS in the NRRA scenario)	527 to 1,333 (of which 409 would be eligible under the RSIGS in the NRRA scenario)	5,474 (of which 52 would be eligible under the RSIGS)	1,333 (of which 409 would be eligible under the RSIGS)
Option 2	527 to 1,333 (of which 408 and further 52 would be eligible under the RSIGS in the NRRA scenario)	0 to 1 (which would be also eligible under the RSIGS in the NRRA scenario)	1,333 (of which 408 and further 52 would be eligible under the RSIGS)	1 (which would be also eligible under the RSIGS)
Option 3	5,801 to 6,806 (of which 460 would eligible under the RSIGS in the NRRA scenario)	0 to 1 (which would be also eligible under the RSIGS in the NRRA scenario)	6,806 (of which 460 would eligible under the RSIGS)	1 (which would be also eligible under the RSIGS)
Option 4	n/a (52 dwellings would be eligible under the RSIGS in the NRRA scenario)	527 to 1,333 (of which 409 would be eligible under the RSIGS in the NRRA scenario)	n/a (52 dwellings would be eligible under the RSIGS)	1,333 (of which 409 would be eligible under the RSIGS)

Total number of eligible dwellings in 2031 outside RNIS eligibility contours				
Eligibility Criteria	NRRA		Supplemental Scenario	
	Partial Funding	Majority/Full funding	Partial Funding	Majority/Full funding
Option 1	4,396 (of which 88 would be eligible under the RSIGS)	1,165 (of which 373 would be eligible under the RSIGS)	4,437 (of which 82 would be eligible under the RSIGS)	1,197 (of which 379 would be eligible under the RSIGS)
Option 2	1,165 (of which 373 and further 88 would be eligible under the RSIGS)	0	1,197 (of which 379 and further 82 would be eligible under the RSIGS)	0
Option 3	5,561 (of which 461 would eligible under the RSIGS)	0	5,634 (of which 461 would eligible under the RSIGS)	0
Option 4	n/a (88 dwellings would be eligible under the RSIGS)	1,165 (of which 373 would be eligible under the RSIGS)	n/a (82 dwellings would be eligible under the RSIGS)	1,197 (of which 379 would be eligible under the RSIGS)

Total number of eligible dwellings in 2034 outside RNIS eligibility contours				
Eligibility Criteria	**NRPP**		**Supplemental Scenario**	
	Partial Funding	**Majority/Full funding**	**Partial Funding**	**Majority/Full funding**
Option 1	3,275	328	n/a	n/a
Option 2	328	0	n/a	n/a
Option 3	3,603	0	n/a	n/a
Option 4	n/a	328	n/a	n/a

Figure 13: Eligible Dwellings by Scheme Option and Comparison to RSIGS eligibility



12.6 Scheme Option Cost Estimates based on Eligibility

For the purposes of assessing the potential costs associated with each scheme option, a €40,000 grant has been assumed as a financial offer for the majority/full funding contribution for insulation of habitable rooms, based on the results of the bottom-up estimated presented in **Table 12-3** as presented in **Section 12.3**.

For the partially funded contributions, ANCA has adopted the level of contribution offered as part of Gatwick Airport Northern Runway Project DCO Noise Insulation and Compensation Scheme. These contributions could provide for insulation in a limited number of habitable rooms.

All monetary values have been corrected for inflation and currency exchange, where appropriate and presented in 2025 prices.

Table 12-6: Funding Assumptions by Scheme Option

Eligibility Criteria	55 dB to 60 dB L_{den}	60 dB to 65 dB L_{den}	> 65dB L_{den}
Option 1	Partial funding up to €5,600	Majority/Full funding up to €40,000	
Option 2	-	Partial funding up to €8,100	Majority/Full funding up to €40,000
Option 3	Partial funding up to €5,600	Partial funding Up to €8,100	Majority/Full funding up to €40,000
Option 4	-	Majority/Full funding up to €40,000	

Based on the financial contributions assumed for the four options, the total costs associated to each option to insulate all eligible dwellings have been estimated and are presented in **Figure 14** for both the 2027, 2031 and 2034 forecast years. **Figure 14** presents these costs on the basis of a full uptake of the scheme options.

For context, in Figure 14 the incremental costs needed to raise the RSIGS contribution from €30,000 to €40,000 are also shown, along with the additional costs required to match the RSIGS financial offer for those dwellings receiving either lower or no financial contribution under the proposed scheme.

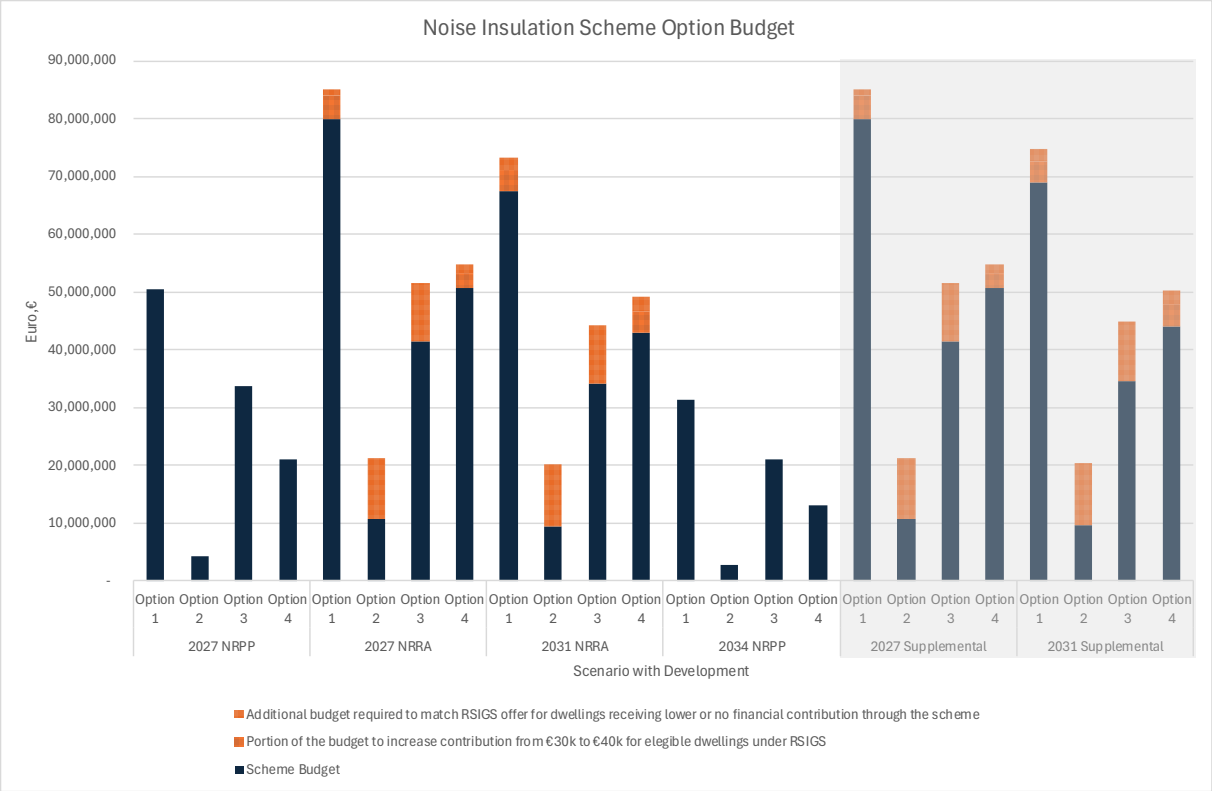


Figure 14 – Noise Insulation Scheme Budget

Options 1 and Option 4 result in the highest estimated costs as they both offer a majority/full funding contribution for insulation of habitable rooms compared to Option 2 and Option 3, which provide partial funding.

Option 4 by only offering a majority/full funding contribution for insulation of habitable rooms will result in a lower total budget than Option 1, which provides for additional partial funding below 60 dB L_{den}.

12.7 Likely Effectiveness of Scheme Options

An assessment of the effectiveness of the insulation scheme options in reducing the effects of high annoyance and high sleep disturbances has been carried out drawing on the estimated number of eligible dwellings outside the RNIS eligibility contours and the associated population calculated from the Applicant's modelling of the 2027, 2031 and 2034 forecast with Development scenarios in support of the Application.

Table 12-7 presents the number of dwellings in each noise band associated with scheme options. As expected, lower bands will attract a high number of dwellings and associated population into the options. Table 12-7 highlights that in most cases, there are no dwellings exposed to 65 dB L_{den} that would be eligible under the scheme options. This is due to these dwelling being eligible under RNIS. The analysis presented in Table 12-7 demonstrates that

noise exposure in 2027 can be considered worst case with exposure reducing in both the 2031 and 2034 forecasts.

Table 12-7 – Number of eligible dwellings and associated population (excluding dwellings constructed / consented prior to 9 December 2019 and outside RNIS eligibility)

Scenario	Number of Households					
	55 dB – 60 dB		60 dB – 65 dB		>65 dB	
	Dwellings	Population	Dwellings	Population	Dwellings	Population
2027 NRPP Scenario	5,274	14,350	527	1,404	0	0
2027 NRRA Scenario	5,474	14,273	1,332	3,321	1	0
2031 NRRA Scenario	4,398	11,453	1,165	2,886	0	0
2034 NRPP Scenario	3,275	8,347	328	978	0	0
2027 Supplemental Scenario	5,474	14,273	1,332	3,321	1	0
2031 Supplemental Scenario	4,439	11,550	1,197	2,971	0	0

Whilst the Second Schedule of ENR, which transposes Commission Directive (EU) 2020/367 into Irish law, provides the response relationships and the methodology to assess harmful effects, to date there is no specific methodology developed to consider the beneficial effects of noise insulation on the adverse health outcomes although the emerging evidence as discussed in Section 12.1 is encouraging. However, in line with the reporting framework under the END and ENR, competent authorities can optionally report dwellings with special insulation against noise, alongside the reporting of all dwellings exposed to noise, when reporting the results of strategic noise mapping. This allows for specific consideration to be given to such dwellings both in terms of considering such dwellings against stated noise objectives and in the reporting of harmful effects.

Hence, the following methodology has been developed to quantify the effectiveness of the noise insulation with respect to its potential in reducing harmful effects.

For each noise band, the number of people highly annoyed and highly sleep disturbed has been calculated at the central value of each noise band (for instance at 57.5 dB for the 55–60 dB noise band)[100] excluding any reduction that can be achieved through the insulation.

To take into account the potential effectiveness of insulation on reducing annoyance and sleep disturbance, it has been necessary to apply a correction to the outdoor exposure levels in each noise exposure band having regard to the potential performance of the insulation measures.

The proposed insulation scheme options aim to provide a reduction of 5 dB in indoor levels with reductions of potentially 10 dB also possible. Partial funding introduces uncertainty regarding which and how many rooms can be insulated and whether the targeted 5 dB reduction can be achieved in full. To reflect these differences in the level of contributions, two different corrections to the external levels have been assumed in the assessment of the harmful effects:

- a correction between 2 dB and 5 dB to both L_{den} and L_{night} exposure levels for population within dwelling eligible for partial funding contributions reflecting that not all habitable rooms may be insulated due to the partial contribution,
- a correction between 5 dB and 10 dB reductions to both L_{den} and L_{night} exposure levels for population within dwelling eligible to majority/full funding contributions reflecting that all or a majority of habitable rooms are likely to be insulated.

These reduction ranges have been applied to quantify the potential reduction in annoyance and sleep disturbance using the exposure response functions attached to the Second Schedule of ENR, which transposes Commission Directive (EU) 2020/367 into Irish law.

Furthermore, the effectiveness of the insulation is also affected by the level of uptake of the schemes. Insulation programmes that offer only partial funding are less likely to attract homeowners, as homeowners would be required to contribute towards the costs of insulation whereas majority/fully funded schemes are more likely to be taken up. Uptake rates of noise insulation schemes vary significantly, and beyond available funding, uptake can also be influenced by the factors such as:

- scheme advertising and accessibility and ease of applications to the scheme
- socio-demographics

[100] COMMISSION DIRECTIVE (EU) 2020/367 of 4 March 2020 amending Annex III to Directive 2002/49/EC of the European Parliament and of the Council as regards the establishment of assessment methods for harmful effects of environmental noise – Para. 3.3

- the nature of the housing stock in the scheme eligibility boundaries

In 2023, Luton Airport carried out a market study of insulation schemes as part of their planning application to expand from 19mppa to 32mppa. This study[101] highlighted that uptake rates for a scheme running for around 30 years had been on average 50-60%. The study also highlighted that for schemes where insulation had been offered to bedrooms only, up-take rates were as low as 15% rising to up to 80% for schemes providing majority funding for a full package of measures.

In 2015, research was published for a noise insulation pilot scheme trial at a major UK airport. This paper[102] reported up-take rates of between 6 and 10% for the financial contribution scheme with rates of 40% for the full cost scheme.

In 2024, Heathrow Airport reported uptake rates of around 70% associated with their full cost pilot noise insulation scheme.

To reflect the above, the analysis presented in this section has assumed the following:

an expected level of participation between 20% and 40% for dwellings eligible to partial contribution; and

an expected level of participation of 70 to 90% for dwellings eligible to full/majority contribution

The following table summarises the assumptions used for the effectiveness assessment

Table 12-8: Assumptions used for effectiveness analysis

Type of contribution	Level of uptake	Correction to exposure level
Partial funding	20% to 40%	2dB to 5 dB
Full/Majority funding	70% to 90%	5dB to 10 dB

Based on the assumptions outlined in the paragraphs above and summarised in Table 12-8, the following table presents the results of the effectiveness analysis carried out for each scheme option.

[101] https://nsip-documents.planninginspectorate.gov.uk/published-documents/TR020001-002195-8.91%20Applicant%27s%20Response%20to%20Issue%20Specific%20Hearing%203%20Action%2026%20-%20Noise%20Insulation%20Delivery%20Programme.pdf

[102] https://andersonacoustics.co.uk/wp-content/uploads/2023/12/The-role-of-noise-insulation-schemes-in-airport-noise-management-The-22nd-International-Congress-on-Sound-and-Vibration-Italy-2015.pdf?utm_source=chatgpt.com

Table 12-9: Effectiveness analysis

Reduction in harmful effects for dwellings participating to scheme				
	NRPP and NRRA		Supplemental Scenario	
Eligibility Criteria	**Reduction in High Annoyance**	**Reduction in Sleep Disturbance**	**Reduction in High Annoyance**	**Reduction in Sleep Disturbance**
Option 1	4% to 19%	4% to 41%	6% to 19%	6% to 41%
Option 2	0% to 2%	0% to 2%	0% to 2%	0% to 2%
Option 3	2% to 12%	2% to 26%	2% to 11%	2% to 26%
Option 4	2% to 10%	2% to 17%	4% to 10%	4% to 17%

The effectiveness of the scheme options is highly affected by the uncertainties related to the level of uptake of the scheme and/or the level of reduction in noise levels that will be achieved by interventions depending on the financial contribution offered.

The results presented in **Table 12-9** show that Options 1 and Option 4 are the most effective schemes. This is a consequence of these options providing for majority/full funding contributions to the insulation of habitable rooms across a greater number of eligible dwellings and the associated uptake rates coupled to the targeted insulation performance.

12.8 Identification of the likely most cost-effective option

The identification of the most cost-effective options among those ones identified is carried out by calculating the cost per % reduction in HA and HSD using the total budget associated with the scheme options presented in Figure 14 and the results in terms of effectiveness presented in **Table 12-10**. The following table presents a summary of the results for each option of the cost-effectiveness assessment carried out across the forecast scenarios. Full details of the assessment are reported in **Appendix J**. This analysis takes into the assumed uptake ranges as presented in **Table 12-8** when deriving the potential costs for each 1% reduction in harmful effects.

Table 12-10: Cost Effectiveness of Scheme Options (based on cost per 1% reduction in high annoyance and high sleep disturbance) for eligible dwellings and people

Cost effectiveness of Scheme Options				
	NRPP and NRRA		Supplemental Scenario	
Eligibility Criteria	**Costs per 1% reduction in High Annoyance**	**Costs per 1% reduction in Sleep Disturbance**	**Costs per 1% reduction in High Annoyance**	**Costs per 1% reduction in Sleep Disturbance**
Option 1	€2.0m to €14.8m	€2.0m to €14.8m	€3.8m to €14.8m	€2.0m to €14.8m
Option 2	€2.1m to €24.3m	€2.1m to €22.0m	€4.1m to €24.3m	€4.2m to €22.0m
Option 3	€1.8m to €18.1m	€1.6m to €19.3m	€3.1m to €18.1m	€1.6m to €19.3m
Option 4	€2.4m to €13.8m	€2.4m to €13.3m	€4.6m to €13.8m	€3.1m to €13.3m

The results above show that Option 1 and Option 4 are likely to be the most cost-effective options in reducing harmful effects when considering both the lower and upper ranges of the costs.

Whilst Options 1 and Option 4 are the schemes can be considered as likely to be the most effective in practically reducing harmful effects on eligible dwellings and people, Option 4 by only offering a majority/full funding contribution for insulation of habitable rooms is expected to result in lower total costs than Option 1, which compared to Option 4 provides additional partial funding contribution for eligible properties exposed at lower noise levels (below 60 dB L_{den}).

However, as stated in the paragraphs above, the effectiveness of the scheme options is highly affected by the level of uptake of the schemes and/or the level of reduction in noise levels that will be achieved by interventions that are dependent on the financial contribution offered and the noise reduction possible across the dwelling. Partial funding towards insulation is less likely to be taken up by homeowner with uncertainties on how much reduction can be achieved, making Option 1 potentially less cost-effective than Option 4.

Moreover, in the context of the NRRA Scenario, the Option 4 budget is inclusive of the estimated incremental costs of the potential provisions of the RSIGS scheme. The incremental costs of each scheme option compared to RSIGS are presented in **Table 12-11** below. These costs provide an estimate of the additional costs of each scheme option over and above those associated with the RSIGS scheme.

Table 12-11: Incremental Scheme Costs against RSIGS

Incremental budget to RSIGS	Cost to increase offer from 30k to 40k (included in scheme budget)	Cost to increase offer to 30k for lower or no contribution (outside scheme budget)
Option 1	3.7M to 4.1M	1.3M to 2.1M
Option 2	n/a	10.5M to 10.8M
Option 3	n/a	10.2M to 10.3M
Option 4	3.7M to 4.1M	1.6M to 2.6M

12.9 Conclusion

The cost-effectiveness analysis presented in this section has considered four expanded noise insulation scheme options. The analysis indicates that Option 1 and Option 4 are more likely to be cost-effective than Options 2 and 3 based on the cost per percentage reduction of high annoyance and high sleep disturbance.

Whilst budgets associated with each of the scheme options are estimated on the basis that all the eligible dwelling should be insulated and the Applicant is responsible to secure and make them available, the effectiveness of the scheme options depend on the level of uptake which is not in direct control of the Applicant. Moreover, partial funding would not guarantee the insulation of all habitable rooms and consequently the level of sound reduction that is targeted without a further contribution of homeowners. Among all the options, ANCA considers that Option 4 provides a higher degree of certainty in the level of reduction of HA and HSD per euro and consequently a higher degree of certainty in its cost effectiveness.

Based on the assumptions and inputs adopted in the analysis, ANCA is of the opinion that Option 4 is therefore the most likely cost-effective of the options considered. Furthermore, there are wider considerations which make Option 4 preferred in the wider context of the 2026 NAO and associated health evidence.

The 2026 NAO and its explanatory text, makes it appropriate that, as the Airport grows, measures shall be considered to reduce noise impacts where growth may lead to increased airport activity and population noise exposure. Noise insulation provides a basis for reducing such impacts with airport growth providing the means to afford such interventions.

Option 4 would provide for full/majority funding of noise insulation measures at and above 60 dB L_{den}. This is a level of noise exposure where there remains an elevated health risk. The 60 dB L_{den} will generally include dwellings which are exposed to levels at and above 55 dB L_{night} which is considered by the WHO as a level of exposure increasingly dangerous for public health.

Based on the considerations made within this section, Option 4 would be eligible for dwellings consented or constructed prior to 9th December 2019 and would supplement the existing RNIS scheme. These considerations accept that noise insulation will be part of dwellings consented following 9th December 2019 responding to the noise zoning policies of the Fingal Development Plan 2023 – 2029.

13 Notice Of Proposed Measures to the Applicant

Section 34B(7) of the Act of 2000 requires ANCA to issue notice to the Applicant detailing the noise mitigation measures or operating restrictions proposed to be required in a decision of the planning authority and its reasons for so proposing. The notice must provide for the applicant to make submissions, observations or counter proposals on the proposed measures during the specified notice period of not less than 4 weeks. On 24 March 2026, ANCA issued notice to the Applicant pursuant to 34B(7) of the Act of 2000. No counter proposals were made by the Applicant during the period specified in the Notice (25 March 2026 to 22 April 2026). The Applicant made one observation/submission and having considered this, ANCA made no changes to the proposed measures and proceeded to make a DRD. The 34B(7) Notice and the response of the Applicant dated 22 April 2026 is attached in Appendix I.

14 Draft Regulatory Decision

The text of this chapter is reproduced verbatim from Chapter 13 of the DRD Report which accompanied the draft regulatory decision (DRD) for the purposes of public consultation. The changes made to the draft regulatory decision arising out of such consultation with other statutory authorities and the public participation process are addressed in Section 16.

The Draft RD contains the following noise mitigation measures that ANCA proposes to direct the planning authority to include as conditions of the planning authority's decision (if any) to grant permission for the development (F23A/0781):

Condition 1: Noise Insulation Scheme

Condition:

A sound insulation grant scheme (SIGS) for residential dwellings shall be provided as detailed in Schedule A. Initial eligibility to the scheme shall apply to residential dwellings forecast to be exposed to aircraft noise at or above 60 dB L_{den} within the first calendar year following a grant of permission for this development.

Eligibility to the scheme shall be reviewed every year thereafter with residential dwellings situated in the 60 dB L_{den} contour for the preceding calendar year being eligible under the scheme.

The scheme shall not apply to properties where works have been undertaken under any other existing noise insulation scheme or properties where a planning permission was granted after 09 December 2019, this being the date of adoption of the policies relating to development within Aircraft Noise Zones which are in Variation No 1 to the Fingal Development Plan 2017-2023 and retained in the Fingal Development Plan 2023 – 2029. This scheme shall be delivered in accordance with the requirements set out in Schedule A (encl.).

Schedule A

Part 1: Definitions

The following definitions shall apply with reference to the Scheme described in this schedule.

Term	Definition
Approved Contractor	A contractor procured and managed by the Applicant and considered competent and appropriately qualified and have suitable levels of insurance coverage to install the sound insulation measures described in Part 4: Procedure in line with acceptable standards and in compliance with the Building Regulations.
Habitable Room	A habitable room is a room, other than an attic or loft, within an Eligible Dwelling which is used for living or sleeping, built in compliance with the provisions of the building regulations and the Planning and Development Act.
Competent Surveyor	An appropriately qualified surveyor to inspect and determine relevant information in relation to the existing construction and elements of an Eligible Dwelling for the purposes of undertaking an Elemental Analysis as defined in Part 4: Procedure.
Initial Eligibility Contour Area	The area of the 60 dB L_{den} noise contour forecast for the following calendar year, to be provided by the Applicant within 3 months of a grant of permission for this development, for the written agreement of ANCA prior to submission for approval to the Planning Authority.
Eligibility Contour Area	The area of the 60 dB L_{den} noise contour for the preceding calendar year, for written agreement of ANCA prior to submission for approval to the Planning Authority.
Eligible Dwelling	A habitable dwelling: • built in compliance with the provisions of the building regulations and the Planning and Development Act • located within the Initial Eligibility Conour Area or Eligibility Contour Area • But does not include a dwelling that:

	○ was constructed pursuant to a planning permission granted after 9 December 2019, being the date of adoption of the policies relating to development within Aircraft Noise Zones in Variation No 1 to the Fingal Development Plan 2017-2023 (and retained in the Fingal Development Plan 2023 – 2029); and ○ has benefited from noise insulation previously under this scheme; and ○ has benefited from noise insulation previously under any other existing noise insulation schemes.
Initial Eligibility Report	A report prepared and published by the Applicant within 3 months of a grant of permission for this development in line with the requirements set out in Part 2: Determining Eligibility under the Scheme.
Eligibility Report	A report prepared and published every year by the Applicant in line with the requirements set out in Part 2: Determining Eligibility under the Scheme.
Grant	The commitment by the Applicant for the provision of finance to directly pay the Approved Contractor for a package of noise insulation measures, which would cover fully, or the majority of, the costs associated with the insulation of a range of habitable rooms up to [€40,000] (Index Linked).
Index Linked	Index-linked by reference to changes in the Consumer Price Index (CPI) (maintained by the Central Statistics Office) in the period between the submission date of the Application and the date of the Statement of Need.
Relevant External Noise Level	The noise exposure level at the relevant Eligible Dwelling.
Statement of Need	The recommended measures identified from those available under the scheme as outlined in Part 4.
Target Performance	An improvement of at least 5 dB, where feasible, in the sound insulation of the Eligible Dwelling. Where possible, the guidelines recommended in BS8233:2014 for internal ambient noise levels shall be targeted.

Part 1: Purpose of the Scheme:

The purpose of the scheme is to provide a package of noise insulation measures, assessed to achieve the Target Performance, up to a value limited to [€40,000] (Index Linked), exclusive of scheme administration costs.

Measures shall apply to all Habitable Rooms.

Where a dwelling is identified as an Eligible Dwelling under this scheme and is also eligible for insulation under the Residential Noise Insulation Scheme (RNIS), the Applicant shall ensure that the dwelling receives insulation under the RNIS.

Part 2: Determining Eligibility under the Scheme

2.1 Within 3 months of the grant of permission for this development, the Applicant shall prepare and publish an Initial Eligibility Report, including:

- The aircraft noise forecast for the following calendar year;
    - The forecast shall be based on the forecasting requirements set out in the guidance attached to the 2026 Noise Abatement Objectives Report Part 4 – 2026 Noise Abatement Objectives 2026 Guidance Note
- The Initial Eligibility Contour Area as defined by the 60 dB L_{den} noise contour
- Records of dwellings that have previously received noise insulation measures under any existing noise insulation schemes;
- GIS compatible digital noise contour datasets;
- Key statistics with respect to;
    - aircraft movements
    - movements by aircraft type
    - passenger numbers
    - aircraft destinations
    - flight routings
    - runway use
- A list of Eligible Dwellings
- A programme and associated timeline for Steps 1 and 6 of the procedure as set out in Part 4 for the Eligible Dwellings identified within the Initial Eligibility Contour Area.

Using the Initial Eligibility Contour Area and having regard for the wider eligibility provisions set out in this part, the Applicant shall notify ANCA and the planning authority of the Eligible Dwellings.

2.2 By 31 March every year thereafter, the Applicant shall prepare and publish a revised Eligibility Report, including:

- The noise situation at the airport for the preceding calendar year;
    - The noise situation shall be based on the requirements set out guidance attached to the 2026 Noise Abatement Objectives Report Part 4 – 2026 Noise Abatement Objectives 2026 Guidance Note;
- The Eligibility Contour Area as defined by the 60 dB L_{den} noise contour;
- Records of dwellings that have previously received noise insulation measures under any existing noise insulation schemes;
- The status of noise insulation works for Eligible Dwellings under this scheme with reference to and against Steps 1 and 6 of the procedure as set out in Part 4 of this Schedule;
- GIS compatible digital noise contour datasets;
- Key statistics with respect to;
    - aircraft movements
    - movements by aircraft type
    - passenger numbers
    - aircraft destinations
    - flight routings
    - runway use
- A list of Eligible Dwellings
- A programme and associated timeline for Steps 1 and 6 of the procedure as set out in Part 4 for the Eligible Dwellings identified within the Eligibility Contour Area;

Part 3: Measures Available under the Scheme

The owner of an Eligible Dwelling, subject to the procedure described in Part 4, shall be entitled to a selection of insulation measures to habitable rooms as specified as follows:

The insulation measures must be installed by an Approved Contractor and comprise of the following unless the equivalent measure already exists within the Eligible Dwelling:

a. Primary Acoustic Glazing

b. Secondary Acoustic Glazing

c. Glazing Roof Light

d. Passive Ventilator

e. Mechanical Ventilator

f. Loft Insulation

g. Ceiling Overboarding

The sound installation measures provided under this scheme shall otherwise comply with the specification of the measures in place under the RNIS scheme as summarised in Step 5 below.

Where secondary acoustic glazing is to be installed, this shall meet the following specification, namely, 6.4mm laminated glass with minimum 100mm horizontal distance from the primary glazing unit. However, where this is not possible, the secondary glazing should be provided to account for the below variations.

Thickness of glazing of the inner window	**Minimum horizontal distance**
Less than 4mm and not less than 3mm thick	200mm
Less than 6mm and not less than 4mm thick	150mm

Where secondary glazing is being installed reasonable endeavours will be made to repair the draft seals, catches and hinges to provide an air-tight seal on the existing primary glazing unit.

Where a replacement primary acoustic glazing is to be provided, this shall achieve a minimum R_w of 43 dB tested and rated to BS EN ISO 140-3 and BS EN ISO 717.

Where ventilators (passive or mechanical) are to be provided, a ventilation strategy for the rooms within each Eligible Dwelling shall be determined in accordance with Part F of the Building Regulations. Mechanical ventilation shall comprise of a ventilator unit consisting of a controlled variable-speed inlet fan with sound attenuating duct and cover that is capable of supplying fresh air to the room directly from outside by means of the supply duct and cowl (or grille).

Where no loft insulation is present in an Eligible Dwelling 200mm of fibrous acoustic insulation may be placed between ceiling joists, the insulation is to have a minimum density of 80kg/m3. Where insulation is already present but found to be unsatisfactory additional layers of insulation will be added to increase the total thickness to 200mm.

Any ceiling overboarding shall comprise of a continuous layer of mass to provide at least 12kg/m^2 added above joists in attic, for example 22mm plywood (or similar approved).

In the event that loft Insulation or loft boards cannot be installed due to inaccessibility or other practical reasons, any ceiling overboarding shall comprise a dense plasterboard with a total minimum surface mass of 12 kg/m^2, i.e. 15mm SoundBloc (or similar approved).

Part 4: Procedure

The Applicant in operating this Scheme shall follow the procedure set out in this Part 5 as required in the discharge of the Applicant's obligations under Condition 7 of the North Runway Consent, the discharge of which obligations is achieved through the RNIS.

Step 1 – Determine Eligibility – Eligible Dwelling as per Part 2 of this Schedule.

Step 2 – Notification of Eligibility - The Owner of an Eligible Dwelling shall be notified of their eligibility under the scheme within six months of their eligibility being determined under Step 1.

Step 3 – Determine Relevant External Noise Level - The Relevant External Noise Level at the Eligible Dwelling shall be determined

Step 4 – Undertake Building Survey – The Applicant shall use reasonable endeavours to arrange for the Eligible Dwelling to be inspected by the Competent Surveyor (and secure the necessary agreement to this from the owner of the Eligible Dwelling) within six months of eligibility being determined to record relevant information. The building survey shall be carried out by a Competent Surveyor appointed on behalf of the Applicant. The survey shall record the location and number of rooms, and for each room record the following relevant information:

- External wall constructions - where possible the construction type of the external walls will be recorded for example wall composition including inner leaf, cavity, and external leaf dimensions including all associated building materials
- Window type – e.g. frame material, single glazing, double glazing, including key dimensions
- Roof construction – including where possible roof construction type
- Details of chimneys and fireplaces
- Ventilation paths – e.g. existing wall and floor vent types, quantities and dimensions
- Details of any existing sound insulation measures which have been installed previously
- Dimensions of all rooms including window, roof and wall dimensions
- Drawings and/or floor plans – if these are available from the owner
- Photographic records of the building

Step 5 – Elemental Analysis - An elemental analysis shall be undertaken to provide a technical assessment of the noise insulation required for the Eligible Dwelling. The following process shall be followed:

a. The existing sound insulation properties of each habitable room shall be established
b. The anticipated future internal noise levels within each habitable room having regard for the Relevant External Noise Level, presented in octave bands scaled from measurements taken around the Airport, and the existing noise insulation performance obtained from Step a.
c. A comparison shall be made between the anticipated internal noise level to the BS8233:2014 Targets for internal ambient noise;
d. An assessment will be undertaken to determine the required improvement in the noise insulation performance, having regard for the Target Performance.

e. Through an elemental analysis, the most effective combination of measures set out in Part 4 having regard for the Target Performance and the financial assistance grant shall be identified.

Step 6 – Statement of Need - A Statement of Need shall be prepared for each Eligible Dwelling. The Statement of Need will be a bespoke document for each Eligible Dwelling. The Statement of Need shall:

a. Describe the existing sound insulation performance for each room having regard for the Building Survey as described in Step 4

b. Identify the potential improvement in the existing sound insulation performance for each room as can be afforded within the Grant and whether the Target Performance can be met

c. Set out the recommended set of measures for the Eligible Dwelling in the form of a schedule of works and the associated measures on a room by room basis

d. Provide an opinion on the future internal noise level following the implementation of the noise insulation works and the ability of the works to the meet Target Performance.

The Statement of Need shall be issued to the owner of the Eligible Dwelling.

Step 7 – Acceptance - If the owner of the Eligible Dwelling confirms agreement in writing to (a) the scope of works as defined under the Statement of Need, (b) the engagement of the Approved Contractor and (c) access to the dwelling by the Approved Contractor for the purposes of undertaking the works within six weeks of the provision of the Statement of Need, the Applicant will use reasonable endeavours to procure that the Approved Contractor undertakes the scope of works within six months of the owner's agreement to the same. If the owner does not confirm agreement in writing within six weeks of the provision of the Statement of Need, the dwelling shall cease to be an Eligible Dwelling for that year. For the avoidance of doubt, the dwelling shall be an Eligible Dwelling for any subsequent year in which it falls within the Eligibility Contour Area.

Step 8 – Works – The scope of works as defined by the Statement of Need shall be undertaken by the Approved Contractor. The Applicant shall procure the Approved Contractor to ensure that the works are undertaken to the necessary standards and in compliance with the necessary regulations and that the Approved Contractor provides the owner with all appropriate certification and warranties relative to the works completed to the Eligible Dwelling.

Reason:

To mitigate the impact of aircraft noise using recognised health-based indicators, including those related to annoyance and sleep disturbance, in the interest of residential amenity and the proper planning and sustainable development of the area.

15 Stakeholder Participation Process

The Draft Regulatory Decision and Report were available for public consultation for 14 weeks between 28 May 2026 and 03 September 2026. Submissions and observations in writing were invited through any one of the following ways:

1) **Online**: https://consult.fingal.ie/en/content/aircraft-noise-consultation.
2) **By email**: aircraftnoiseconsultation@fingal.ie
3) **Post**: Aircraft Noise Consultation, Aircraft Noise Competent Authority, Fingal County Council, County Hall, Main Street, Swords, Co Dublin K67 X8Y2.

All related documentation (including SEA Draft Environmental Reports) were available on the ANCA website (https://www.fingal.ie/aircraftnoiseca/aircraftnoiseconsultation2026) to view or download for the duration of the consultation.

A notice detailing the process of consultation and how a submission could be made was published in a national newspaper and on the websites of ANCA and FCC. All documentation was made available for examination free of charge at the ANCA offices.

ANCA considered all submissions and observations made in writing in relation to the draft Regulatory Decision during this consultation prior making a regulatory decision. The submissions and observations are summarised and presented in thematic format in a consultation report which is published on the ANCA website.

The consideration by ANCA of the matters raised within the individual submissions and observations is also summarised and presented in the consultation report.

This Final Regulatory Decision Report will be among the matters considered by ANCA prior to its decision on the adoption of the Regulatory Decision.

16 Selection of Preferred Options Following Public Consultation.

16.1 The Regulatory Decision

This chapter details the amendments to the DRD as result of the public consultation, together with the reasons therefore and for the conditions therein, arising from the application of the Balanced Approach. The Final Regulatory Decision, consisting of the adoption of the draft regulatory decision with the amendments considered appropriate is attached in Appendix K.

16.2 Reasons for amendments to DRD

The Final Regulatory Decision makes provision for a home insulation scheme to mitigate the aircraft noise impact of the development as proposed through planning application F23A/0781. The purpose of this home insulation is to improve the residential amenity of older properties that are, or may be, exposed to aircraft noise above 60dB L_{den}. The scheme is not intended to provide insulation measures for properties built subject to a planning permission granted after 9 December 2019 or future properties otherwise built including through planning exemption. 9 December 2019 was the date of adoption in the Fingal County Council development plan of revised policies relating to assessment and development and aircraft noise nose zones around Dublin Airport.

Amendments to the DRD also provide for the alignment of the insulation scheme with other insulation schemes to ensure the efficient and coordinated implementation of planning conditions in place at Dublin Airport.

The RD contains amendments to the DRD arising through:

i. Updated legislative references from the draft regulatory decision as relating to the making of a regulatory decision.

ii. Updates to processes undertaken between the making of a draft regulatory decision and a regulatory decision.

iii. Text amendments to remove ambiguity or provide additional clarity to ensure the efficient implementation of planning conditions.

iv. Amendments to ensure the efficient coordination of the implementation of noise insulation schemes at Dublin Airport.

These amendments to the DRD are identified in Section 16.3 as: ~~**deleted text**~~ and **inserted text**.

16.3 Schedule of changes between DRD and RD and reasons for change

Page in RD	Location	Text deleted	Text inserted	Reason for Change
Inside Cover	statutory basis for RD	~~Draft~~	No text replacement; deletion leaves "Regulatory Decision".	Legislation update
Inside Cover	statutory basis for RD	~~(9)~~	(13)	Legislation update
4	Glossary - Draft RD definition	~~Draft RD means this Draft Regulatory Decision, issued pursuant to Section 34B(9) of the Act of 2019~~	Draft RD means a Draft Regulatory Decision, pursuant to Section 34B(9) of the Act of 2000	Legislation update
4	Glossary - RD definition	~~RD means the Regulatory Decision to be issued pursuant to Section 34B(13) of the Act of 2019 of which this is the draft.~~	RD means this Regulatory Decision pursuant to Section 34B(13) of the Act of 2000.	Legislation update
6	Process of Aircraft Noise Regulation	~~Draft Regulatory Decision (Draft RD)~~	Regulatory Decision (RD),	Legislation update
7	Matters Considered	~~Draft~~	No text replacement; deletion leaves "RD".	Legislation update
7	Matters Considered	~~draft~~	final	Legislation update
7	Matters Considered	~~Draft~~	No text replacement; deletion leaves "Regulatory Decision Report".	Legislation update
7	Matters Considered	~~Draft~~	No text replacement; deletion leaves "RD".	Legislation update
7	Matters Considered	~~Draft~~	No text replacement; deletion leaves "RD".	Legislation update
8	Matters Considered	~~Draft~~	No text replacement; deletion leaves "Regulatory Decision Report".	Legislation update
8	Matters Considered	~~Draft~~	No text replacement; deletion leaves "Regulatory Decision".	Legislation update
9	Appropriate Assessment - introductory sentence	~~Draft~~	No text replacement; deletion changes "Draft RD" to "RD".	Legislation update
9	Appropriate Assessment -	~~The Draft RD is a plan not directly connected with or necessary to the management of~~	ANCA had regard to all submissions and observations received during this consultation	Process update

	screening conclusion	~~any European Site. Screening has concluded that the Draft RD is not predicted, either alone or in-combination with other plans or projects, to have a significant effect on any European Site. Therefore, in alignment with applicable guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC, it is determined that the Draft RD will generate no potential for Likely Significant Effects (LSE) on any European Site. Consequently, a Stage two Appropriate Assessment is not required.~~	prior to making the AA determination. Having considered submissions and observations in received during the fourteen-week public consultation related to the Screening Reports for Appropriate Assessment for the proposed amendments to the DRD, ANCA has concluded, with technical assistance from Logika Consultants Ltd, that the conclusion of the screening reports remains that the RD is not directly connected with or necessary to the management of Natura 2000 sites and that it can be excluded on the basis of objective scientific information following screening under this Regulation, that the plan or project, individually or in combination with other plans or projects, will have a significant effect on a European site. Consequently, stage two appropriate assessment is not required.	
9	Appropriate Assessment - further screening	~~Should there be changes to the Draft RD, which may affect the conclusions presented herein, then a further screening of the potential for LSEs upon Natura 2000 sites will be required.~~	No text replacement.	Legislation update
9	Strategic Environmental Assessment - framework	~~Draft~~	No text replacement; deletion changes “Draft RD” to “RD”.	Legislation update
9	Strategic Environmental Assessment - requirement	~~Draft~~	No text replacement; deletion changes “Draft RD” to “RD”.	Legislation update
9	SEA consultation and outcome	No corresponding text deletion.	ANCA had regard to all submissions and observations received during this consultation prior to making an SEA Final Environmental Report and SEA Statement. ANCA has taken into account the Final Environmental Report, along with all submissions and observations received through public consultation, in its	Process update

			preparation of the RD. The SEA Statement summarises how environmental considerations have been integrated into the RD, how the Final Environmental Report and submissions and observations were taken into account, the reasons for choosing the RD in light of reasonable alternatives, and any monitoring measures decided upon.	
10	**Reasons for Regulatory Decision**	~~**a Draft**~~	**an RD**	Legislation update
10	**Reasons for Regulatory Decision**	~~**Draft**~~	**No text replacement; deletion leaves "Regulatory Decision Report".**	Legislation update
10	**Reasons for Regulatory Decision**	~~**Draft**~~	**No text replacement; deletion leaves "RD".**	Legislation update
11	**Reasons for Regulatory Decision**	~~**Draft**~~	**No text replacement; deletion leaves "RD".**	Legislation update
11	**Reasons for Regulatory Decision**	~~**Draft**~~	**No text replacement; deletion leaves "Regulatory Decision Report".**	Legislation update
11	**Reasons for Regulatory Decision**	~~**Draft**~~	**No text replacement; deletion leaves "Regulatory Decision".**	Legislation update
12	**Regulatory Decision**	~~**Draft**~~	**No text replacement; deletion changes "Draft Regulatory Decision" to "Regulatory Decision".**	Legislation update
12	**Regulatory Decision**	~~**Draft**~~	**No text replacement; deletion changes "Draft RD" to "RD".**	Legislation update
12	**Regulatory Decision**	~~**proposes to**~~	**will**	Process update
12	**Condition 1 – Noise Insulation Scheme**	**No corresponding text deletion.**	**eligible**	For the purposes of clarity and to ensure the efficient implementation of planning conditions
12	**Condition 1 – Noise Insulation Scheme**	~~**Eligibility to the scheme shall be reviewed every year thereafter with residential dwellings situated in the 60 dB Lden contour for the preceding calendar year being**~~	**The Applicant shall review eligibility for the scheme every two years thereafter with eligible residential dwellings situated in the 60 dB Lden contour for the**	To ensure the efficient implementation of planning conditions

		~~eligible under the scheme.~~	preceding calendar year being eligible under the scheme.	
12	Condition 1 - excluded properties	~~The scheme shall not apply to properties where works have been undertaken under any other existing noise insulation scheme or properties where a planning permission was granted after 09 December 2019, this being the date of adoption of the policies relating to development within Aircraft Noise Zones which are in Variation No 1 to the Fingal Development Plan 2017-2023 and retained in the Fingal Development Plan 2023-2029.~~	No corresponding text replacement in Condition 1; related eligibility wording appears in Schedule A (encl.).	For the purposes of clarity and to ensure the efficient implementation of planning conditions
13	Schedule A - Eligible Dwelling	~~dwelling~~	building	For the purposes of clarity and to ensure the efficient implementation of planning conditions
13	Schedule A - Eligible Dwelling	No corresponding text deletion	and	For the purposes of clarity and to ensure the efficient implementation of planning conditions
13	Schedule A - Eligible Dwelling	~~located within the Initial Eligibility Conour Area or Eligibility Contour Area~~	located within the Initial Eligibility Contour Area or Eligibility Contour Area and	For the purposes of clarity and to ensure the efficient implementation of planning conditions
13	Schedule A - Eligible Dwelling	~~was constructed pursuant to a planning permission granted after 9 December 2019, being the date of adoption of the policies relating to development within Aircraft Noise Zones in Variation No 1 to the Fingal Development Plan 2017-2023 (and retained in the Fingal Development Plan 2023 – 2029); and~~	was constructed pursuant to a planning permission granted before 9 December 2019, being the date of adoption of the policies relating to development within Aircraft Noise Zones in Variation No 1 to the Fingal Development Plan 2017-2023 (and retained in the Fingal Development Plan 2023 – 2029), or constructed before 1 October 1964; but	For the purposes of clarity and to ensure the efficient implementation of planning conditions
13	Schedule A - Eligible Dwelling	No corresponding text deletion.	does not include a building that has benefited from noise insulation previously under this scheme or any other noise insulation scheme in existence prior to the date of this regulatory decision.	For the purposes of clarity and to ensure the efficient implementation of planning conditions

13	**Schedule A - Eligible Dwelling**	~~**But does not include a dwelling that: has benefited from noise insulation previously under this scheme; and has benefited from noise insulation previously under any other existing noise insulation schemes.**~~	**Replaced by the consolidated text exclusion above.**	For the purposes of clarity and to ensure the efficient implementation of planning conditions
14	**Schedule A - Eligible Dwelling**	**No corresponding text deletion.**	**An Eligible Dwelling includes any part of a building that is exempted development but does not include any separate building that is exempted development, whether pursuant to Class 3A of Part 1 of Schedule 2 of the Planning and Development Regulations 2001 (as inserted by Article 3 of the S.I. No. 340/2026 - Planning and Development (Exempted Development (Act of 2000)) (No. 3) Regulations 2026) or otherwise.**	For the purposes of clarity and to ensure the efficient implementation of planning conditions
14	**Schedule A - Eligibility Report**	~~**year**~~	**two years in August**	To ensure the efficient implementation of planning conditions
14	**Schedule A Grant**	~~**[ ]**~~	**No text replacement; brackets removed.**	For the purposes of clarity
14	**Part 1: Purpose of the Scheme**	~~**[ ]**~~	**No text replacement; brackets removed.**	For the purposes of clarity
15	**Part 2: Determining Eligibility under the Scheme**	**No corresponding text deletion.**	**or any subsequent amended Guidance Note**	For the purposes of clarity and to ensure the efficient implementation of planning conditions
15	**Part 2: Determining Eligibility under the Scheme**	~~**March**~~	**August**	For the purposes of clarity and to ensure the efficient implementation of planning conditions
15	**Part 2: Determining Eligibility under the Scheme**	~~**year**~~	**two**	For the purposes of clarity and to ensure the efficient implementation of planning conditions
15	**Part 2: Determining**	**No corresponding text deletion.**	**or any subsequent amended Guidance Note;**	For the purposes of clarity and to ensure

	Eligibility under the Scheme			the efficient implementation of planning conditions
17	**Part 4: Procedure**	**No corresponding text deletion.**	**and any management company where it exists (in the case of multi-unit developments),**	For the purposes of clarity and to ensure the efficient implementation of planning conditions
17	**Part 4: Procedure**	**No corresponding text deletion.**	**This shall be based on the calculated noise level at the building based on the noise situation at the airport for the preceding calendar year as determined under Part 2, Paragraph 2.2.**	For the purposes of clarity and to ensure the efficient implementation of planning conditions
18	**Part 4: Procedure**	**No corresponding text deletion.**	**through elemental analysis carried out in accordance with the standardised calculation method described in Annex G of BS8233:2014. This shall consider inputs such as the area of each element of the building envelope (i.e. windows, wall, roof etc.), the sound insulation performance of each existing element, the room dimensions and the calculated external noise level.**	For the purposes of clarity and to ensure the efficient implementation of planning conditions
19	**Part 4: Procedure**	**No corresponding text deletion.**	**The scheme shall be carried out in accordance with a scheme implementation plan that shall be submitted to ANCA within 3 months of a grant of permission for this development for agreement in writing prior to submission for approval to the Planning Authority.**	For the purposes of clarity and to ensure the efficient implementation of planning conditions

17 Appeal of a Regulatory Decision by ANCA

17.1 The Subsequent Role of the Planning Authority

Once a regulatory decision is made, it is forwarded by ANCA to the planning authority of Fingal County Council pursuant to Section 34B(14) of the Act of 2000. The planning authority will make a decision whether to grant or refuse the planning permission and will include any noise mitigation measures or operating restrictions provided for in the regulatory decision as conditions of the planning decision.

17.2 Route to Appeal

An Coimisiún Pleanála (ACP) is the appeals body in relation to a decision of the planning authority containing the regulatory decision. For the purposes of an appeal to ACP any person who made submissions or observations in writing in relation to the draft regulatory decision, may on payment of the appropriate fee, may, at any time before the expiration of the appropriate period, appeal to the Board against the decision of the planning authority on the planning application containing the regulatory decision.



An tÚdarás Inniúil um Thorann Aerárthaí

Aircraft Noise Competent Authority

Comhairle Contae Fhine Gall
Fingal County Council

