

Dublin City Council

Strategic Noise Mapping and Noise Action Plans for the Dublin Agglomeration for Round 5 of the Environmental Noise Regulations 2018-2021

City Engineer Department

Technical Support Division

Request for Tender

Appendix B

Detailed Technical Specification

November 2026

Revision C

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Table of Contents

1. Introduction 7
2. Overview of Requirements 7
2.1 Agglomeration Extent 7
2.1.1 Electoral District of Tibradden 8
2.2 Scope of Services 9
2.3 National and European Guidance Notes and Documents 11
2.3.1 Environment Protection Agency 11
2.3.2 European Commission Guidance 12
3. Phase 1: Noise Modelling and Mapping 13
3.1 Data Review, Process and Preparation for Noise Model 13
3.1.1 Round 4 Strategic Noise Maps Model and Data Sets 13
3.1.2 NMB Review of Changes in Round 4 Datasets 14
3.1.3 Data Sets Collated 17
3.1.4 Review Data Sets Collated 18
3.1.5 Data Processing and Noise Model Input Data 18
3.1.6 Road Traffic Flow Datasets and Model 19
3.1.7 Road Infrastructure Data Sets 24
3.1.8 Rail Data Sets 28
3.1.9 Industrial Facilities Data Sets 30
3.1.10 Ground/Topography and Building Data Sets 31
3.1.11 Geospatial Data Sets 32
3.1.12 Noise Monitoring Stations and Measured Data 32
3.2 Noise Modelling and Mapping to CNOSSOS EU Methodology 33
3.2.1 Noise Model Specification Requirements 33
3.2.2 Noise Model Set-up and Delivery 33
3.2.3 Noise Indicators and Levels 35
3.2.4 Model Outputs and Mapping Requirements 36
3.2.5 Noise Model Runs and Strategic Noise Maps – Rail Noise Source 39
3.2.6 Supplementary Model Runs – All Roads 39
3.3 Population Exposure Assessment and Harmful Effects 41
3.3.1 Introduction 41
3.3.2 Population Exposure Assessment 42
3.3.3 Harmful Effects Assessment 43
3.3.4 Present results to CA/LAs 43
3.4 Phase 1 Reports 44
3.4.1 Data Review, Evaluation and Model Set-up Report 44
3.4.2 Noise Modelling and Exposure Assessment Report 45
3.5 Liaison With Relevant Stakeholders 45

3.5.1 Non-Dublin Agglomeration Contract(s) 45
3.5.2 Transport Infrastructure Ireland (TII) 46
3.5.3 Liaison with Iarnród Éireann 47
3.5.4 Liaison with the Environmental Protection Agency (EPA) 47
4. Phase 2: Noise Action Plan 49
4.1 Noise Action Plan Preparation 49
4.1.1 Noise Action Plan Extent and Format 49
4.1.2 Review Relevant Local Authority, Regional and National Planning and Policy Documents 50
4.1.3 Noise Action Plan Requirements 50
4.1.4 Identification of Most Important Areas and Priority Important Areas 51
4.1.5 Candidate Quiet Areas and Quiet Areas 53
4.1.6 Noise Avoidance and Reduction Measures 56
4.1.7 Summary Noise Action Plan 57
4.1.8 Collaboration across Local Authorities, NMBs and Stakeholders 58
4.2 Strategic Environmental Assessment (SEA) 58
4.2.1 Screening for SEA 59
4.2.2 Strategic Environmental Assessment (Provisional Item) 59
4.2.3 Consultation with the Public and Environmental Authorities 60
4.3 Appropriate Assessment (AA) and Natura Impact Report (NIR) 61
4.3.1 Screening for an AA 62
4.3.2 Natura Impact Assessment (Provisional Item) 63
4.3.3 Consultation with the Public and Relevant Environmental Authorities 64
4.4 Public and Stakeholder Consultation 65
4.4.1 Consultation Plan 65
4.4.2 Stage 1 - Post Strategic Noise Maps Consultation 67
4.4.3 Stage 2 - Noise Action Plan Consultation 67
5. General – Phases 1 & 2 69
5.1 Project Management 69
5.1.1 Project Commencement and QA 69
5.1.2 Meetings 69
5.1.3 Progress Reports 70
5.1.4 Reporting to the EPA and Commission 71
5.2 Elected Members Consultation and Reporting 72
5.3 Deliverables and Documentation 73
5.3.1 List of Deliverables and Dates 73
5.3.2 Project Schedule 74
5.3.3 Document Register 75
5.3.4 Review Cycle 75

5.3.5 Intellectual Property Rights.....76

List Of Terms

- **AA** – Appropriate Assessment
- **AADT** – Annual Average Daily Traffic
- **APA** – Action Planning Authority
- **CA** – Contracting Authority
- **CQA** – Candidate Quiet Area
- **DAA** – Dublin Airport Authority
- **DALA** – Dublin Agglomeration Local Authority
- **EEA** – European Environment Agency
- **END** – Environmental Noise Directive
- **EO** – Economic Operator
- **EPA** – Environmental Protection Agency
- **ERM** – Eastern Regional Model
- **HA** – Highly Annoyed
- **HSD** – Highly Sleep Disturbed
- **IA** – Important Area
- **IE** – Iarnród Éireann
- **IHD** – Increased Risk of Ischaemic Heart Disease
- **IR** – Irish Rail
- **LA** – Local Authority
- **MIA** – Most Important Area
- **NAP** – Noise Action Plan
- **NIS** – Natura Impact Statement
- **NMB** – Noise Mapping Body
- **NTA** – National Transport Authority
- **PCQA** – Potential Candidate Quiet Areas
- **PIA** – Priority Important Area
- **RMS** – Regional Modelling System
- **SEA** – Strategic Environmental Assessment
- **SPC** – Strategic Policy Committees
- **TII** – Transport Infrastructure Ireland
- **TRD** – Tender Response Document
- **WHO** – World Health Organisation

1. Introduction

This document has been prepared as part of the tender package for the establishment of a framework relating to the provision of Consultancy Services in respect of the completion of Strategic Noise Mapping and Noise Action Plans for Round 5 of the Environmental Noise Regulations 2018-2021 [The Regulations] to a CNOSSOS-EU methodology. The framework will be available for use by each of the Noise Mapping Bodies (NMBs) and Action Planning Authorities (APAs) as defined by The Regulations. The framework will cover the scope of services set out in section 2.2 and as covered by the 1st contract (this contract) to be awarded under the framework.

This detailed technical specification deals with the 1st contract and will be used to establish the framework. The 1st contract covers the agglomeration of Dublin as defined by The Regulations and includes the NMBs and APAs as set out in section 2.1 below.

Further contracts may include other agglomerations or major road or rail within the Republic of Ireland and as covered by The Regulations. A full list of all the authorities that are eligible to use the framework is set out in section 2.2 of the RFT.

This document forms Appendix B of the Request for Tender (RFT) and outlines the technical specification for the Dublin Agglomeration contract (1st contract). Any reference to other appendices throughout this technical specification refers to appendices to the RFT.

2. Overview of Requirements

2.1 Agglomeration Extent

The contract will include consulting services for noise mapping and noise action planning for the Dublin agglomeration, and include the following NMBs and APAs;

- Dublin
    - Dublin City Council (DCC)
    - Dún Laoghaire Rathdown County Council (DLRCC) (Part included within the agglomeration boundary plus the Electoral District of Tibradden, see below)
    - Wicklow County Council (WCC) (Part included within the agglomeration boundary)
    - South Dublin County Council (SDCC)
    - Kildare County Council (KCC) (Part included within the agglomeration boundary)
    - Fingal County Council (FCC).

The extent of the agglomeration includes all or part of the administrative areas of each of the local authorities set out above. **Note for Dún Laoghaire Rathdown County Council**, The Regulations did not include the Electoral District of Tibradden within the agglomeration extent. However, this Electoral District includes a length of the M50 motorway and modelling

this separate to the agglomeration is not practical for both the strategic noise maps and the Noise Action Plan. For this contract the extent of the agglomeration to be modelled shall include the extent of the agglomeration as defined by The Regulations plus the Electoral District of Tibradden. Herein after to be referred to as the extent of the Dublin agglomeration. The EO shall note the requirements relating to this in terms of reporting to the EPA and the EC are set out in section 2.1.1 below.

The area to be included within the Dublin agglomeration model shall include the extent of the Dublin Agglomeration, plus a 2km buffer zone. It should be noted that the inclusion of the Tibradden electoral district does not alter the boundary extent of the agglomeration plus buffer from that used in Round 4 due to the shape of the agglomeration boundary at that location.

The extents of the Dublin agglomeration, including the buffer zone, is provided in Appendix E to the RFT. It should be noted that the buffer zone applies for noise modelling and mapping only and not for the purpose of assessment of noise impacts (exposure statistics, health effects etc) and noise action planning which should be restricted to within the Dublin agglomeration extent only.

The Local Authorities that make up the Dublin agglomeration as set out above, will hereafter be referred to as the Dublin Agglomeration Local Authorities (DALA). The Local Authorities set out above are the designated Noise Mapping Bodies (NMBs) and Action Planning Authorities (APA) as defined by the European Communities (Environmental Noise) Regulations 2018.

The Authorities responsible for light and heavy rail in Ireland are Transport Infrastructure Ireland (TII) and Irish Rail (IR) respectively. Modelling of these railways within the agglomerations is included within this contract.

Noise modelling and mapping of the airports within the agglomeration is not required as part of this contract. Aircraft modelling for Dublin Airport will be undertaken by the relevant Airport Authority (Dublin Airport Authority, DAA).

2.1.1 **Electoral District of Tibradden**

The extent of the Dublin Agglomeration as defined by The Regulations, does not include the Electoral District of Tibradden which lies within Dún Laoghaire Rathdown County Council's administrative area. The Tibradden District includes a section of the M50 and is thus a major road and is required to be modelled by Dún Laoghaire Rathdown for inclusion in their Noise Action Plan and also for reporting to the EPA and EC under the major road category. While, as noted above, this contract shall include the modelling of the Tibradden District within the Dublin Agglomeration extent, it will be necessary to treat each separately in some instances for reporting purposes to the EPA and EC and in other cases it will be necessary to combine them, i.e. for the Noise Action Plan. As such relevant information and statistics will need to provided in combination and/or separately for the Dublin Agglomeration and the Tibradden

District. In this regard the following shall apply in respect of the technical specification requirements;

Table 2-1 – Deliverables and Reporting Requirements for Agglomeration & Tibradden District

Technical Specification	**Dublin Agglomertion & Tibradden Combined**	**Dublin Agglomeration**	**Tibradden District**
3.2.4.1 - Model Results & Deliverables	Required	Required	Required
3.2.4.2 – Noise Model Requirements			
Bullet Points 1, 2, 8, 11, 13 & 14	Required		
Bullet Point 7	Required	Required	Required
Section 3.3 – Population Exposure Assessment & Harmful Effects	Required	Required	Required
Section 5.1.4 – Reporting to the EPA & Commission			
Report DF1_5		Required	Required
Report DF4_8		Required	Required
Dublin Agglomeration Noise Action Plan	Required		

In summary the results of the strategic noise mapping work will need to be reported to the EPA and the EC separately (DF1_5 & DF4_8, see section 5.1.4). However, maps published and included within the Noise Action Plan can be combined.

All exposure statistics and health effect shall be provided in both combined and separate formats. Combined statistics can be published and included within the Noise Action Plan. However, reporting of exposure statistics to the EPA and EC shall be done separately.

2.2 Scope of Services

The scope of services covered by the contract includes the following;

<u>Phase 1 – Noise Modelling and Mapping</u>

- Data Review, Collection and Processing for the Noise Model.

- Processing of Road Traffic Data Sets and Preparation of Road Traffic Model for reference year 2026.
- Noise Modelling and Preparation of Strategic Noise Maps for the following noise. sources to a CNOSSOS-EU Methodology, see Section 3;
    - Road Traffic
    - Rail Traffic
    - Industry
- Population Exposure and Harmful Effects Assessment.
- Preparation of Relevant Project Reports, see section 3.4.
- Stakeholder Engagement.
- Publish Strategic Noise Maps and Support Contracting Authority with Public Engagement.
- Reporting to EPA in line with EEA reporting requirements.

<u>Phase 2 – Noise Action Plan</u>

- Identification and review of Important Areas (IAs), Most Important Areas (MIAs) and Priority Important Areas (PIAs), in line with EPA Guidance
- Identification and Review of Potential Candidate Quiet Areas (PCQAs) and Candidate Quiet Areas (CQAs), in line with EPA guidance, including consideration of soundscape issues and assessment
- Noise Action Plan Preparation including;
    - Review of national policy and planning legislation & documents
    - Noise reduction measures
- Collaboration with NMBs and Stakeholders
- Screening for Strategic Environmental Assessment (SEA) and SEA (If required)
- Screening for Appropriate Assessment (AA) and Natura Impact Statement (if required)
- Public and Stakeholder Consultation including supporting the APAs with preparation of text, data and support information for same, see section 4.4.
- Reporting to EPA in line with EEA reporting requirements.

<u>General – Phases 1 & 2</u>

- Project Meetings
- Deliverables and Documentation
- Project Management

Detailed specification in respect of each of the above is set out in the sections below.

Detailed specifications will be prepared for any subsequent contracts to be tendered under the framework as "Supplementary Requests for Tender", but will cover similar scope of services to the above, this 1st contract and/or other similar noise/acoustic studies and evaluations relating to areas of high environmental noise or quiet areas.

2.3 National and European Guidance Notes and Documents

2.3.1 Environment Protection Agency

As part of the Round 4 process, the Environment Protection Agency (EPA) produced a number of Guidance Notes and Technical Investigation Documents in respect of the Noise Mapping and Noise Action Plan requirements. Details of the Guidance Notes are set out below;

Strategic Noise Mapping

- Guidance Note for Strategic Noise Mapping (01/2025 May Draft), Part 1: Requirements
- Guidance Note for Strategic Noise Mapping (02/2025 May Draft), Part 2: Calculation Methodology & Noise Modelling
- Guidance Note for Strategic Noise Mapping (03/2025 May Draft), Part 3: Assessment of Noise Exposure & Harmful Effects
- Guidance Note for Strategic Noise Mapping (04/2025 May Draft), Part 4: Publication and Reporting

Noise Action Plans

- Guidance Handbook for Local Authorities on the preparation of Noise Action Plans for Round 4, Final Working Draft April 2025.

Details of these documents are included where appropriate in the technical specification and copies of the documents can be found on the EPA website at the following link for information purposes, https://www.epa.ie/publications/monitoring--assessment/noise/.

The EPA are not expecting to make any major amendments to these for the Round 5 process and as such they remain valid for this contract.

In addition to these key guidance notes, the EPA have produced a number of other guidance documents covering a range of topics for Round 5 including review of Round 4 data sets, NMB advice, data sets for Round 5 etc. An index of all guidance notes/document produced by the EPA is provided in Appendix C to the RFT for information together with copies of each document for information.

Copies of any Technical Investigation Documents prepared for Round 4 which remain relevant for Round 5 are included in the Data Register and provided in Appendix C for information.

The Economic Operator (EO) shall review these documents and satisfy themselves of their content and usefulness in respect to any aspect of the modelling, documentation deliverables and successful execution of this contract. Neither the Contracting Authority nor the EPA accept any liability for the EO's use or interpretation of these documents which are provided for information purposes only. Provision of these documents does not relieve the EO of their obligations to ensure that they satisfy themselves of the requirements necessary to deliver the Noise Mapping to the required CNOSSOS-EU methodology. In this regard the EO shall review and satisfy themselves of the current noise legislation requirements for Round 5 regarding CNOSSOS-EU for inclusion in their modelling and documentation deliverables and for the successful execution of this contract. A list of relevant legislation documents can be found in Appendix D to the RFT for information purposes. The list is non-exhaustive and it shall be the responsibility of the EO to comply with all relevant legislation and any future amendments if applicable.

2.3.2 **European Commission Guidance**

The European Commission has prepared a technical support document to help Competent Authorities with the preparation of their Noise Action Plans required under the Environmental Noise Directive (END). The technical support document's aim is to provide detailed and up-to-date information on the availability of noise abatement measures, that may be included within the Noise Action Plans.

The document was published in March 2026 and is available from the following link;

Technical support for Noise Action Plans - Publications Office of the EU

The EO shall review this document as part of Phase 2 of the project, Noise Action Plan and when considering noise mitigation measures that may be suitable for mention or inclusion within the Noise Action Plan for each area of higher environmental noise exposure prioritised and in relation to the noise sources of relevance to those areas.

3. Phase 1: Noise Modelling and Mapping

3.1 Data Review, Process and Preparation for Noise Model

3.1.1 Round 4 Strategic Noise Maps Model and Data Sets

Data sets from the Round 4 strategic noise modelling will be made available to the successful EO. The EO shall review the Round 4 model and related data sets and may use them as they see fit for the purpose of enabling them to successfully deliver the requirements of the contract and, in particular, to develop a suitable CNOSSOS-EU noise model for the purpose of preparing strategic noise maps and determining exposure statistics for Round 5.

Note: It will be the EO's responsibility to create a suitable CNOSSOS-EU noise model for use in Round 5 and the EO will decide on the most appropriate methodology for creating such a model. This could include making use of the previous Round 4 noise model or may involve creating a new noise model from the range of data sets provided.

Where the EO decides to make use of the Round 4 model for Round 5, the model shall be updated for a range of data sets to reflect the Round 5 reference year of 2026 and all changes since 2021. The NMBs have completed a review of the Round 4 noise model data sets, and a summary of the findings is set out in section 3.1.2.

Any review of the Round 4 model must also include a review of assumptions used in the Round 4 model in respect of model parameters and shall include a review of assumptions around correction factors for road surface types and how they are applied in certain circumstances, see section 3.1.7.3.4 for more details. The review shall consider the guidance note prepared by the EPA relating to calculation methodology and noise modelling, see section 2.3.1.

A copy of the following Round 4 data preparation and model reports are included in Appendix E of the RFT for information;

13354A-20-R08-03-F01-Data Review, Evaluation and Model Setup Report – Dublin

13354A-20-R11-03-F02-Noise Modelling and Exposure Assessment – Dublin.

The table below provides an overview of the strategic noise model/mapping deliverables from Round 4. As noted above the EO will be given access to these on award of contract. A Data Inventory index for each folder in Figure 1 is provided in Appendix E.

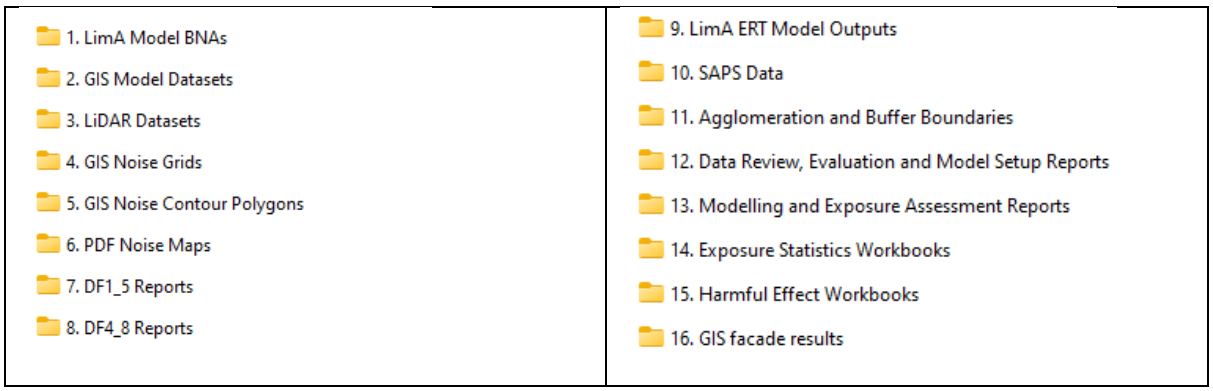

Figure 1 – Round 4 Noise Model and Mapping Deliverables

3.1.2 **NMB Review of Changes in Round 4 Datasets**

As part of the preparation for the Round 5 process, the NMBs were required to complete a review of changes that may have occurred to datasets from the Round 4 reference year, i.e. 2021. To assist with the review process the EPA prepared a Guidance Note setting out details of the review process and requirements as follows;

- Guidance Note for Strategic Noise Mapping (V03/2026 January), review of Strategic Noise Maps.

The EPA also produced a number of review documents covering the GeoDirectory and Major Roads datasets. The EPA Review Guidance Note set out a recommended approach which covered all the main stages in the development of strategic noise maps and also three possible conclusions as follows;

1. Refresh all datasets and re-calculation of whole model area and exposure statistics.
2. Refresh of some datasets and re-calculation in areas of change and exposure statistics.
3. No requirement to re-calculate, in part or in whole, noise levels or exposure statistics.

The NMBs for the Dublin Agglomeration have completed a review of the datasets for the Dublin Agglomeration in line with the EPA guidance and also taking account of the EPA review documents for GeoDirectory and Major Roads and a summary of the findings and overall conclusions is set out below.

Table 3-1 – Summary of R4 Datsets Review

Strategic Noise Mapping Stages / Datasets	**Changes Yes / No**	**Comments**
Define Area to be Mapped	**Yes**	**Agglomeration** – Tibradden Electoral District to be included within model outputs. No change to extent plus 2km buffer. **Major Roads** – Minor change for County Dublin (+0.6%) **Major Rail** – Heavy Rail – extent has increased by 31.2km. **Industry** – Number of sites to be modelled has changed.
	No	**Major Rail** – No change in Luas extent since R4.
Define Calculation Methods	No	CNOSSOS-EU methodology to be used
Define Input Data Specifications	No	EPA Guidance Notes from Round 4 to be used
Input Datasets	**Yes**	
Road Traffic Sources	**Yes**	Minor changes to road centreline, PRIME2, Q4, 2026 to be used (TBC by EPA). **Traffic flow model to be updated** – New NTA ERM, City Centre Transport Plan changes, review of traffic count data with R4 model and new traffic count data for 2026.
Rail Traffic Sources	**Yes**	**Light Rail** – Increase in Luas flow of approx. +6% **Heavy Rail** – Increase in flow on Sligo & Belfast lines of +40% & +31% respectively
Industrial Noise Sources	**Yes**	No. of sites has changed, TBC with EPA. Service provider to review licence and annual environmental reports from EPA and confirm approach to modelling industry noise source from each site.
Propagation Model Datasets	**Yes**	
Digital Terrain Model	No	R4 data sets to be used [**Note**: Updated DSM & DTM data sets may become available by contract award, if not R4 data sets to be used]
Bridge & Tunnels	No	No changes since R4

Strategic Noise Mapping Stages / Datasets	**Changes Yes / No**	**Comments**
Barriers Road	**TBC**	Review of Barriers required. Any changes identified to be incorporated into R5 model.
Barriers Rail	No	Rail NMBs have confirmed no change since R4
Buildings	**Yes**	Review of latest PRIME2 building layer confirmed that changes have occurred. R4 data sets to be updated. PRIME2, Q4, 2026 to be used (TBC by EPA).
Groundcover	No	R4 National Landcover Map to be used for R5
Meteorological Data	No	TII Report prepared for R4 to be used.
Exposure Datasets	**Yes**	EPA review of GeoDirectory residential data suggests an increase, on average, of +9.4% in occupied dwellings for Dublin County. GeoDirectory, Q3, 2026 to be used (TBC by EPA).
Develop Noise Model Datasets	**Yes**	Review has concluded some datasets have changed, thus noise model datasets need to be updated for Round 5.
Calculated Noise Levels	**Yes**	Review has concluded that some datasets have changed & noise model datasets need to be amended so remodelling is required.
Exposure & Harmful Effects	**Yes**	Some datasets have changed, specifically; number & location of dwellings, number of people in dwelling and other noise model datasets, so re-assessment of exposure statistics is required.
Publication & Reporting	**Yes**	Updated reports for model outputs and exposure statistics will be required for EPA & EEA.
Overall Conclusion	**Yes**	**Round 4 datasets to be used as baseline and updated to reflect all changes since R4 and the noise model run for the whole of the Dublin Agglomeration to produce revised Strategic Noise Maps, Exposure Statistics and Health Effects**

Further details on the data sets reviewed and collected for Round 5 are set out in the following sections.

3.1.3 **Data Sets Collated**

Following on from the review of Round 4 datasets, the Noise Mapping Bodies (Local Authorities, Roads Authority and Rail Authorities) have collected a range of data sets which will be made available to the EO for the purpose of delivering the requirements of the Round 5 Noise Mapping works. These data sets focus mainly on those that are deemed to have changed or require review, since Round 4 but also include some data sets that have not changed since Round 4 and were used to develop the Round 4 noise model. Details of these data sets are set out in a data register which is provided in Appendix E of the RFT.

The data register covers the following broad areas;

<u>Propagation Model</u>

- Boundary Extents
- Ground/Topography
    - Tailte Éireann PRIME 2 Geometry
    - Lidar/DTM/Photogrammetry
    - National Landcover Map
- Buildings
    - Tailte Éireann PRIME 2 Building Polygons
    - Lidar/DSM/Photogrammetry
    - GeoDirectory
    - CSO SAPS
- Road Infrastructure Data Sets
    - Tailte Éireann PRIME 2 Road Centre Lines
    - Road Management Office (RMO) MapRoad Data – Road Surface and Projects
    - TII – National Road Surface data
    - Junction Data Sets
    - Barriers
- Rail Infrastructure
    - LUAS
    - Heavy Rail

<u>Source Model</u>

- Road Traffic Data Sets
    - TII Traffic Count Site data
    - NMB Road Traffic Count data
    - NTA ERM Traffic Flow Model
- Rail Traffic Data
    - LUAS
    - Heavy Rail
- Licensed Industrial Facilities.

<u>R4 Noise Model & Mapping Deliverables</u>

- See Figure 1 and Appendix E – Round 4 Noise Model and Mapping Deliverables.

These data sets will be provided to the EO for information and use, in conjunction with the Round 4 noise model, as they see fit for the purpose of enabling them to successfully deliver the requirements of the contract and in particular to develop a suitable CNOSSOS-EU noise modelling methodology for Round 5. The EO may use as much of the data as they deem suitable, to update the Round 4 model, or prepare a new CNOSSOS-EU noise model, and shall be required to develop suitable methodologies to fill gaps in data where required. The Contracting Authority does not guarantee that the data sets provided are complete or that all are suitable for use or that all shall be used and it remains the responsibility of the EO to review them and satisfy themselves of their usefulness within whichever methodology they adopt. The Contracting Authority and its agents accept no responsibility or liability for the data sets provided.

EO Note: The EO will be required to sign a licence agreement with relevant Authorities (Local Authorities and Rail Authorities) in respective of some of these data sets, specifically mapping, Lidar and building data sets.

3.1.4 Review Data Sets Collated

The EO shall review the datasets included in the data register in Appendix E to the RFT, identify any further data processing required, and prepare the data sets as appropriate to meet the requirements of the CNOSSOS-EU methodology in accordance with relevant legislation and the EPA Guidance, see section 2.3.1.

Where the EO has questions on the data sets provided, they will be required to liaise and meet with the relevant authority responsible for providing the data set to get clarity as required.

3.1.5 Data Processing and Noise Model Input Data

The EO shall prepare, and/or update the Round 4 noise model, input data sets in appropriate GIS (Geographic Information System) and CNOSSOS-EU format for the noise model to cover each of the following areas;

- Source Model
    - Road infrastructure model dataset (see section 3.1.7)
    - Road traffic flow model dataset (see section 3.1.6)
    - Rail infrastructure model dataset (Light and heavy rail) (see section 3.1.8)
    - Rail traffic flow model dataset (Light and heavy rail) (see section 3.1.8)
    - Industry dataset (see section 3.1.9)
- Propagation model data
    - Agglomeration extents to include 2 km buffer
    - Road network to PRIME2 database (formerly OSi PRIME2) centrelines
    - Rail network (Light and heavy rail)

- Ground model – Geometry/3D breaklines/contours/height points/ground cover etc
- Buildings 3D – building polygons/heights
- Bridges
- Noise barriers

It will be the responsibility of the EO to ensure that all data sets prepared are in a format that is correct for the model used and they shall satisfy themselves as to the usefulness or relevance of any data sets provided in this respect. The EO shall apply cleansing techniques and other methodologies to correct or convert the data sets to the format required and also to fill gaps in the data sets using suitable methodologies. They shall apply necessary checks and validation of the data sets to be used. Details shall be included in the Data Review, Evaluation and Model Setup Report, see section 3.4.1.

Unless otherwise stated the data sets provided have not been processed to provide them in the format required for the CNOSSOS-EU model and it will be the responsibility of the EO to process, validate and prepare the data sets for the model.

3.1.6 **Road Traffic Flow Datasets and Model**

3.1.6.1 Traffic Datasets

Traffic count data sets are available from a range of sources including the following;

- Traffic count data
  - TII traffic count sites - https://trafficdata.tii.ie/publicmultinodemap.asp
  - NTA Traffic counts: https://mytrafficcounts.com/
  - Local Authority one off traffic counts: range of locations (see Table 3-2and Data Register for details, Appendix E of the RFT)
- National Transport Authority (NTA) Regional Modelling System (RMS)
  - Eastern Regional Model (ERM) – Dublin Agglomeration

National Roads

In respect of TII traffic counts sites within the agglomeration, the details and location of 45 relevant sites are provided in an excel spreadsheet in the data register in Appendix E and these can be seen at the above link.

A 3rd party on behalf of TII will process data from these and other traffic counts sites nationally to update their National Transport Model. This updated National Transport Model will be used to provide the Economic Operator with a roads noise source dataset for all national roads with the agglomeration which will be populated with traffic flow, speed, direction of travel and road surface type. This dataset will be supplied in a CNOSSOS-EU format, in line with EPA guidance, and will reflect traffic flow for 2026 and will be provided in a shapefile format. It will be the responsibility of the EO to review the supplied data set and confirm its suitability for use in the noise model. This shall include a comparison of the raw traffic data, which will also be available at the TII traffic count sites, with the model ready data provided,

and also against the wider traffic model being developed for the other roads within the Dublin agglomeration. Where the review confirms that amendments are required, the EO shall notify the CA and liaise with TII to inform them of their findings and to ensure consistency in data sets across the Agglomeration boundary for national roads, before any amendments are made, see also section 3.5.2.

NTA Eastern Regional Model

The NTA Regional Models, include traffic data for many of the roads within the Dublin agglomeration but not all roads, in particular minor roads are not included. The NTA have upgraded their RMS since Round 4 and will have a 2026 traffic scenario, geo-rectified to the PRIME 2 geometry, available for Round 5. This 2026 scenario will be made available to the EO for use in developing a road traffic model for the noise model.

A plan showing the extent of the road network covered by the NTA ERM model is included in Appendix E together with an excel file of RMS attributes. The traffic data while broken down by vehicle category (see details in Appendix E), is not consistent with the CNOSSOS-EU vehicle categories and it shall be the responsibility of the EO to adjust the traffic count data to the required vehicle category format for the CNOSSOS-EU model.

Local Authority Traffic Count Data

Details of the road traffic counts available from each Local Authority for use in preparing the traffic model for Round 5 are set out in the Data Register included in Appendix E and a summary is provided in the table below;

Table 3-2 – Summary of Local Authority Traffic Count Information

Local Authority	No. of Sites	Date	Period	Traffic	
				Count	Speed
Dublin City Council					
City Centre PIAs Counts	22	Oct. 2024	24 hr	Yes	Yes
Traffic Speed Project Counts	95	May 2026	24 hr	Yes	Yes
Round 5 Project Counts	27	Sept. 2026	24 hr	Yes	Yes
Annual Quay Counts	57	May 2026	24 hr	Yes	No
Active Travel Counts	11	June 2026	48 hr	Yes	Yes
City Centre Transport Plan	10	Nov. 2025	24 hr (7 days)	Yes	No
City Centre Transport Plan	15	Sep. & Oct. 2024	24 hr (7 days)	Yes	No
Clontarf to City Centre Active Travel Scheme	3	Dec. 2024 & Aug. 2025	24 hr (7 days)	Yes	No

Fingal County Council					
Hartstown Huntstown AT Scheme Phase 2b	2	Feb. 2025	12 hr	Yes	No
Blanchardstown to Castleknock via Farmeligh AT Scheme	20	Jan. 2024	12 hr and 24 hr (5 days)	Yes	Yes
Feltrim Road, Skerries and Drogheda Street Balbriggan	131	Nov. 2024 / 2025 and May 2026	12 hr and 24 hr (7 days)	Yes	Yes
Safe Routes to School Round 2, Dublin 15 Sites and others	129	2025	24 hr (7 days)	Yes	Yes
Porterstown Road, PIA Traffic Surveys and others	36	2024, 2025 and 2026	24 hr (14 days)	Yes	Yes
Traffic Section Howth Counts and others	59	2026	24 hr	Yes	Yes
Golf Links Road	4	July 2026	24 hr (2 days)	Yes	Yes
Dún Laoghaire Rathdown County Council					
IPSUM Traffic Sensors	23	2026	24 hr	Yes	Yes
Round 5 Traffic Counts	5	Oct. 2026	24 hr	Yes	Yes
South Dublin County Council					
Automatic Traffic Counts & Speed Radars	29	2025 and 2026	24 hr	Yes	Yes
Driver Feedback Signs Counts	43	2024, 2025 and 2026	24 hr	Yes	Yes
Smart Micros Counts	10	2026	24 hr	Yes	Yes
Wicklow County Council					
To be confirmed					
Kildare County Council					
To be confirmed					

Note: For the purpose of pricing the tenderers shall assume that counts for up to five (5) sites shall be provided by each of Wicklow and Kildare County Councils for roads within their area of the agglomeration.

While the traffic count data set out above is broken down by vehicle category, this is not fully consistent with the CNOSSOS-EU categories and it will be the responsibility of the EO to process the data to meet the CNOSSOS-EU categories for the Round 5 model and also to

complete the comparison and traffic validation exercise set out in Section 3.1.6.4. Only sites with traffic count data for 24 hours or more shall be used for the validation exercise.

An example of the data sets formats, for a number of the sites, has been provided in Appendix E.

Where available Google Earth kmz files showing the location of some of the traffic count locations set out in the table above are included in Appendix E.

3.1.6.2 Road Traffic Model

The EO will be required to create a road traffic flow model for the Dublin agglomeration using the above datasets and based on the following hierarchy of traffic source data;

- TII Traffic Count Site Data/CNOSSOS Source Traffic Data for 2026
- Local Authority traffic counts for 2026 (some data for 2025 & 2024 is also available)
- NTA ERM - scenario for 2026
- Default flows (details included in Appendix E)
    - EPA STRIVE funded Integrated Modelling Project (Paper: Estimating annual average daily traffic and transport emissions for a national road network: A bottom-up methodology for both nationally-aggregated and spatially-disaggregated results[1])
    - WG-AEN GPGv2.
    - Other Default/Generated Methodology proposed by the EO (and approved by the CA).

Data sets shall be adjusted and amended as necessary to the required format for CNOSSOS-EU and integrated using suitable methodologies to fill any gaps to develop a road traffic flow model for strategic noise mapping for the agglomeration.

A traffic flow and speed model for all roads within the agglomeration is required. Where gaps exist, the EO shall set out and agree the methodology to be used to generate data for those roads with gaps.

The EO shall liaise with the Local Authorities from the Dublin agglomeration where they have questions in respect of data sets and shall present the proposed approach to creating the necessary traffic model for the Dublin agglomeration to the Local Authorities prior to running the CNOSSOS-EU model.

In developing the Round 5 Traffic Model, the EO shall take into consideration lessons learned from Round 4 and comparisons made between Round 4 model flows/speed with measures

1 https://www.researchgate.net/publication/311690958_Estimating_annual_average_daily_traffic_and_transport_emissions_for_a_national_road_network_A_bottom-up_methodology_for_both_nationally-aggregated_and_spatially-disaggregated_results

data obtained for Round 5. Further details of the issues and comparisons to be made are set out in section 3.1.6.4 below.

3.1.6.3 Dublin City Centre Transport Plan

The implementation of the Dublin City Centre Transport Plan commenced in 2024 with various changes being implemented annually over the period of the plan. The measures have the potential to significantly alter traffic flow within the core city centre area, with a number of streets having been pedestrianised and flow restrictions or changes being introduced at other junctions and locations. The EO shall take into consideration all changes that have been implemented up to the end of 2026 when developing the traffic model for use in the strategic noise modelling for Round 5.

The EO shall review traffic count data completed as part of the City Centre Transport Plan roll-out, see Table 3-2, liaise with the DCC Traffic Section and with the NTA ERM team when developing the model over the region covered by the City Centre Transport Plan.

3.1.6.4 Validation of Round 5 Road Traffic Model

Since the Round 4 Traffic Model was prepared, and the strategic noise maps produced, traffic count data has been collected at a number of locations throughout the Dublin agglomeration. This includes traffic counts in 2024, 2025 and 2026, see details set out within the Data Register and Table 3-2. As part of the review of Round 4 data sets and in preparation for the Round 5 process, some of these traffic counts have been compared with traffic data (flow & speed) extracted from the Round 4 traffic model. Comparisons of overall flow, flow by CNOSSOS time period and flow by CNOSSOS vehicle categories have been undertaken. The results show some significant differences between Round 4 model and measured flow (>50-200%) for some sites. The results also tend to show that the nighttime flow may be underrepresented at many sites in the Round 4 model. Split by CNOSSOS vehicle categories and traffic speed appear to be reasonably correlated. The results of these comparisons will be provided to the EO at contract award.

As part of the preparation of the traffic model for Round 5 the EO will be required to complete a comprehensive review of the traffic count data sets (Table 3-2), and those provided by TII for national roads (see section 3.1.6.1), against the Round 4 model and the NTA ERM 2026 scenario [where the ERM data set is being used to represent the traffic flow for any given road link]. The results of the comparison shall be used to validate and justify the model prepared for use in Round 5 and the EO shall set out the results of the comparison in a separate Round 5 Traffic Model Review and Validation Report and summarise the findings within the Data Review, Evaluation and Model Set-up Report, see section 3.4.1. The following shall be undertaken for each location where traffic count data exists (24 hr or more);

- Adjust all traffic count data to Annual Average Daily Traffic (AADT) volumes using the TII methodology for expansion of short period traffic counts [Report: PE-PAG-02039, or other appropriate method].
- Use Adjusted AADT counts to prepare a CNOSSOS-EU methodology, i.e. time periods, vehicles categories, etc.
- Extract Round 4 traffic flow and speed data from the Round 4 model for road links at or close to the traffic count sites and TII count sites. Adjust from hourly to AADT data.
- Carry out comparisons against the following for each site;
    - Total traffic volume
    - Traffic volume by CNOSSOS-EU time period
    - Traffic volume by CNOSSOS-EU vehicle category
    - Average speed by CNOSSOS-EU time period.
- Where the NTA ERM scenario for 2026 is being used to generate flow/speed data for road links that are covered by count data, the comparisons set out in the 4th bullet point above shall also be made, either using the ERM data or the proposed R5 traffic model data.
- The EO shall use this comparison work to validate and justify the traffic model proposed to be used in the Round 5 noise model. This shall include a comparison of the proposed R5 traffic flow and speed data at each site against the traffic data recorded for that site. Where, there are significant deviations in the proposed Round 5 traffic model from the traffic count data sets, the EO shall set out the reasons for these deviations.

It is acknowledged that this validation cannot be undertaken for all roads across the agglomeration. However, the outcomes can be used to review any rule of thumb relationships that may be used to split traffic volume across time periods, vehicle categories etc. These should be presented within the results report and the Data Review, Evaluation and Model Setup Report.

3.1.7 **Road Infrastructure Data Sets**

3.1.7.1 Road Network

Road carriageway centrelines shall be based on Tailte Éireann PRIME 2 WAY_GDF1 data in accordance with the recommendations set out in the EPA Guidance Note Part 2: Calculation Methodology & Noise Modelling, see section 2.3.1. The version of PRIME 2 which shall be used for the Round 5 modelling is Q4, 2026 (TBC by the EPA).

3.1.7.2 Road Traffic Junctions

In accordance with the CNOSSOS-EU methodology the EO shall model the effect of road junctions on noise due to acceleration and deceleration. This shall be applied within 100m of

any junction and shall include signalised junctions and roundabouts. Pedestrian crossings and other lights on single lane roads are not required to be included within this assessment. The EO shall model junctions and roundabout in accordance with the EPA Guidance Note Part 2, Sections 4.8 and 11.2.5 (see section 2.3.1).

The EO shall be required to identify and create the necessary traffic junction data sets for use in the model. The following data sets and methodologies are available to support the EO with this task;

- Shape File extract from DCC TAMS Asset Management system showing Signalised Junction locations on the SCATS system (Appendix E)
- Word File providing links to SMARTDUBLIN site showing signalised junctions (SCATS & SCOOT) across Dublin Region (DCC, DLRCC, SDCC & FCC) (Appendix E)
- A Technical Investigation Document by the EPA on correction of road traffic noise emissions near traffic lights and roundabouts – Section 5 contains methodology to identify junction locations using readily available data sets (Appendix C).

The EO may use the above or other data sets/methodologies to identify and create the necessary data files for the noise model. While most signalised junctions across the four Dublin Local Authorities administrative areas are included on the data sets provided, not all data sets may be up to date, and no details are available for the Wicklow and Kildare areas within the agglomeration. The Contracting Authority and the EPA do not accept any responsibility for the data sets and methodologies provided/proposed and it remains the responsibility for the EO to satisfy themselves of the usefulness and fitness for purpose of any of the data sets and methodologies proposed in respect of identifying signalised junctions and roundabouts.

3.1.7.3 Road Surface Data Sets

3.1.7.3.1 MapRoad PMS

MapRoad PMS is the national road management system in use by Local Authorities in Ireland. The following data will be extracted from MapRoad PMS for the purpose of creating the necessary road infrastructure data sets for the noise model;

- Road schedule
- Road surface type (see also section 3.1.7.3.3 below)
- Road scheme (where details exist).

Details are included in the data register in Appendix E and a sample of the data for the Dublin agglomeration has been provided to demonstrate the format and details. The extract will be taken in Q1, 2027 such that it reflects details of schemes completed up to the end of 2026.

3.1.7.3.2 Dublin City Council Schemes

In addition, Dublin City Council has collated details of all the road resurfacing schemes completed since 2021 by their Road Maintenance, Road Design and Active Travel sections.

Details of these will be provided to the EO at contract award. The EO shall review these against the MapRoad extract and confirm whether all are correctly represented. Where there are differences, the EO shall agree the final data set to be used with the CA. A summary of the extent of changes since 2021 within the Dublin City Council administrative area are set out in the table below.

Table 3-3 – Summary of Dublin City Council Road Surface Changes Since 2021

	SMA (km)	HRA (km)	Total (km)
Road Maintenance	44.9	20.3	65.2
Active Travel	7.3		7.3
Road Design	2.8	0.1	2.9
Total (km)	**55**	**20.4**	**75.4**
% of Road Network	4.1%	1.5%	5.6%

3.1.7.3.3 National Road Surface Data Sets

TII are responsible for all National Roads and a record of all road surface types within the extent of the Dublin agglomeration plus the 2km buffer will be provided in a shapefile format, see Data Register, Appendix E. The EO shall use this data set to update the Round 4 model where necessary. The EO shall engage with TII to resolve any queries they may have on the data set and also in respect of assigning appropriate correction factors to the National Road network, see section 3.1.7.3.4.

3.1.7.3.4 Correction factors

To model traffic related noise effectively from various road surface types, traffic information on the acoustic characteristics of the road surface pavement is required. The CNOSSOS-EU methodology includes a range of properties for ground conditions outdoors including coefficients for a number of road surface types, see Table F-4, Directive (EU) 2021/1226 (https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021L1226).

These properties may not accurately reflect the road surface types in use in Ireland. To help address that for national roads in Round 4, TII prepared a data set of road surface correction factors for those road surfaces. These together with the CNOSSOS-EU factors were used for the noise modelling in Round 4.

Details of the TII Correction Factor report can be found at the following link.

https://www.tiipublications.ie/document/?id=3328

The EO will review the assumptions made in applying the appropriate road surface correction factor to each road surface type for the Round 4 model and consider their applicability and whether any updates are required. Specifically, where the road surface types are amended within the model due to the review completed under section 3.1.7.3, then appropriate correction factors will be applied to the amended roads. The Round 4 modelling was based

on a draft version of the TII Correction Factor Report, the EO shall as part of the review confirm any changes within the final version of the report and ensure that the Round 5 model is updated to use the final version factors where appliable.

During the completion of a study to investigate one of the Priority Important Areas within Dublin City, it was noted that when assigning correction factors to road surfaces from the TII data set in Round 4, for situations outside the speed range of the TII data set, a CNOSSOS-EU default value ('NL00') was applied, instead of using the correction factor for the relevant road surface. The review undertaken for that study concluded that for urban areas, it may be more appropriate to apply surface correction specific to that road surface type regardless of whether it is within the measured speed range from the TII data set or not and not to revert to a default value. The EO shall therefore review all locations where this default CNOSSOS-EU value ('NL00') has been applied within the project area in the Round 4 model and make adjustments as appropriate using other more suitable or extrapolated correction factors from the TII data set or other relevant data sets. The approach and methodology shall be discussed and agreed with the Contracting Authority.

It will be the responsibility of the EO to evaluate the full range of road surface types from the data sets provided and assign suitable values to them using the TII data sets and CNOSSOS-EU data sets and methodologies available to them.

Details of the properties assigned and/or correction factors applied to the road surface type in the agglomerations, including any assumptions made, shall be clearly set out in the Data Review and Evaluation Report and/or the Noise Modelling and Exposure Assessment Report.

3.1.7.3.5 Round 5 Road Surface Model

The EO shall review the Round 4 Road Surface model for each of the data sets and issues set out in sections 3.1.7.3 above and update the model to reflect all these changes and revise the approach for use of the road surface correction factors. All changes shall be discussed with the Contracting Authority and details, including any assumptions made, shall be clearly set out in the Data Review and Evaluation Report and/or the Noise Modelling and Exposure Assessment Report.

3.1.7.4 Barriers

A Round 4 noise model barrier dataset is available and included in Appendix E. This file shall be reviewed and updated as appropriate for use in the Round 5 model. In particular, DCC is currently conducting a review of barriers/structures along a number of its main arterial routes and details of any findings will be made available to the EO in excel and kmz file formats. Furthermore, a dataset relating to noise barriers along National roads will be available from TII in shapefile format.

The EO shall review these datasets and prepare a barrier dataset for use in the Round 5 model.

3.1.8 **Rail Data Sets**

3.1.8.1 Rail Noise Sources

There are two rail noise sources that will need to be considered within the agglomeration modelling as follows;

- Light rail network – LUAS trams network – Responsible Authority is TII
- Heavy rail network – Responsible Authority is Iarnród Éireann.

The extent of the rail networks within each agglomeration are provided in the data register in Appendix E.

3.1.8.2 Data Sets Provided

Each authority has or will provide a range of rail data sets for both the source and propagation models for the CNOSSOS-EU model. In many cases these have not changed from Round 4.

3.1.8.2.1 Luas

TII have confirmed that the Luas extent to be modelled in Round 5 has not changed since Round 4. However, they have confirmed that more services have been added to the red and green link equating to approximately a 6% increase on an annual average basis. For Round 5 TII will be providing the following datasets;

- Extents shapefile for the Luas lines
- Luas noise source dataset populated with traffic flow, speed data, train type, direction of travel, running condition, track transfer function, structural transfer, rail roughness, impact noise, bridge constant, curve radius and maximum line speed data.
- Noise barrier details
- 3D Topographical Survey
- Rail Correction Factors for Luas.

3.1.8.2.2 Heavy Rail

Iarnród Éireann have confirmed that the extent of major rail on the network has increased since Round 4, details are set out in Table 3-1. They have confirmed that there has been no significant alteration to the horizontal or vertical dimensions of the rail network since Round 4. However, they will provide an updated Lidar dataset which was completed in 2021 but was not available in time for the Round 4 cycle. They have confirmed that they will provide the following data sets;

- Irish Rail extents shapefile

- Track and traffic dataset: track polylines with attribute data detailing day/evening/night train and carriages movements for each section. This will also include details of rail assets.
- Noise barrier dataset: polylines detailing locations of noise barriers along the network
- Lidar data (2021 survey which is an update from the 2011 version provided for R4)
- Rail Correction Factors.

Details of all relevant data sets are included in the data register in Appendix E.

In respect of the source model data sets, for both Luas and heavy rail, these will be prepared to the required GIS CNOSSOS-EU format and in line with EPA guidance. Where available, propagation data sets will be provided in Shape File format.

The EO shall review all data sets, including any CNOSSOS-EU ready datasets, and confirm their suitability for use in the noise modelling work. For all propagation model data sets and Shape Files, the EO shall integrate them with Local Authority data, and produce the complete propagation model required for the CNOSSOS-EU model. For any new LiDAR or survey data, the EO shall ensure all LiDAR, DTM, and contour data are carefully merged with each other and/or the Round 4 digital terrain model. The resulting propagation model must be consistent and free from artificial boundaries or ground level changes that could affect noise propagation results.

This task shall include liaising with TII and Iarnród Éireann regarding the data sets provided and any queries they may have, to confirm that the data sets are fit for purpose and/or modifying them as required.

3.1.8.3 Railway Track Parameters & Correction Factors

To calculate the strategic noise maps for rail traffic, input datasets for the rail vehicles are required, including traction type, wheel dimensions and typical wheel roughness, as well as data on the track, such as the rail roughness, track type and sleepers. These datasets are required to calculate the combined roughness which, along with vehicle and track-dependent transfer functions deliver the sound power emitted by the wheels as well as the rails and the superstructure.

CNOSSOS-EU:2020 Annex II provides a range of default values for rail and wheel roughness as well as the various transfer functions. However, rail vehicles found in Ireland (both heavy rail and Luas vehicles) are not well represented in the default values provided and will not be sufficient to produce accurate and representative noise maps. In an effort to establish appropriate, and reliable rail vehicle emission data for CNOSSOS-EU:2020, to better represent the national rail network, both Irish Rail and TII engaged the Institute of Sound and Vibration (ISVR) during Round 4 to develop Irish railway emission data according to the CNOSSOS-EU:2020 methodology to accurately represent the network.

Details of these data sets are included within the Data Register (Appendix E), and are summarised below;

- ISVR Consulting Memo to Iarnród Éireann – Irish Rail Sound Power Values – July 2024
- ISVR Consulting Report to TII – CNOSSOS-EU Source Terms for Luas – June 2022
- Excel Spreadsheet – IrishRail_and_LUAS_CNOSSOS_values_v5_issued.

Copies will be made available to the EO to use when preparing the CNOSSOS_EU rail model for Round 5. It is understood that the correction factors for Luas are being updated for Round 5 and these will be provided at Contract Award.

3.1.9 **Industrial Facilities Data Sets**

The strategic noise mapping of industrial facilities regulated under Directive 96/61/EC concerning integrated pollution prevention and control (IPPC), is to be undertaken where such sites are located within the Dublin agglomerations. The industrial facilities may be located within the agglomeration, or a 2km buffer around the boundary of the agglomeration and should be included within the strategic noise mapping if they produce a noise emission that could affect locations inside the agglomeration.

In Round 4 there were 68 sites modelled within the Dublin Agglomeration (67 within the agglomeration and 1 in the buffer). A list of all the relevant licensed industrial facilities for the Dublin agglomeration for 2026 have been prepared, in consultation with the EPA, and details are presented in the Data Register in Appendix E. The list shows which sites have been retained from Round 4 and those that are new for Round 5. The EO shall review the new list of sites and compare them with the sites modelled in 2021 and engage with the EPA to clarify any issues and confirm the final list of sites to be modelled.

The EO shall engage with the EPA to obtain the most recent Annual Environmental Report (AER) for each site and review these with a view to obtaining relevant information to support the modelling of noise from each site.

Preparation of the emission model datasets for licensed industrial facilities shall include the following steps:

- Review of the information available on the licensed industrial facilities identified by the EPA;
- Proposal for source emission sound power levels for each licensed industrial facility based on the information available, this information should include all relevant data required within the CNOSSOS-EU methodology, such as:
    - Classification of source type
    - Sound power emission for day, evening and night periods
    - Working hours
    - Location and elevation of noise sources
    - Dimension and orientation of source(s)
    - Operating conditions
    - Directivity

  - Note: Where sufficient information is not available, the EO is to propose an approach to completing the emission dataset based on relevant best practice generic approach.
- Production of strategic noise mapping source dataset for licensed industrial facilities

A link to the location where AERs can be found for licences sites in given below for information.

Annual Environmental Reports | Environmental Protection Agency

3.1.10 Ground/Topography and Building Data Sets

3.1.10.1 Tailte Éireann Prime 2

Each of the DALAs will provide a copy of the Prime 2 dataset for use in R5 for their administrative area and the buffer. The version to be used will be Q4, 2026, or similar to be confirmed by the EPA. This data set shall be used to define the road network, see section 3.1.7.1 and also the building extents. The EO shall combine these into a single data set for use in the propagation model.

3.1.10.2 DTM and DSM

The DTM and DSM data sets available for the Round 4 modelling will be made available and details are set out in the Data Register in Appendix E. In addition to this, a number of Round 4 model data sets which were produced by merging the Round 4 DTM/DSM data sets are also available and details are set out in the Data Register.

It is known that much of the Dublin agglomeration extent has been re-surveyed in 2026 and subject to these data sets (DTM & DSM) becoming available by contract award, a number of the DALAs may obtain these for use in the Round 5 modelling project. Where these updates data sets are provided, the EO shall use these for the Round 5 model. Where new data is not available the EO shall use the Round 4 data sets.

Where new DTM/DSM datasets are used, the EO shall ensure that they are carefully merged with any old Round 4 datasets and/or the Round 4 digital terrain model. The resulting propagation model must be consistent and free from artificial boundaries or ground level changes that could affect noise propagation results.

3.1.10.3 Groundcover

The National Land Cover dataset available from the EPA was used for the Round 4 noise modelling. This dataset shall be used again for Round 5. The dataset is a polygon dataset based on Tailte Éireann Prime 2 features which provides landcover descriptors indicating ground cover type. The EPA Guidance document Part 2 has assigned Ground Factors (G Values) for the National Land Cover classes, see Appendix C.

3.1.11 **Geospatial Data Sets**

All geospatial data sets shall comply with OGC (Open Geospatial Consortium) standards and be capable of being accessed by the Contracting Authority and Agglomeration Local Authorities through industry standard formats such as ArcGIS Shape File, MapInfo Tab Files, Microsoft SQL Spatial, GeoPackage SQLite (.gpkg).

All geospatial data must be supplied in vector format and referenced to the IRENET95 / Irish Transverse Mercator (ITM) reference system (EPSG:2157).

All geospatial data supplied must be accompanied with appropriate metadata for noise monitoring.

All GIS input data sets, accompanying metadata and processing undertaken and prepared by the EO shall form one of the deliverables to the Contracting Authority.

All GIS Output data sets shall include a unique set of identifiable attributes that relate the data to its geospatial location when such data is extracted in excel or other similar format, for example road/street names, road segment ID, co-ordinates etc. Required attributes for all GIS deliverables to be agreed with the CA before any deliverables are finalised and provided.

3.1.12 **Noise Monitoring Stations and Measured Data**

A range of noise measurement data from ambient noise monitoring stations and other measurements is available and can be downloaded and/or provided to the EO for the purpose of validation of the noise model outputs at the modelling and Noise Action Planning stages. The following data sources exist;

3.1.12.1 Dublin Agglomeration

Dublin City Council operate a network of 15 noise monitoring stations throughout the city. L_{den} and L_{night} breakdown of the data for these sites can be provided by the contractor responsible for the sites and login details for the EO to the data site can also be provided. Please see details on the air and noise website, https://dublincityairandnoise.ie/.

South Dublin County Council operate a network of 11 noise monitoring stations throughout their administrative area. Data from these stations can be made available. Please see details at the following link https://sdcc.sonitussystems.com/ .

Fingal County Council have no permanent noise monitoring stations but will be collecting some short term (2 week) surveys in 2026. Data from these surveys can be provided.

Dun Laoghaire Rathdown operate a network of 8 permanent noise monitoring stations across their Priority Important Areas (PIAs). The information will be public facing from September 2026 and can be made available to the EO.

TII operate a network of 9 noise monitoring stations around the M50 motorway. Data from these sites can also be made available to the EO. Please see details at TII website, https://tii.sonitussystems.com/.

3.2 Noise Modelling and Mapping to CNOSSOS EU Methodology

3.2.1 Noise Model Specification Requirements

The EO shall propose a suitable software program in order to compile and run the noise mapping model. The proposed software shall be certified to meet the requirements of ISO/TR 17534-4: 2020, *Acoustics — Software for the calculation of sound outdoors — Part 4: Recommendations for a quality assured implementation of the COMMISSION DIRECTIVE (EU) 2015/996 in software according to ISO 17534-1*.

The EO shall complete the noise modelling and prepare noise maps for the Dublin agglomeration to determine the calculated levels of noise and the degree of noise exposure to population in compliance with the following legislation;

- Environmental Noise Directive (END) 2002/49/EC
- COMMISSION DIRECTIVE (EU) 2015/996 of 19 May 2015 establishing common noise assessment methods according to Directive 2002/49/EC of the European Parliament and of the Council
- Corrigendum to Commission Directive (EU) 2015/996 of 19 May 2015 establishing common noise assessment methods according to Directive 2002/49/EC of the European Parliament and of the Council (OJ L168, 1st July 2015)
- Commission Delegated Directive (EU) 2021/1226 of the 21st December 2020, amending Annex II to Directive 2002/49/EC of the European Parliament and of the Council as regards common noise assessment methods
- Commission Directive (EU) 2020/367 of 4th March 2020 amending Annex III to Directive 2002/49/EC of the European Parliament and of the Council
- European Communities (Environmental Noise) Regulations 2018, S.I. 549/2018, and
- European Communities (Environmental Noise) (Amendment) Regulations 2021, S.I. No. 663 of 2021.

3.2.2 Noise Model Set-up and Delivery

The EO shall use an industry standard noise modelling software package which is certified to meet the requirements of ISO/TR 17534-4 and is capable of setting up the model, preforming the calculations and exposure assessment in accordance with the CNOSSOS-EU legislation set out in section 3.2.1. The model shall also be set up in line with the requirements set out in the Guidance Notes on Strategic Noise Modelling prepared by the EPA, see section 2.3.1.

The noise model shall be run for each of the following noise sources within the agglomeration and 2 km buffer extent and separate outputs, maps and exposure statistics produced for each;

- Major Roads
- All Roads
- Major Railways

- All Railways
- Industry

Modelling of aircraft noise is not required under this contract. Modelling of Dublin Airport and a separate Noise Action Plan for the airport is being completed by others.

The EO shall amend the R4 model and/or import all propagation and source model data sets, set up the model and test the model to ensure it runs correctly. Test runs may be completed on a subset of the data or using increased grid resolution and subject to the EOs proposed methodology and quality assurance procedures and as defined in their tender response document. These quality assurance procedures shall include a proposal for the acceptable level of uncertainty to be introduced by the proposed calculation settings. Test runs shall be undertaken for an estimation of uncertainty introduced by the proposed calculation settings, when compared to the reference settings, in line with ISO 17534-1.

The EO shall ensure that the proposed methodologies are in line with the Quality Framework included in Section 2.1.2 of the COMMISSION DIRECTIVE (EU) 2015/996 and confirm that the model is suitable for the production of strategic noise maps to the degree of accuracy required by the legislation.

Details of the model set up and proposed calculation settings together with testing undertaken to establish the data processing steps and the calculation settings shall be included in the Data Review, Evaluation and Model Setup Report set out in section 3.4.1.

3.2.2.1 Optimised Modelling Approach

The EO shall adopt a modelling approach in respect of setting up and running the noise model that provides maximum efficiency in respect of delivery timelines and to meet the delivery dates set out in section 5.3.1. This shall include the use of adequate computational cloud or hardware processing power/memory and/or other appropriate sequencing and technical solutions as detailed in their tender response document. The EO shall optimise the resources deployed to the project and the model set up/construction to improve efficiency in run times to ensure that the project delivery timelines are achieved. The EO shall include all costs associated with the modelling approach adopted within their tender sum.

During the data review and model set up phase of the project, the EO shall present their final approach to modelling the agglomeration to the Dublin Agglomeration Local Authorities, in terms of ensuring efficient of approach and meeting the contract timelines.

The EO shall clearly set out in their QA Project Plan and the project Schedule their proposed approach to deliver the modelling phase in an efficient manner.

The EO shall ensure adequate quality assurance checks are undertaken in respect of data set preparation, model set up, and calculations. They shall document the process to be followed within the QA Project Plan and also the Data Review, Evaluation and Model Setup Report, see section 3.4.1.

3.2.3 **Noise Indicators and Levels**

The END requires two main indicators to be applied in the assessment and management of environmental noise. The first indicator (L_{den}) is the annual average noise level for the day, evening and night periods and is designed to measure 'annoyance'. The END defines a **L_{den} threshold of 55 dB**. The second indicator (L_{night}) is the annual average noise level for night-time periods and is designed to assess sleep disturbance. The END defines a **L_{night} threshold of 50 dB**. Therefore, Member States must report the numbers of people who are exposed to noise levels above both thresholds for each noise sources.

In addition to the above the World Health Organisation (WHO) Environmental Noise Guidelines for the European region presents values for Railways and Roads as set out below;

- Railways
  - 54 dB L_{den}
  - 44 dB L_{night}
- Roads
  - 53 dB L_{den}
  - 45 dB L_{night}

For this contract the following shall apply in respect of noise levels results to be supplied for mapping and population exposure assessment:

Task/Deliverable	**Noise Indicator**				
	Lden (dB)	Lnight (dB)	Lday (dB)	Leve (dB)	LAeq (dB)
Mapping – Noise level grid receiver and façade receiver results for range	45 - 99	40 - 99	45 - 99	45 - 99	45 - 99
Mapping – Noise level contour polygons provided for range and bands shown	45-49, 50-54, 55-59, 50-64, 65-69, 70-74, >75	40-44, 45-49, 50-54, 55-59, 50-64, 65-69, >70	45-49, 50-54, 55-59, 50-64, 65-69, 70-74, >75	45-49, 50-54, 55-59, 50-64, 65-69, 70-74, >75	45-49, 50-54, 55-59, 50-64, 65-69, 70-74, >75
Population Exposure Assessment – Outputs in accordance with section 3.3.2 for range and bands shown	45-49, 50-54, 55-59, 50-64, 65-69, 70-74, >75	40-44, 45-49, 50-54, 55-59, 50-64, 65-69, >70	N/A	N/A	N/A

Noise Maps and Exposure Assessment shall be carried out for each of the noise sources set out in section 3.2.2.

In respect of noise mapping deliverables, it shall be necessary for the mapping outputs to present the data to show noise contours in-line with the statutory requirements of the END, i.e. lower bound for L_{den} of 55 and L_{night} of 50 and for reporting purposes to the EPA and EU. It shall also be necessary to produce noise maps and contours that show noise levels down to the guideline levels recommended by the WHO and report exposure assessment statistics to both END and WHO requirements, separately. This is necessary for general reporting and to support the identification of areas of high environmental noise exposure for the development of the Noise Action Plan and in line with the EPA Guidance Handbook on preparation of Noise Action Plans, see sections 2.3.1 and 4.1.4.

3.2.4 **Model Outputs and Mapping Requirements**

3.2.4.1 Model Results and Deliverables

The EO shall review the model results to confirm their suitability. This shall include review of any error reports and viewing of the results within the software or GIS to ensure the contours appear reliable and in line with test calculations and previous experience. This shall include the post processing of the results as may be required to provide the deliverables as set out below.

Noise Model deliverables shall include:

- The calculated noise level results grids and façade receiver levels. Theses shall be exported to suitable GIS format for each data source and in accordance with the requirements set out below and in line with EPA reporting requirements, section 5.1.4.
- Input and output data files in the proprietary modelling system.
- All noise model input (files prepared and processed from data review) and output files in suitable OGC compliant GIS formats such as Shapefile, see section 3.1.11.

The deliverables set out under the 1st bullet point shall be delivered by 30th September 2027 (or earlier), see section 5.3.1. Deliverables covered by the 2nd and 3rd bullet points shall be provided to the Contracting Authority before the end of Phase 1 of the project and together with the Noise Modelling and Exposure Assessment Report and Noise Maps (see section 3.2.4.2) shall form a key deliverable in the project.

All GIS deliverables shall be in accordance with the requirements set out in section 3.1.11 relating to Geospatial Data Sets.

3.2.4.2 Noise Mapping Requirements

The Strategic Noise Mapping requirements are set out in the Third Schedule of the European Communities (Environmental Noise) Regulations 2018. The data to be sent to the Commission is set out in the Fifth Schedule of the European Communities (Environmental Noise) Regulations 2018. The EO shall ensure that the strategic noise maps, and data reported

to the EPA, comply as a minimum with those requirements, with the requirements of EPA guidelines, reporting templates and also those set out below.

- Graphical Strategic Noise Maps shall be produced through post processing of the noise model digital results. The format shall be discussed and agreed with the Contracting Authority and Dublin Agglomeration Local Authorities.
- The Graphical Strategic Noise Maps shall be published electronically and available in the following formats;
    - GIS Web Viewer, (the EO shall support the Dublin Agglomeration Local Authorities Corporate GIS teams with the publishing (internally and externally) of the maps)
    - High Resolution PDF (this format is required for those maps that may be required to accompany the Noise Action Plans in Phase 2, see also below).
- Separate strategic noise maps shall be made for each of the following noise sources within the Agglomerations;
    - All Roads
    - Major Roads
    - All Railways (Irish Rail and Luas combined, and each separately, see section 3.2.5)
    - Major Railways (Irish Rail and Luas combined, and each separately, see section 3.2.5)
    - Industry
- The noise indicators (L_{den}, L_{day}, $L_{evening}$, L_{night} and $L_{Aeq,\ 16hr}$) and level values that shall apply for each and for the strategic noise maps are set out in section 3.2.3.
- The maps shall show the noise level bands in accordance with the level bands set out in section 3.2.3.
    - The noise level band contours shall be produced from the grid results in line with guidance from the European Environment Agency[2].
- Strategic Noise Maps shall be produced that are capable of showing noise levels exceeding the values from either of the following;
    - END 2002/49/EC (Statutory requirement), and;
    - WHO (Guidelines).
    - In this regard the outputs shall include separate maps for each of the above indicators and for each noise source as set out above.
- It shall also be a requirement to provide exposure information to accompany the strategic noise maps, for the level bands set out in section 3.2.3, prepared for each noise source and in accordance with either the END or WHO indicator levels. The following exposure statistics shall be prepared (where available/known) for each map and in a suitable format to accompany the strategic noise maps when published:
    - Number of dwellings (in hundreds)
    - Number of schools
    - Number of hospitals

[2] Reporting guidelines Strategic Noise Maps (DF4_8) — Eionet Portal (europa.eu)

  - Number of people living in dwellings (in hundreds)
  - Number of people living in dwellings (in hundreds) with a quiet façade (based on the criteria outlined in Section 1.5 of the Fifth Schedule of the Regulations, having regard for the type of buildings (see also Section 9.5.1 of the EPA *Guidance Note for Strategic Noise Mapping Part 2: Calculation Methodology & Noise Modelling*)) (if known)
  - Number of people living in dwellings (in hundreds) with special insulation against noise (if known)
  - Areas exposed to noise (in km^2)
    - The areas inside buildings are to be assigned noise levels in line with guidance from the European Environment Agency[3].
- Maps showing the difference between the Round 5 scenario and the Round 4 scenario shall be prepared in a format to be agreed with the CA.
- The strategic noise maps shall cover the extent of the Dublin agglomeration as defined by the Environmental Noise Regulation 2021, including amendments set out in Section 2.1 and as set out in Appendix E.
- It shall be possible to present the strategic noise maps by each Local Authority/Action Planning Authority within the agglomeration as well as at agglomeration level as a whole and/or separate maps for each shall be produced where required, i.e. pdf versions for Noise Action Plan purposes.
- The EO shall agree and produce a set of strategic noise maps from the above which shall be made available to the public through an interactive web GIS within one month of completing the final maps. The EO shall advise and support the Contracting Authority (and the Dublin Agglomeration Local Authorities) in respect of the provision of data sets for same and the most suitable approach to hosting same including technical advice as required. Maps for public information / consultation will be hosted on each of the relevant Local Authority websites.
- The EO shall support the Contracting Authority (and the Dublin Agglomeration Local Authorities) with the internal publishing of the Strategic Nosie Maps, and other relevant datasets/deliverables from the project, using their corporate GIS platforms. This shall include supplying data and technical advice.
- The EO shall agree and produce a set of strategic maps from the above, which shall be used to accompany the Dublin Agglomeration Noise Action Plan (NAP) (Phase 2 task). These shall be produced in PDF from the graphical maps delivered in Phase 1 as required. Scale of the maps and drawing size to be agreed with the Contracting Authority.
- The EO shall agree and produce a set of strategic maps from the above, and in line with the requirements of the NAP, that shall be made available for public consultation for the NAPs (Phase 2 task), see also section 4.4.

[3] Reporting guidelines Strategic Noise Maps (DF4_8) — Eionet Portal (europa.eu)

The Graphical Strategic Noise Maps for publishing electronically may be produced and delivered after the digital results have been processed and reported to the EPA in line with their requirements, see section 3.2.4.1.

All mapping shall be delivered in suitable OGC compliant GIS data formats and shall be in accordance with the requirements set out in section 3.1.11 relating to Geospatial Data Sets.

The strategic noise mapping shall contain, where appropriate, a suitable disclaimer in respect of the purpose of the maps, data used for the assessment, assumptions and other relevant items. The EO shall develop a suitable disclaimer and agree the content and wording with the CA and the Dublin Agglomeration Local Authorities.

3.2.5 **Noise Model Runs and Strategic Noise Maps – Rail Noise Source**

The EO shall undertake rail noise modelling and produce strategic noise maps for rail in line with requirements set out in sections 3.2.2 and 3.2.4. Specifically, the EO shall produce strategic noise maps, exposure statics and health effects for each of the following three scenarios;

1. All and Major Rail – Heavy Rail (Irish Rail) and Luas combined
2. All and Major Rail – Heavy Rail (Irish Rail) only
3. All and Major Rail – Luas only.

The results from item 1 above shall be used for reporting to the EPA and the Commission in line with the requirements of The Regulations. Item 1 shall also be used for publishing maps on the Dublin Agglomeration Local Authorities websites and also to support production of the Noise Action Plan. Items 2 and 3 shall be used to provide separate deliverables to Iarnród Éireann (Irish Rail) and TII respectively.

The EO shall include within their tender price for completing each of these three scenarios/runs for both All Rail and Major Rail including production of maps and exposure statistics for each.

3.2.6 **Supplementary Model Runs – All Roads**

In addition to the modelling runs necessary to complete the strategic noise maps and determine the population exposure statistics necessary to report against the END requirements, the EO shall undertake additional supplementary model runs as set out below. These runs may be completed after the modelling to produce the strategic noise maps has been completed, in that these runs are being undertaken to preform sensitivity tests on a number of scenarios and are not required for reporting to the EPA and the Commission under The Regulations.

The runs are required to investigate the relationship between traffic volumes of certain roads and their combined verses individual contributions to noise exposure, including exposure statistics and health effects.

The following runs shall be undertaken;

1. All roads with an AADT above/below certain number [Number to be agreed with CA]
2. ERM road network only [using agreed R5 traffic model flows/speeds]
3. All none ERM network roads
4. All national roads within the agglomeration
5. All non-national roads within the agglomeration.

For each run above the EO shall prepare the following;

- Map for L_{den} and L_{night}
- Exposure statistics for same reporting bands and thresholds required by the END
- Exposure statistics for band below END down to WHO guideline levels.
- Map showing change in noise level for each relative to the R5 All Roads run
- Change in exposure statistics across all bands relative to the R5 All Roads run (END & WHO)

The exposure statistics analysis shall be provided at agglomeration level and also at each Local Authority area level.

In addition to the above and for item 4 and 5, relating to national and non-national roads, the EO shall use the result of this modelling exercise to carry out an analysis/comparison for three PIAs where exposure results from both national and non-national roads. The analysis shall consider the relative contributions from each noise source and quantify such contributions where possible. The location of the three PIAs and the exact scope and methodology for this analysis shall be agreed with the Contracting Authority and the Dublin Agglomeration Local Authorities. This latter task can only be completed when the evaluation of PIAs has been completed as part of the Phase 2 task set out in section 4.1.4.

Objectives of the exercise are as follows;

- To confirm that the approach to modelling all roads within the Dublin agglomeration is appropriate and should be continued for future rounds
- To help understand the contributions from minor roads and whether more reliable traffic data for these roads is required or not
- To help understand the contribution that national roads make to the exposure in those areas relative to non-national and minor roads.

The EO shall prepare a report [Dublin Agglomeration – Supplementary Roads Traffic Model Investigations] setting out the results of the modelling runs and analysis completed. The analysis shall consider the relative contributions that each of the above scenarios make to the overall noise exposure identified by the R5 All Roads model and shall consider this across both L_{den} and L_{night} indicators. The report shall clearly set out any assumptions, constraints and other factors that could influence or contribute to the results.

The EO shall discuss the proposed runs and agree final list with the Contracting Authority that will best help evaluate and achieve the objectives of this exercise.

Note: this task can be completed after the main noise modelling, mapping and reporting tasks in Phase 1 have been completed, see section 5.3.1.

3.3 Population Exposure Assessment and Harmful Effects

3.3.1 Introduction

Population exposure assessment shall be carried out in accordance with the following Directives and the details set out below;

- Directive 2002/49/EC, Annex VI, Paragraphs 1.5, 1.6 and 2.7
- COMMISSION DIRECTIVE (EU) 2015/996 of 19 May 2015 establishing common noise assessment methods according to Directive 2002/49/EC of the European Parliament and of the Council
- Commission Directive (EU) 2020/367 of 4th March 2020 amending Annex III to Directive 2002/49/EC of the European Parliament and of the Council.
- Commission Directive (EU) 2020/367 of 4th March 2020 amending Annex III to Directive 2002/49/EC of the European Parliament and of the Council
- Commission Delegated Directive (EU) 2021/1226 of the 21st December 2020, amending Annex II to Directive 2002/49/EC of the European Parliament and of the Council as regards common noise assessment methods

The EO shall carry out the assessment in accordance with the above legislative requirements, and the relevant EPA guidance Parts 2 and 3, covering method of calculation of harmful effects, relative risk, absolute risk for Ischaemic heart disease, high annoyance and high sleep disturbance, with a breakdown of contribution from each transport mode, see section 2.3.1.

The assessment shall be based on use of receiver points allocated around buildings.

For the purpose of population exposure assessment and harmful effects assessment, the EO shall refer to the following data sets;

- An Post GeoDirectory (see Appendix E)
- CSO, SAPS (Small Area Population Statistics) (Readily available from CSO.ie)

The EPA has developed a number of guidance notes, as noted above, which set out methodologies for completing the population exposure assessment, see section 2.3.1. These are included in Appendix C for information purposes. It remains the responsibility of the EO to satisfy themselves that the approach they use meets the requirements of the legislation and the Contracting Authority nor the EPA accept any liability or responsibility of the EO's use of anything contained within the documents provided in Appendix C.

Details of specific requirements are set out in the sections below.

3.3.2 **Population Exposure Assessment**

The EO shall include population exposure assessment for the Dublin agglomeration as follows;

- Exposure to noise and health effects shall be assessed for each of the following noise sources within the agglomeration;
    - All Roads
    - Major Roads
    - All Railways – including three scenarios set out in section 3.2.5
    - Major Railways – including three scenarios set out in section 3.2.5
    - Industry
- Exposure statistics are required for the level bands set out in section 3.2.3, prepared for each noise source and in accordance with either the END or WHO indicator levels:
    - Number of dwellings (in hundreds)
    - Number of schools
    - Number of hospitals
    - Number of people living in dwellings (in hundreds)
    - Number of people living in dwellings (in hundreds) with a quiet façade (based on the criteria outlined in Section 1.5 of the Fifth Schedule of the Regulations, having regard for the type of buildings (see also Section 9.5.1 of the EPA Guidance Note for Strategic Noise Mapping Part 2: Calculation Methodology & Noise Modelling) (if known)
    - Number of people living in dwellings (in hundreds) with special insulation against noise (if known)
    - Areas exposed to noise (in km^2)
        - The areas inside buildings are to be assigned noise levels in line with guidance from the European Environment Agency[4].
- The exposure information shall be provided for the Dublin agglomeration in line with EPA reporting requirements.
- The difference in exposure statistics for each of the items set out in the 1st and 2nd bullet points above between Round 4 and Round 5 shall also be provided in tabular format. Where significant differences exist between Round 4 and Round 5, the EO shall consider explanations for the difference. i.e. mitigation measures, change in traffic volumes, change in population statistics etc and discuss same with the CA and the Dublin Agglomeration Local Authorities.
- The above shall be reported for the Dublin agglomeration and also separately for each Local Authority included within the agglomeration.
- The results of the above shall be set out in the Noise Modelling and Exposure Assessment Report prepared for the agglomeration as required under section 3.4.2.

[4] Reporting guidelines Strategic Noise Maps (DF4_8) — Eionet Portal (europa.eu)

3.3.3 **Harmful Effects Assessment**

An assessment of the harmful effects of noise for the Dublin agglomeration shall be carried out in accordance with Annex III as amended by Directive (EU) 2020/367 and EPA guidance and as set out below.

- The criteria, from S.I. No. 663/2021 - European Communities (Environmental Noise) (Amendment) Regulations 2021, relating to harmful effects for which assessment shall be undertaken include the following;
    - Ischaemic heart disease (IHD) corresponding to codes BA40 and BA6Z of the international classification ICD-11 established by the World health organisation;
    - High annoyance (HA);
    - High sleep disturbance (HSD).
- The methodologies to be used to calculate the harmful effects for each of the above criteria are set out in Annex III of Directive (EU) 2020/367 and the European Communities (Environmental Noise) (Amendment) Regulations 2021and these shall be used by the EO.
- The exposure assessment of the population to these harmful effects shall be undertaken independently for each noise sources below;
    - All Roads
    - Major Roads
    - All Railways – including three scenarios set out in section 3.2.5
    - Major Railways – including three scenarios set out in section 3.2.5
- Exposure statistics are required for the level bands set out in section 3.2.3, prepared for each noise source and in accordance with either the END or WHO indicator levels.
- The difference in exposure statistics for harmful effects for each of the criteria set out in the 1st and 3rd bullet points above between Round 4 and Round 5 shall also be provided in tabular format. Where significant differences exist between Round 4 and Round 5, the EO shall consider explanations for the difference. i.e. mitigation measures, change in traffic volumes, change in population statistics etc and discuss same with the CA and the Dublin Agglomeration Local Authorities.
- The results of the harmful effects assessment shall be reported for the Dublin agglomeration and also separately for each Local Authority included within the agglomeration.
- The results of the above shall be set out in the Noise Modelling and Exposure Assessment Report prepared for the agglomeration as required under section 3.4.2.

3.3.4 **Present results to CA/LAs**

The EO shall review the results from the assessments of 0 and 3.3.3 above and prepare a brief report/technical memorandum setting out the results and provide this to the Contracting Authority and Agglomeration Local Authorities. The EO shall prepare a brief presentation on

the results and meet with the Agglomeration Local Authorities to present the results of the assessment.

The results shall also be included in the Noise Modelling and Exposure Assessment Report as noted above.

3.4 Phase 1 Reports

3.4.1 Data Review, Evaluation and Model Set-up Report

The EO shall prepare a Data Review, Evaluation and Model Set-up Report. The report shall set out details of the EO's review of the data sets, including the Round 4 noise model, and summarise all the data inputs for the model, including the source of data together with details of any assumptions made where applicable.

The report shall break the data sets down into the Source Model and Propagation Model and report on each separately.

- The report should include details of any methodologies and GIS processing used by the EO to adjust data sets and fill gaps. The report shall set out detail of the methodologies to create a road traffic flow model from the data sets including the methodology to fill gaps where road traffic data does not currently exist and the manipulation of traffic data sets to CNOSSOS-EU formats. This shall include a summary of the review of the traffic count data provided against the Round 4 traffic model and the ERM 2026 scenario and how this evaluation has been used to validate and inform the development of the Round 5 traffic model, see section 3.1.6.4.
- To create rail traffic flow model from the data sets and including the methodology to review/adjust the data sets to the required CNOSSOS-EU formats if required
- To create the propagation model for the model using the data sets available including the Round 4 model (if used), Tailte Éireann PRIME 2 Geometry, DTM, DSM and relevant infrastructure data sets etc.

The report should provide details of any new or additional data sets that the EO has used to complete the data sets for the CNOSSOS-EU noise.

Where the Round 4 model has been used and updated with any new/latest data sets, the report and methodology shall clearly set out what elements of the Round 4 model have been updated and with which data sets.

The Report shall also set out details of import and model setup within the noise software including the proposed calculation setting and testing completed to establish the data processing steps and settings including test results to demonstrate the model is suitable for use in performing the necessary noise and exposure assessment calculations, see also section 3.2.2.

The report shall also cross reference the relevant EPA Guidance Notes and confirm how the methodologies chosen aligned with the recommendations set out in those guidance notes.

This report shall be prepared as part of the data review and model set up and shall be completed and agree prior to commencing final model runs for the Dublin agglomeration. The EO shall ensure that this is factored into their Phase 1 project schedule to ensure that the timelines set out in section 5.3.1 are achieved.

3.4.2 Noise Modelling and Exposure Assessment Report

The EO shall prepare a Noise Modelling and Exposure Assessment Report for the Dublin agglomeration. The report shall meet the requirements of the EPA guidelines, and set out details of each of the following;

- The approach to the modelling work including model/computational setup
- Modelling criteria
- Any assumptions made
- Inputs parameters used
- Details of the software to be used
- Model runs completed
- Details of any model validation
- Sensitivity tests
- Quality assurance procedures
- Results from the model including information in tabular format required to be prepared for the noise maps (see section 3.2.4.2) and data required to be sent to the EPA & Commission (Fifth Schedule of the European Communities (Environmental Noise) Regulations 2018/2021).
- Details of the population exposure assessment methods used including assessment of harmful effects (see section 3.3).
- Results of the exposure assessment in tabular format for all the source categories required and as set out in section 3.3.
- Results of the population exposure for harmful effects for all noise sources and as set out in section 3.3.
- Any other relevant information.

3.5 Liaison With Relevant Stakeholders

3.5.1 Non-Dublin Agglomeration Contract(s)

In addition to the Dublin agglomeration there is a requirement to prepare strategic noise maps for the following as part of the Round 5 process;

- Agglomeration of Cork
- Agglomeration of Limerick
- All Major Roads outside the agglomerations
    - National roads
    - Non-national roads
- All Major Rail outside the agglomerations.

The EO shall be required to liaise with the NMBs/authorities (and/or their service provider(s)) responsible for completing the noise modelling and production of the strategic noise maps to ensure consistency of approach at a national level and for reporting to the EPA and the Commission. It will be particularly important for the EO to liaise carefully with the NMBs/authorities (and/or their service provider(s)) responsible for modelling any major roads (national or non-national) that lead into the Dublin agglomeration to ensure consistency with model set up and assumptions to minimise any possible boundary effects. In this regard the EO shall consult and agree on all parameters that are critical including traffic flow, speed, road surface as well as other infrastructure and model settings.

Liaison shall include meetings to be held at regular intervals throughout the process as well as communication by phone, emails and other sources. For the purpose of pricing the EO shall include for 3 meetings with other NMBs/authorities (and/or their service provider(s)) during Phase 1 as well as ongoing liaison through other means. The price shall include preparation for and minutes of any meetings and shall assume one meeting in person and the remainder by TEAMS or other suitable communication tool.

3.5.2 **Transport Infrastructure Ireland (TII)**

TII are the NMB responsible for completing the noise modelling and mapping work relating to major National roads and major light railways [Luas]. They are responsible for all National Roads throughout the country many of which lead into and through the Dublin agglomeration. Notwithstanding this, all major roads, including national roads, and the Luas will be modelled and mapped within the Dublin agglomeration extent, plus the 2 km buffer, within this agglomeration contract.

During the completion of the data processing, modelling and mapping works, the EO shall liaise with the TII staff [and/or their service provider] as required in relation to aspects of modelling within the agglomeration, at boundaries and within the buffer zone, that relate to major National roads and the Luas to ensure correct input data sets are being used, for consistency where national roads cross the buffer, agree modelling assumptions and to ensure modelling outputs across boundaries, and in general, are consistency. This shall also include liaison with TII and EPA in respect of reporting requirements for the EU.

This shall include meetings to be held at regular intervals throughout the process as well as communication by phone, emails and other sources. For the purpose of pricing the EO shall include for 4 meetings with TII during Phase 1 as well as ongoing liaison through other means. The price shall include preparation for and minutes of any meetings and shall assume one meeting in person and the remainder by TEAMS or other suitable communication tool.

3.5.2.1 Pilot Model Run at National Road Interface

As part of the approach to liaison with TII in respect of the National Roads that cross the buffer and boundary of the Dublin Agglomeration, and the optimisation of the noise model in

accordance with section 3.2.2.1, the EO shall agree a pilot area which will be used to agree the modelling approach and parameters with a view to ensuring consistency at these interfaces. The noise model shall be run, and re-run as appropriate, for this pilot area and the results compared with those obtained by TII for the same area with a view to refining, optimising and agreeing the best model set-up and parameters to ensure consistency and accuracy between each and to provide the best possible consistency when reporting to the EPA and the Commission.

3.5.3 **Liaison with Iarnród Éireann**

Iarnród Éireann (IE) are the NMB responsible for completing the noise modelling and mapping work relating to major rail [heavy rail]. They are responsible for the rail network in the Republic of Ireland except for the Luas network. Notwithstanding this, all rail and major rail, will be modelled and mapped within the Dublin agglomeration extent, plus the 2 km buffer, within this agglomeration contract.

During the completion of the data processing, modelling and mapping works, the EO shall liaise with the IE staff [and/or their service provider] as required in relation to aspects of modelling within the agglomeration, at boundaries and within the buffer zones, that relate to major rail to ensure correct input data sets are being used, for consistency where the major rail network crosses the buffer, agree modelling assumptions and to ensure modelling outputs across boundaries, and in general, are consistency. This shall also include liaison with IE and EPA in respect of reporting requirements for the EU.

This shall include meetings to be held at regular intervals throughout the process as well as communication by phone, emails and other sources. For the purpose of pricing the EO shall include for 3 meetings with Iarnród Éireann during Phase 1 as well as other ongoing liaison with them. The price shall include preparation for and minutes of any meetings and shall assume remote meetings by TEAMS or other suitable communication tool.

3.5.4 **Liaison with the Environmental Protection Agency (EPA)**

3.5.4.1 General

The EPA are the designated national authority for the purpose of the Regulations. The EPA exercise general supervision over the functions of the noise mapping bodies and action planning authorities and provide guidance or advice to such bodies as necessary. Relevant EPA guidance and advice in relation to strategic noise mapping and noise action planning is set out in section 2.3.1.

During the data processing, modelling and mapping works, the EO shall liaise with the EPA (and/or their Technical advisor) on modelling within agglomerations, at boundaries and within buffer zones to ensure consistency in input data, modelling assumptions and outputs, in accordance with the requirements of the relevant guidance notes. This shall include meetings to be held as considered necessary throughout the process as well as

communication by phone, emails and other sources. For the purpose of pricing the EO shall include for 3 meetings with EPA during Phase 1 as well as ongoing liaison through other means. The price shall include preparation for and minutes of any meetings and shall assume one meeting in person and the remainder by TEAMS or other suitable communication tool.

3.5.4.2 Niece Workshops

The EPA hold workshops with all NMBs and APAs during each Round of the implementation of The Regulations. Approximately 3 to 4 meeting are held annually to discuss technical issues, report progress and consider consistency at a national level.

The EO shall include for attendance at 3 Niece meetings during Phase 1 and 3 meetings during Phase 2 of the contract. This shall include preparation of a presentation to report progress and raise technical issues on data, modelling, production of maps, exposure stats, identification of Most important Areas, Candidate Quiet Areas, production of Noise Action Plan and other reports as may be required during Phase 1 and Phase 2.

4. Phase 2: Noise Action Plan

4.1 Noise Action Plan Preparation

4.1.1 Noise Action Plan Extent and Format

The EO shall prepare a Noise Action Plan for the Dublin agglomeration which must include the following Local Authorities:

- The Agglomeration of Dublin
    a. Dublin City Council,
    b. Fingal County Council
    c. Dún Laoghaire Rathdown County Council (Part included within the agglomeration boundary plus the Electoral District of Tibradden)
    d. South Dublin County Council
    e. Wicklow County Council (Part included within the agglomeration boundary)
    f. Kildare County Council (Part included within the agglomeration boundary).

Each of the Local Authorities set out above are Action Planning Authorities (APAs) for the purpose of the END.

The Noise Action Plans shall be completed in accordance with the requirements of the following legislation, and EPA guidelines (see section 2.3.1), and any subsequent amendments to same that may be issued by the EU Commission or EPA during the period of the project;

- Environmental Noise Directive (END) 2002/49/EC
- Commission Directive (EU) 2020/367 of 4th March 2020 amending Annex III to Directive 2002/49/EC of the European Parliament and of the Council.
- European Communities (Environmental Noise) Regulations 2018, S.I. 549/2018, and
- European Communities (Environmental Noise) (Amendment) Regulations 2021, S.I. No. 663 of 2021.

A single Noise Action Plan must be completed for the Dublin agglomeration. As noted above the agglomeration includes more than one Local Authority/APA. Each may have different requirements that will need to be taken into consideration in respect of noise reduction measures and other planning and policy issues. The EO shall consult and meet with each Local Authority to agree the requirements for the NAP and the required structure/format for the NAP. It is likely that a structure similar to that prepared for Round 4 will be followed, which involved sections common to each APA, followed by a section specific to each APA.

However, the EO shall review same and consider whether alternative better arrangements may be possible and particularly in the context of public consultation, where having a large report with multiple sections spanning different local authorities could be confusing from a public review perspective, see section 4.4 relating to public consultation.

4.1.2 **Review Relevant Local Authority, Regional and National Planning and Policy Documents**

The EO shall review relevant Local, Regional and National planning and policy documents as part of the preparation of the NAPs. This shall include discussions with the Dublin agglomeration Local Authorities on specific noise and traffic related policies, objectives and actions that may be included within Planning and other documents, see also section 4.1.5.2.

4.1.3 **Noise Action Plan Requirements**

The EO shall prepare a Noise Action Plan for the Dublin agglomeration in line with the requirements of the Fourth Schedule of European Communities (Environmental Noise) Regulations 2018 and containing as a minimum the following requirements;

<u>Background / Context</u>

- A description of the agglomeration, the major roads, the major railways, major airports [reference separate Dublin Airport Noise Action Plan only], industry and other noise sources taken into account.
- The authority responsible.
- The legal context.
- Any limit values in place.
- Noise-control programmes that have been carried out in the past and noise control measures in place.

<u>Results of Round 5 Mapping and Assessment</u>

- A summary of the results of the noise mapping, including areas of high and low noise.
- An evaluation of the estimated number of people exposed to noise including harmful effects assessment.
- A comparison between the Round 5 and Round 4 exposure statistics including discussion and possible explanations in relation to same.
- Identification of problems and situations that need to be improved.

<u>Noise Avoidance and Reduction Measures</u>

- Actions which the APAs intend to take in the next five years, including any measures to preserve quiet areas (see also section 4.1.5) with focus on improving soundscape as well as noise reduction.
- Policy objectives and planning/design standards that are or could influence noise management over the period of the plan.
- Strategic projects that may influence noise management within the extents of the Dublin Agglomeration Noise Action Plan.
- Long-term strategy.
- Financial information: budgets estimates, cost-effectiveness assessment or cost-benefit assessment (where appropriate).

- Provisions envisaged for evaluating the implementation and the results of the action plan.
- An estimate of the reduction of the number of people affected by noise (annoyed, sleep disturbed, or other) as a result of the noise reduction measures and strategy proposed.
- An estimate of the reduction in the harmful effects of noise exposure to the population as a result of the noise reduction measures.

Consultation

- A record of the public consultations organised in accordance with Regulations (see section 4.4.3 for requirements).

Environmental Assessment

- A summary of any environmental assessment undertaken in respect of the following relating to the Noise Action Plan;
    - Screening for a Strategic Environmental Assessment (SEA) and the SEA, as appropriate
    - Screening for an Appropriate Assessment (AA) and Natura Impact Statement (NIS), as appropriate.

As part of the preparation of the noise action plan and the consideration of noise avoidance and reduction measures, the EO shall follow the guidelines issued by the EPA (section 2.3.1) and consider other best practice in relation to noise avoidance and reduction measures and the preparation of Noise Action Plans from across Europe, see also sections 2.3.2, 4.1.5.2 and 4.1.6.

The Noise Action Plans shall be subject to two drafting stages as follows;

- 1st Draft Noise Action Plan – Pre Stage 2 Public Consultation
- Final Draft Noise Action Plan – Post Stage 2 Public Consultation.

The Final Draft Noise Action Plan shall be updated to take into consideration the feedback from the public and stakeholder consultation. Both drafts will be subject to the review cycle as set out in section 5.3.4.

4.1.4 **Identification of Most Important Areas and Priority Important Areas**

The END and The Regulations require APAs to use the Strategic Noise Maps to identify areas of high environmental noise exposure and to prioritise these for addressing through the Noise Action Plan. The EPA guidance produced during Round 4, set out an approach to identifying these areas and prioritising them which involved the identification of the following three areas;

- Important Areas (IAs)- locations exposed to environmental noise which exceed the guideline levels set by the WHO.

- Most Important Areas (MIAs) – locations that are a sub-set of IAs where health effects are highest based on noise exposure and number of people exposed.
- Priority Important Areas (PIAs) – 5 to 10 MIAs prioritised per APAs for address during the implementation of the Noise Action Plan.

The Dublin Agglomeration Noise Action Plan 2024 – 2028 identified 631 MIAs across the whole agglomeration for road and rail noise sources. Of these 51 where prioritised as PIAs across each of the six APAs that are located within the agglomeration.

The EO shall use the Round 5 strategic noise mapping, exposure and harmful effects assessment to identify IAs and MIAs in accordance with the EPA guidance, or an agreed amended methodology.

Before commencing the evaluation, the EO shall discuss and review the MIA identification methodology with the APAs and, where appropriate, the EPA, to confirm its continued applicability and identify any required modifications for Round 5. This shall include consideration of alternative criteria, such as the density of people experiencing sleep disturbance or exposed to very high environmental noise levels, in addition to the current criterion for people highly annoyed.

As a minimum, the EO shall undertake an assessment in line with the EPA guidance. The tender sum shall also allow for consideration of alternative criteria and the preparation of an alternative list of MIAs. Any proposed changes or additional criteria shall be agreed by all parties, including the EPA, before analysis is undertaken.

Separate IAs and MIAs shall be identified for each noise source, i.e. Road and Rail.

For each MIA the EO shall determine a range of statistical information to help inform the prioritisation process. This information shall include the list set out in the EPA guidance as well as any other deemed relevant and shall include but not necessarily be limited to the following;

- Noise source identifying the Most Important Area, i.e., railways or roads
- Area (m^2)
- Total population
- Number of people highly annoyed (HA)
- Number of people highly sleep disturbed (HSD)
- Population increased risk of ischaemic heart disease (IHD)
- Number of dwellings
- Population noise exposure above END threshold values:
    - Road traffic noise exposure in 5 dB bands (Lden 55 → 75 dB, Lnight 50 → 70 dB)
    - Railway noise exposure in 5 dB bands (Lden 55 → 75 dB, Lnight 50 → 70 dB)

In addition to these statistics, the EO shall also consider, through discussions with the APAs, the following when recommending MIAs for priority in the Noise Action Plan

- Evaluation of PIAs identified in the 2024-2028 Noise Action Plan

- Synergies with other proposed projects/schemes being progressed by the Dublin Agglomeration Local Authorities or the other NMBs for national roads or rail
- The practicality and technical aspects of achieving suitable noise abatement at a given MIA.

The EO shall, through consideration of the above criteria, and discussion with the APAs and NMBs as appropriate, recommend 5-10 MIAs per APA for inclusion as PIAs within the Round 5 Noise Action Plan.

The EO shall compare the location of the MIAs identified in Round 5 with those identified in Round 4. The EO shall analyse the changes that may have occurred and document these together with any explanations which may have contributed to these changes in a Technical Advise Document – Most Important Areas. This shall include the following;

- MIAs from Round 4 that have not been identified for R5
- New Round 5 MIAs that were not identified in Round 4
- MIAs that are the same or similar between Round 4 and Round 5. i.e. by location and key statistics are very similar
- MIAs that are geographically similar, but the key statistics have changed significantly, i.e. population, no. of people HA, HSD etc.
- MIAs that may have been subject to change resulting from implementation of measures and/or projects or schemes advanced by others.

The EO shall summarise the findings of this analysis within the Noise Action Plan.

4.1.5 **Candidate Quiet Areas and Quiet Areas**

4.1.5.1 Identification of Candidate Quiet Areas

An objective of the END and The Regulations is to avoid and prevent the harmful effects of long-term exposure to environmental noise. The Regulations requires APAs to include an objective within noise action plan to protect quiet areas and include measures, as appropriate, to achieve this objective. Under The Regulations the APAs may designate quiet areas within agglomerations following consultation with the EPA and approval of the Minister.

While there is no clear definition of what a Quiet Area is, during Round 4 the EPA developed a methodology aimed at identifying Quiet Areas and details are set out in their Guidance Note on preparation of the Noise Action Plan, see section 2.3.1. The methodology focuses on Green and Blue public spaces and includes a stage approach as follows;

1. Identify list of Green and Blue public spaces from relevant data sets – Potential Candidate Quiet Areas (PCQAs)
2. Use the results of the Strategic Noise Model and Maps to evaluate the PCQAs against the criteria set out in the Guidance Note to identify Candidate Quiet Areas (CQAs) and as follows:
    a. Absolute CQAs – where environmental noise levels are low

   b. Relative CQAs – where environmental noise levels are relatively low in comparison to nearby residential areas
3. Evaluate the CQAs to determine which should be designated as Quiet Areas.

It should be noted that only items 1 and 2 as set out above are required to be completed for the Noise Action Plan phase. Item 3 will be undertaken as part of the implementation of the Noise Action Plan by the Contracting Authority.

In addition to the two criteria set out in the EPA report, the EO shall include a third "Other" criteria which will cover parks where the evaluation does not meet the EPA criteria but which are deemed to be areas of high community value or are areas already designated as Quiet Areas or identified as CQAs from previous Rounds. The specific requirements for this criteria, and the green/blue spaces to be included within it, shall be discussed and agreed with the CA and following a review of the evaluation results for the PCQAs.

Prior to Round 4 eight parks within Dublin City Council were designated as Quiet Areas. Furthermore, the Dublin Agglomeration Noise Action Plan 2024 -2028 identified 180 CQAs across the agglomeration. Each APA undertook a commitment to evaluate some of these during the lifetime of the Plan.

The EO shall prepare a list of PCQAs from a range of publicly available data sets and any data sets provided by the APAs. The list of PCQAs shall be compared with the list of PCQAs from Round 4 and any changes brought to the attention of the Contracting Authority. The final list of PCQAs shall be agreed with the APAs prior to any analysis being completed.

The EO shall use the results of the Round 5 strategic noise model and mapping to complete an evaluate of each of these PCQAs in line with the methodology set out by the EPA and identify a list of CQAs across the three categories; Absolute, Relative and Other.

The results of the evaluation shall clearly set out specific attributes for each PCQA/CQA in tabular and GIS format and shall include, but not necessarily be limited to the following;

- PCQA/CQA ID
- Name / Location
- Grid Reference
- Area (m^2)
- Population within 1,000m
- Noise Level, $L_{Aeq,\ 16hr}$, dB
- Area of PCQA below 45 dB $L_{Aeq,\ 16hr}$ (m^2)
- CQA Criteria – Absolute, Relative, Other, None
    - If Other – justification for same.

A separate list and GIS file shall be provided for all PCQAs and all CQAs identified.

The EO shall compare the list of CQAs with the list of existing Quiet Areas and the list of CQAs from Round 4. The EO shall analyse the changes that may have occurred and document these together with any explanations which may have contributed to these changes in a Technical Advise Document – Candidate Quiet Areas. This shall include the following;

- Quiet Areas from previous Rounds that have not been identified for R5
- CQAs from Round 4 that have not been identified for R5
- New Round 5 CQAs that were not identified in Round 4
- CQAs that remain the same or similar between Round 4 and Round 5. i.e. by location and key statistics are similar
- CQAs that are geographically similar, but key statistics have changed significantly, i.e. $L_{Aeq,\ 16hr}$ noise level, Population within 1,000m etc.

The EO shall review the results of the analysis, including any changes noted above, with the Contracting Authority and consider whether any sites from the PCQA list, which did not make the CQA list should be included in the list of CQAs under the "Other" criteria. The EO shall summarise the findings of this analysis within the Noise Action Plan.

In undertaking the analysis the EO shall consider the evaluations of any CQAs that the Contracting Authority may have completed as part of the implementation of the Round 4 Noise Action Plan to that point in time.

Where existing or proposed Quiet Areas have not achieved either the Absolute or Relative CQA status and have been included within the "Other" category, the EO shall, at a high level, review the noise characteristics of the sites, including the environmental noise sources, and provide the APAs with advice on how the noise levels and sound characteristics of these sites could be improved and/or safeguarded for the future. This should include possible noise abatement measures and/or soundscape improvement measures that could be considered. This shall take into consideration the noise sources, results of the strategic noise modelling and European and International best practice and shall consider soundscape as well as noise levels. The results of this assessment shall be set out in the Technical Advice Document – Candidate Quiet Areas and summarised in the Noise Action Plan.

4.1.5.2 Policy and Planning Considerations

The EO shall carry out a review of planning and policy considerations in the context of Quiet Areas including a review of each Local Authority's policy and planning documents. The review shall also consider best practice from other National, European or International countries in respect of their approach to managing prevention of environmental noise through planning and policy and particularly their inclusion of Quiet Areas, or similar, within same. This shall include definitions for Quiet Areas, policy objectives and policy statements.

The review shall also consider the role that soundscape assessment may provide in the evaluation of quiet areas and planning as a whole in other jurisdictions. In particular, the EO shall review the requirement embedded within Wales national planning policy relating to Soundscapes and present a summary of same and any synergies that could be applicable for the Dublin Agglomeration Local Authorities. This review shall include where possible a meeting with representatives of the Welsh Government, or other relevant authorities responsible for implementing the Air Quality and Soundscapes Act 2024 and/or the Noise and Soundscape Plan for Wales 2023-2028.

The EO shall consult with each of the Dublin Agglomeration Local Authorities as part of this review including meetings with their planning departments as required.

The EO shall support the Dublin Agglomeration Local Authorities with the preparation of a Policy Statement relating to Quiet Areas and noise prevention.

The review shall conclude with a half day workshop with the Agglomeration Local Authorities, their Planning Sections and other relevant stakeholders to discuss the findings of the review, the policy statements and consider noise management objectives for future consideration.

The EO shall include a section within the Noise Action Plan which sets out a summary of this policy review in relation to Quiet Areas and the consideration of noise management and soundscape assessment issues within the Planning process.

The EO may be required to attend relevant Local Authority Strategic Policy Committees (SPC) meetings to discuss policy, objectives and details of existing or proposed Quiet Areas, see section 5.2 regarding requirements.

4.1.6 **Noise Avoidance and Reduction Measures**

Following the identification of areas of high environmental noise exposure as set out in section 4.1.4, the EO shall consider the noise avoidance and abatement measures that could apply for the areas identified as PIAs. Where this includes PIAs that may be being evaluated by separate means, then this shall include a summary of those measures being considered for those sites.

The noise avoidance and reduction measures/actions which the EO shall consider in discussion with the Dublin Agglomeration Local Authorities shall include, but not necessarily be limited to, measures within the following fields relating to the Local Authority's areas of competence:

- Traffic planning.
- Land-use planning.
- Technical measures at noise sources.
- Selection of quieter sources.
- Reduction of sound transmission.
- Regulatory or economic measures or incentives.

The EO shall consider National, European and Internation best practice when considering applicable measures for use by the APAs under the Noise Action Plan. In particular, the EO shall review and consider the "Technical Support for Noise Action Plans" document which was prepared by the Commission and which sets out measures and tools to help APAs reduce environmental noise under the END, section 2.3.2. This should include a review, and use, of

the toolbox that accompanies the document. Links to the Technical Support Document and Toolbox are provided below;

Technical support for Noise Action Plans - Publications Office of the EU

noisedir - Library

For PIAs relating to noise sources outside the competence or jurisdiction of the APAs, the EO shall liaise with the relevant NMBs and/or other authorities to discuss the PIAs, potential mitigation measures, and any planned maintenance or other works that could positively affect noise levels at these sites. This shall include any strategic projects that may be in progress, or in planning, which could have implications for environmental noise management across the agglomeration.

The EO shall review the PIAs identified and identify, using the Technical Support document, best practice experience and other high level evaluation methodologies, a short list of potential measures for each PIA that should be carried forward to the Noise Action Plan implementation stage for more detailed evaluation and assessment. The EO shall prepare high level drawings, where appropriate, to show the location and details of any proposed measures and shall prepare high level costs estimates for measures.

In evaluating the measures proposed the EO shall consider, at a high level, risks associated with the measures and shall set out at a high-level detail of the risks to help prioritise and inform next steps in the development of any of the measures at the Noise Action Plan implementation stage.

The EO, in consultation with the Local Authorities / APAs, shall prepare a framework for implementation of the measures which clearly sets out the proposed timelines and strategy including short, medium and long-term measures and actions.

The EO shall review and take into consideration any new National Policy or Guidance that gets developed during the life-time of the project in respect of noise or other related topics.

The EO shall note that the level of effort required in developing and assessing the measures as set out above shall be sufficient to reflect the strategic nature of the mapping and noise planning required. Detailed drawings, costs and design work is not required at this stage. It will be sufficient to show measures on plans and cost estimates shall be based on experience and examples of other similar measures or information provided by the APAs where available. Appropriate contingency factors for cost shall be applied to reflect the level of detail and any perceived risks.

4.1.7 **Summary Noise Action Plan**

The EO shall prepare a summary Noise Action Plan for the Dublin Agglomeration Noise Action Plan using the templates prepared by the EEA mandatory reporting mechanism, Reportnet 3.0, DF7_10, and within one month of the Plan being made, see section 5.1.4 and also the EPA Guidance Note relating to preparation of Noise Action Plans, section 2.3.1. The EO shall also

support the EPA with the reporting requirements to the Commission including dealing with queries relating to the summary report, requests for changes to same etc.

4.1.8 Collaboration across Local Authorities, NMBs and Stakeholders

Notwithstanding the distinct administrative areas of each Local Authority / Action Planning Authority, a key requirement of the Noise Action Plan will be cross boundary co-operation in respect of measures and other noise policy and strategic planning issues. The EO shall ensure adequate consultation between all Action Planning Authorities in respect of the development of the Noise Action Plan and ensure that this is reflected within the final format of the Plan.

In this regard the EO shall undertake, as a minimum, the following during the preparation of the NAPs;

- Hold individual meetings with each Local Authority/APA to discuss the results of the noise mapping, population exposure assessment and each Local Authority's needs and requirements. This shall include discussions on specific LA policies and objectives set out in the relevant City and County Development Plans and other relevant documents (where appropriate meetings may involve several neighbouring Local Authorities).
- Hold joint collaborative meetings/workshops between the Local Authorities/APAs for the purpose of reviewing the results of the noise mapping and population exposure assessment and to discuss noise reduction measures for each agglomeration and cross-boundary issues.
- Hold joint collaborative meetings/workshops between the Local Authority/APAs and the NMBs responsible for national roads and rail (TII & Iarnród Éireann) to discuss Most Important Areas (MIAs), Priority Important Areas (PIAs), Candidate Quiet Areas (CQAs) and noise mitigation measures as appropriate.
- Hold a final meeting/workshop with the Local Authorities / APAs to present the MIAs, PIAs, CQAs and proposed noise management measures and proposed framework for implementation.

4.2 Strategic Environmental Assessment (SEA)

The European Directive (2001/42/EC) introduced a requirement for an SEA to be completed on all Plans and Programmes across multiple sectors. The EO shall screen the Dublin Agglomeration Noise Action Plan to determine whether a SEA is required and, if so required, complete an SEA for the Plan. The screening for an SEA and the SEA itself shall be completed in accordance with the requirements of, and criteria set out, in the following legislation, and any relevant guidelines from the EPA;

- European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. No. 435 of 2004)

- European Communities (Land Use Planning - Strategic Environmental Assessment) Regulations 2025 (S.I. No. 456 of 2025).
- Amendments to S.I. No. 435 of 2004 including S.I. No 200 of 2011 and S.I. No. 463 of 2025.

4.2.1 **Screening for SEA**

The EO shall carry out a screening for a SEA in accordance with the criteria set out in article 9 of the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004. The EO shall refer to the following publications in this regard and the SEA decision tree set out within when screening the Noise Action Plans;

- Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes for Ireland, Synthesis Report, 2003, EPA report.

The EO shall carefully consider whether the Noise Action Plan constitutes a framework for development consent for projects listed in the Environmental Impact Assessment (EIA) Directive when making its recommendation in respect of screening and the need for a SEA or not.

Where the Screening concludes that an SEA is not required on the 1st Draft Noise Action Plan, the EO shall review the screening upon completion of the public and stakeholder consultation on the 1st draft NAP, see section 4.4.3, and update same to take into account any changes to the Noise Action Plan that may arise as a result of the consultation process.

The EO shall prepare a Screening Report including any Screening conclusion and consult with the Environmental Authorities prior to drafting the Determination statement, see section 4.2.3.

The EO shall draft the Determination statement on behalf of the Contracting Authority.

4.2.2 **Strategic Environmental Assessment (Provisional Item)**

Where the screening assessment concludes that a SEA shall be undertaken, the EO shall complete same in accordance with the above legislation and relevant guidance documents and as set out below;

4.2.2.1 Scoping for SEA

The EO shall scope the requirements for the SEA to ensure that all relevant environmental issues are identified and included within the Environmental Report. This shall include;

- Meeting with Agglomeration Local Authorities and Stakeholders to discuss scoping and SEA requirements.

- Identify Environmental Authorities and consult with same in writing and through a joint meeting as required.
- Review all relevant local, regional and national plans and strategies that my influence the NAP.
- Identify key environmental issues and elements of the NAP that may impact on same.
- Prepare Scoping Report setting out what shall be included within the Environmental Report.

4.2.2.2 Complete SEA and Environmental Report

The EO shall complete the Environmental Report including the following;

- Establish the environmental baseline.
- Predict the impact of the Noise Action Plan if any on the environment.
- Evaluate the impacts.
- Determine mitigation of impacts including impact on the Noise Action Plan as required.
- Determine monitoring requirements.
- Prepare Environmental Report.
- Prepare Environmental Statement on conclusion of the process.

The Environmental Report must be put out for consultation with both the public and the Environmental Authorities in draft format and before it is finalised, see section 4.2.3.

4.2.3 **Consultation with the Public and Environmental Authorities**

As part of the completion of the SEA process there is a requirement to consult with the Pubic and the Environmental Authorities.

The Environmental Authorities shall be consulted at the following stages;

- Screening Report
- SEA Scoping
- Draft Environmental Report.

The Public are required to be consulted at the Draft Environmental Report stage.

The Determination resulting from the Screening Process shall be published regardless of the screening conclusion.

Notwithstanding this, should the screening conclusion confirm that an SEA is not required, the Screening Report will also be published as part of the public consultation of the Noise Action Plan, see below and section 4.4.3.

The EO shall prepare all necessary documentation and text for each of these consultations and support the Contracting Authority with completion of this task.

The EO shall note that the consultation required for the SEA process shall be undertaken as the same time as that for the 1st draft of the Noise Action Plan, see section 4.4.3 below, Stage 2 – Draft Noise Action Plan. Reference to consultation here does not require a separate additional period of consultation and thus the tasks will overlap with those required in section 4.4.3.

For the avoidance of doubt the following shall apply;

- if the Screening concludes that no SEA is required then the Screening Report will be put out for Environmental Authority and Public Consultation at the same time as the 1st Draft Noise Action Plan,
- If the Screening concludes that a SEA is required,
    - the screening report and SEA scoping will require Environmental Authority consultation, and
    - the Environmental Report will be put out for Environmental Authority and Public Consultation at the same time as the 1st Draft Noise Action Plan.

The EO shall review any feedback received from the consultation process, including any changes that may be proposed to the Noise Action Plan and review the Screening Report, or Environmental Report, as may be required prior to completion of the SEA process and Noise Action Plan, including finalisation of the Determination or Environmental Statement.

4.3 Appropriate Assessment (AA) and Natura Impact Report (NIR)

The European Habitats Directive (92/43/EEC) introduced a requirement for the assessment of potential effects of a land use plan or project on one or more Nature 2000 sites to be completed. The following elements of the assessment are included within the contract;

- Screening for an Appropriate Assessment.
- Preparation of Natura Impact Report and Appropriate Assessment, if required (Provisional item).

The EO shall screen the Dublin agglomeration Noise Action Plan to determine whether a NIR and AA are required and if so, complete a NIR for the Plan and submit to the competent authority for an AA to be completed. The screening for an AA and the NIR/AA (if required) shall be completed in accordance with the requirements of and criteria set out in the following legislation including any relevant amendments, and any relevant guidelines from the EPA;

- Council Directive 92/43/EEC, May 1992, as amended.

- European Communities (Birds and Natural Habitats) Regulations 2011, as amended (SI No 477 of 2011).
- Amendments to the Regulations above including, but not necessarily limited to, 2015, 2021 and 2025 namely SI No 355 of 2015, SI 293 of 2021 and SI 451 of 2025 respectively.

The EO shall also have regard to relevant guidance documents on the completion of an AA including;

- Appropriate Assessment of Plans and Projects in Ireland, Guidance for Planning Authorities.

4.3.1 **Screening for an AA**

The EO shall complete a screening for an AA in respect of the 1st draft Nosie Action Plan for the Dublin agglomeration. The screening shall be undertaken in accordance with the relevant legislation and shall include the following;

- A description of the Plan and whether it is necessary for the conservation management of relevant Natura 2000 sites.
- Identification of the relevant Natura 2022 sites that could influenced by the Plans
- Assessment of the likely significant effects, direct, indirect and cumulative, on the Natura 2000 sites.
- Identification of other Plans and Projects that, in combination with the Plan(s), could have effects on the Natura 2000 sites.
- Screening conclusions and Determination statement.

Where the Screening concludes that an AA is not required on the 1st Draft Noise Action Plan, the EO shall review the screening on completion of the public and stakeholder consultation on the 1st draft Noise Action Plan, see section 4.4.3, and update same to take into account any changes to the Noise Action Plan that may arise as a result of the consultation process.

While not a statutory requirement to consult with any Environmental Authorities at the Screening stage for an AA, if the Screening concludes that an AA is not required, the EO shall issue the Screening Report to relevant Environmental Authorities prior to preparing any final Determination. Furthermore, the Screening Report (that concludes an AA is not required) will also be put out to public consultation at the same time as the 1st Draft Noise Action Plan, see section 4.3.3.

The EO shall draft any Screening conclusion and Determination statement on behalf of the Contracting Authority.

4.3.2 **Natura Impact Assessment (Provisional Item)**

Where the screening of an AA concludes that the Noise Action Plan has the potential to effect a Natura 2000 site(s) or where this cannot be ruled out, then the EO shall complete a NIR for the Noise Action Plan for the purpose of submitting same to the competent authority for the completion of an AA on the Noise Action Plan and as set out below;

4.3.2.1 Scoping for a Natura Impact Report

The EO shall scope the requirements for the NIR to ensure that all relevant environmental issues are identified. This shall include;

- Meeting with Dublin Agglomeration Local Authorities and their Planning Departments to discuss scoping and AA requirements
- Identify relevant stakeholders and consult with same in writing and meeting as required. Stakeholders shall include but not necessarily be limited to;
    - Department of Housing, Local Government and Heritage.
    - National Parks and Wildlife Service.
    - Inland Fisheries Ireland.
    - Office of Public Works.
    - EPA.
    - Other as appropriate.
- Review all relevant local, regional and national plans and strategies that may influence the Noise Action Plan.
- Prepare brief Scoping Report setting out what shall be included within the NIR.

4.3.2.2 Natura Impact Report

The NIR shall be completed in accordance with relevant legislation and guidance and shall include but not necessarily be limited to the following;

- Establish ecological baseline through existing data sets (or field surveys if required).
- Identification of conservation objectives of the Natura 2000 Site(s).
- Impact prediction – consideration of full range of impacts, direct, indirect, short-term, long-term, construction, operational etc.
- Mitigation measures aimed at minimising, cancelling or avoiding the predicted impacts of the Plan if any.
- Conclusion of the NIR.

In establishing the ecological baseline, the EO shall use existing data sets where possible. Should the EO, through consultation with relevant environmental authorities or other means, identify the need for further data sets to be collected to help establish the ecological baseline using field survey or other methods. The EO shall bring to the Contracting Authority's attention details of the additional data sets and surveys required, including an estimate of the cost of each, for approval. The EO shall be responsible for managing any 3rd party in respect

of completing same and all costs associated with it. These costs shall be included within the contract. The actual cost of any additional surveys or data shall be additional to the contract and will be covered by the Contracting Authority. The EO shall not proceed with any additional data collection or surveys without prior approval from the Contracting Authority.

The NIR shall be put out to a period of Environmental Authority and Public Consultation as noted in section 4.3.3 below.

4.3.2.3 Support for Contracting Authority during Appropriate Assessment

The EO shall support the Contracting Authority with the submission of the NIR to the Competent Authority for their completion of the AA on the Noise Action Plan. The EO shall support and provide the Contracting Authority with the provision of any further information or details that the competent Authority may request for the purpose of completing the AA in addition to that contained within the NIR.

The EO shall also support the Competent Authority with any information needed for the completion of their AA Conclusion Statement.

4.3.3 **Consultation with the Public and Relevant Environmental Authorities**

As part of the completion of the AA process the following Environmental and Public consultation will be required.

The Environmental Authorities shall be consulted at the following stages;

- AA Screening Report (which concludes that an AA is not required)
- AA Scoping (provisional item)
- Draft Natura Impact Report (provisional item).

The Public are required to be consulted at the Draft Natura Impact Report stage.

However, the Determination resulting from the Screening Process shall be published regardless of the screening conclusion. Should the screening conclusion confirm that an AA is not required, the Screening Report will also be published as part of the public consultation of the Noise Action Plan, see below and section 4.4.3.

The EO shall prepare all necessary documentation and text for each of these consultations and support the Contracting Authority with completion of this task.

The EO shall note that the consultation required for the AA process shall be undertaken as the same time as that for the 1st draft of the Noise Action Plan, see section 4.4.3 below, Stage 2 – Draft Noise Action Plan. Reference to consultation here does not require a separate additional period of consultation and thus the tasks will overlap with those required in section 4.4.3.

For the avoidance of doubt the following shall apply;

- if the Screening concludes that no AA is required then the Screening Report will be put out for Environmental Authority and Public Consultation at the same time as the 1st Draft Noise Action Plan,
- If the Screening concludes that a NIR is required,
    - AA scoping will require Environmental Authority consultation, and
    - the NIR will be put out for Environmental Authority and Public Consultation at the same time as the 1st Draft Noise Action Plan.

The EO shall review any feedback received from the consultation process, including any changes that may be proposed to the Noise Action Plan and review the Screening Report, or NIR, as may be required prior to completion and either publishing of the final Determination or issuing of the NIR to Competent Authority for completion of the AA.

4.4 Public and Stakeholder Consultation

4.4.1 Consultation Plan

The EO shall prepare and deliver a Consultation Plan for public and stakeholder participation and consultation as part of the project. This Plan will be focused on Phase 2 of the project, Noise Action Plans, and shall have a clear set of objectives and scope.

There is a requirement under the Environmental Noise Regulations 2018 to make the strategic noise maps and noise action plans available to the public no later than one month after the date on which they are made. The proposed Consultation Plan shall include the following key stages and consultation elements;

- Stage 1 – Post Strategic Noise Maps Preparation.
- Stage 2 – Noise Action Plan – Draft and Final – to commence when Draft Plans are completed.

and consultation shall be undertaken with the following parties;

- Public.
- Relevant Stakeholders (internal & external) and Authorities and Prescribed Bodies / Environmental Authorities (if any) .
- Elected Members of each Local Authority.

The EO shall discuss and agree the elements of the Plan with the Dublin Agglomeration APAs within the first 4 weeks of Phase 2 commencing. This shall include the preparation of a list of stakeholders and consultees that should be consulted, with particular attention to those required to be consulted through relevant legislation. The list shall be prepared within an excel format, or similar, and shall include which elements of consultation should apply to each

stakeholder/consultee and when. The elements that should be considered include, but not necessarily be limited to;

- Written correspondence (email/letter)
- Meetings
- Workshops
- Issue Draft NAP
- Statutory Consultee
- Public Consultation period.

This consultation list shall be a live document that is kept up to date through Phase 2 with new stakeholders/consultees added as needed and a record of when each was consulted and how. Additionally, it should include details of whether any reply or observations were received.

The Consultation Plan and engagement shall provide all parties and the public with early and effective engagement in the development of the noise action plans. All information made available during any consultation period or process shall be clear, comprehensive and accessible and shall include a summary of important issues and points. The Plan shall include all methods of consultation as appropriate to the intended party and shall include but not necessarily be limited to the following;

- Website
- Use of Local Authority Consultation hubs
- Workshops/meetings
- Social media notifications
- Newspaper notices
- Electronic copies of Maps and Plans
- Hard copies of Maps and Plans
- Local Authority Libraries and Offices
- Other.

Further details of the requirements for each stage are set out below.

The Consultation Plan shall consider the CA's, and Dublin Agglomeration Local Authorities, Accessible Information Guidelines and set out how these will be incorporated within the Noise Action Plan and all consultation in relation to same. It will be a key requirement that the Strategic Noise Maps and the Noise Action Plan is prepared and presented in an accessible format for all consultation.

The Consultation Plan shall be presented to the Contracting Authority and Dublin Agglomeration Local Authorities within 4 weeks of Phase 2 commencing.

4.4.2 **Stage 1 - Post Strategic Noise Maps Consultation**

This stage of the public consultation process shall follow the publication of the Strategic Noise Maps for the Dublin agglomeration and aim to inform members of the pubic and other stakeholder of the strategic noise maps and the noise action planning phase including the formal consultation on the draft NAP. The key objectives of this stage will be as follows;

- Encourage feedback on noise issues in general.
- Communicate the results of the strategic noise maps and exposure assessment to the public and relevant stakeholders.
- Encourage feedback on the strategic noise maps and exposure assessment.
- Provide an overview of the Noise Action Planning process and requirements.
- Consider during the preparation of the Noise Action Plan any feedback, ideas or concerns raised.
- Discuss noise planning strategy and policy issues with relevant authorities.
- Scope out and identify key issues that may need to be considered in the preparation of the Noise Action Plan.

This stage shall include consultation with relevant stakeholders through stakeholder workshops and participation events. In addition, this stage shall engage with the public through a range of mediums such as local authority websites, social media, newspaper notices etc informing them where to view the strategic noise maps and explaining the noise action planning phase. This consultation shall include providing the public the option to express their views on the maps and process should they wish to do so. The EO shall prepare any text and information documents needed for inclusion on relevant websites etc.

The EO shall review any feedback and views obtained from the public and/or stakeholders and shall consider these in the preparation of the draft Noise Action Plan where appropriate.

It will be a key aim of the CA and Dublin Agglomeration APAs to publish the Strategic Noise Maps as an interactive Web GIS to provide an improved user experience in addition to the pdf maps prepared for Round 4. The EO shall work with the APAs to support them with the delivery of data and with the publishing of the maps in such format, see also section 3.2.4.2.

4.4.3 **Stage 2 - Noise Action Plan Consultation**

4.4.3.1 Draft Noise Action Plan

This stage of the public consultation process shall put the draft Noise Action Plan out to formal public consultation for a period of 6 weeks. During this period a copy of the Plan shall be sent to relevant key stakeholders as identified by the consultation strategy for their feedback on the Plan within that timeframe.

The EO shall prepare all necessary text and documentation required for the public consultation process for websites, social media, newspapers etc. This shall include a brief

questionnaire for placing on the Dublin Agglomeration Local Authorities Consultation Hub portals.

The EO shall review all submissions received and prepare a Stage 2 Public Consultation Submissions Report which summarises the submissions received, categorises the responses by theme, provides a response to each theme covered/raised by the submission(s) and provides an indication of how the submissions have been taken into account, where appropriate, in preparation of the 2nd draft of the Noise Action Plans.

4.4.3.2 Storyboard and/or Story Map

To support and improve the public consultation experience for both the Draft Noise Action Plan and the Final Noise Action Plan, the EO shall design and prepare a Storyboard and/or Story Map (or other innovative public communication tool) to effectively communicate the key message from the production of the Strategic Noise Maps and the Noise Action Plan to the public.

This shall include preparing all text and the visual presentation and format for the Storyboard and/or Story Map. The design and preparation of the Storyboard and/or Story Map shall include meetings with the Dublin Agglomeration APAs to discuss and agree the content and structure. The EO shall prepare a draft prior to the publication of the Draft Noise Action Plan and present that to the Dublin Agglomeration APAs 3 weeks in advance of the public consultation period. A separate Storyboard and/or Story Map is required for each APAs.

The final version for the Storyboards and/or Story Maps for the Draft Noise Action Plan consultation period, shall be made available for publishing on the APAs websites or Consultation Hubs and/or links provided to where the Storyboard and/or Story Map are hosted.

Following completion of the public and stakeholder consultation period, and the preparation of the Final Noise Action Plan, the EO shall update the Storyboard(s) and/or Story Map(s) to reflect the final Noise Action Plan and any changes made as a result of the consultation period and feedback. Final Storyboards and/or Story Maps shall be delivered such that they are fully accessible by each APA beyond the completion of the project.

5. General – Phases 1 & 2

5.1 Project Management

5.1.1 Project Commencement and QA

The EO shall commence the project within 2 weeks of contract award.

During this period the EO shall prepare their QA Project Plan, or other similar document as defined by their QA procedures, setting out how they intend to manage the project and ensure quality deliverables throughout. This document shall be presented and discussed at the project Start-up meeting. This shall include a proposed project schedule for the delivery of the project and a register of any risks that may be identified.

5.1.2 Meetings

Start-up Meeting

The EO shall attend a project start-up meeting with the Contracting Authority within 2 weeks of contract award. The EO shall present their QA Plan, Project Schedule and Risk Register to the Contracting Authority at the start-up meeting for discussion and review. The start-up meeting shall discuss project requirements and data requirements together with other issues as required and identified by the EO. The EO shall provide a meeting agenda prior to the meeting. The meeting shall be held in the offices of the Contracting Authority.

Monthly Progress Meetings

The EO shall attend monthly progress meetings with the Contracting Authority and Agglomeration Local Authorities. The format of these meetings shall be agreed between all parties, however they shall include discussion on general contract management and discussion on specifics technical issues that relate to the project. The EO shall allow at least 1.5 hours for these progress meetings with the meeting split according to specific topics to be discussed and to allow sufficient comfort and well-being breaks. The Dublin Agglomeration Local Authorities may be invited to attend all or part of these meetings in addition to the Contracting Authority depending on the topic of discussion. These meetings will mainly be held remotely. However, the EO shall allow for 2 of these meeting per year to be held at the Offices of the Contracting Authority.

Bi-Weekly Update

In addition to monthly progress meetings the EO shall be available for a bi-weekly (every 2 weeks) (not more than 1 hr) update meeting with the Contracting Authority by phone or Teams (or similar).

Other Meetings

The EO shall also be available to attend other meetings with the agglomeration Local Authorities, Senior Management, Councillors and external stakeholder as required from time to time during the course of the project to discuss a range of issues including but not limited

to data sets, present model results, discuss NAP requirements, present NAPs outputs etc. The EO shall ensure that they include sufficient time for such meetings in addition to any specifically required within the Detailed Technical Specification.

Key Deliverable Meetings

The EO shall also include for a meeting with the Dublin Agglomeration Local Authorities at the end of key deliverable stages to present (PowerPoint) and discuss the draft deliverables. This shall include each of the following as set out in section 5.3.1;

- Ref 3 - Data Review, Evaluation and Model Setup Report.
- Ref 5 - Digital Noise Contours and Exposure Statistics to EPA Reporting Requirements.
- Ref 7 - Graphical Noise Maps.
- Ref 14 – Noise Action Plans (1st Draft and Final).

All costs associated with these meetings shall be covered within the key deliverable tasks.

Meeting Admin

The EO shall prepare adequately for each meeting with an agenda (to be issued 2 days before any meeting), notes, presentations (if required). For progress reports/meetings details of the works completed to that point in time shall be provided together with a list of issues to be discussed/clarified. The EO shall also provide an indication of the works to be completed in the next work period(s). The EO shall prepare minutes for each monthly meeting and issue them within 5 days of the meeting. For Bi-weekly meetings, the EO shall issue an email with any key points and actions from that meeting.

5.1.3 **Progress Reports**

The EO shall submit a monthly progress report to the Contracting Authority no less than 3 days before the date of the monthly progress meeting. The monthly progress report shall outline progress to date, work planned for next period, upcoming goals/milestones, any issues encountered and requiring discussion/clarification, critical issues/risks and approach to deal with them etc. It should be noted that the Contracting Authority would encourage the EO to address issues encountered on an as required basis to ensure productivity and inclusion of them in the progress report does not infer that these discussions should be held monthly only.

The EO shall also submit an agenda for each Bi-weekly meeting setting out issues to be discussed and issue an email on completion of the meeting setting out any issues/actions that may have resulted from the meeting.

The EO may be required to prepare a progress report for presentation to Local Authority Senior Management and Project Steering Group occasionally. This report shall be similar to monthly progress reports but shall focus on progress to date, any issues encountered, works

complete and results etc. This report shall be no more than 3 A4 pages. The EO shall allow for up to four such progress reports/presentations throughout the course of the project.

In addition to the above progress reports the EO shall communicate and collaborate with the Contracting Authority and the Dublin Agglomeration Local Authorities throughout the course of the project through email, phone and online tools such as Teams for the purpose of ensuring efficient delivery of the project.

5.1.4 **Reporting to the EPA and Commission**

The EPA is the designated reporting body for Ireland to the European Environment Agency (EEA). The Noise Mapping Bodies and Action Planning Authorities must report the results of the strategic noise mapping and noise action plan to the EPA in line with the guidelines and using the templates from the EEA mandatory reporting mechanism, Reportnet 3.0[5].

The EO will be required to prepare the reporting templates set out below based on the preparation for and results of the noise modelling and mapping and also summarising the Noise Action Plan and in-line with EPA Reporting requirements. The following digital report templates are required to be sent;

Phase 1 – Strategic Noise Modelling and Mapping

DF1_5 – Sources

- Agglomeration boundary and summary of population within GeoPackage file.
- Major roads geometry and summary of traffic flow within GeoPackage file.
- Major railways geometry and summary of traffic flow within GeoPackage file.

DF4_8 – Strategic noise mapping

Digital noise contour polygons and exposure statistics tables for 5dB bands within GeoPackage files for:

- Agglomerations.
- Major roads.
- Major railways.

Phase 2 – Noise Action Plans

DF7_10 – Noise Action Plans and Quiet Areas

The deliverable reporting format consists of GeoPackage files and spreadsheets.

The EO shall provide each of the above reports to the EPA by the deadline noted in section 5.3.1 and shall work with the EPA's Technical Advisor to deal with any comments and amendments they may require. The EO shall be available to support the EPA and their

[5] https://www.eionet.europa.eu/reportnet/docs/noise/templates

Technical Advisor with the delivery of the final reports to the Commission in line with the delivery dates noted in section 5.3.1.

5.2 Elected Members Consultation and Reporting

The EO will be required to support the Dublin Agglomeration Local Authorities with reporting and presentations to elected members to report progress of the project, engage with them to obtain their feedback and consult with them on the various findings and deliverables at different stages of the project. This will include but not necessarily be limited to the following inputs;

- Support with responses to councillor questions on matters relating to noise that are relevant to the project.
- Preparing progress reports and presentations for and presenting at any or each of the following forums;
    - Strategic Policy Committees (SPC)
    - Relevant Sub-committees to the SPC
    - Local Area Committees
    - Full Council Meetings

While the adoption of the Noise Action Plans is an executive function, it will nevertheless be important that the Elected Members are fully engaged and briefed on the strategic noise maps and the Noise Action Plan prior to public consultation. The EO shall work with the Local Authorities through the above forums to engage with all Elected Members fully on the drafting of the Noise Action Plan to obtain their feedback and develop and amend the Plans as required to include relevant aspects of the feedback through discussions with the Local Authority representatives of the project and insofar as is practical and reasonable.

The EO shall work with and support the Local Authorities to ensure that all issues are addressed, and the Elected members are fully informed and engaged on the drafting of the Noise Action Plans and their publication.

5.3 Deliverables and Documentation

5.3.1 List of Deliverables and Dates

Set out below is a list of deliverables that the EO shall prepare and provide throughout the course of the project together with indicative delivery dates for key deliverables. The EO shall prepare a project schedule, as set out in section 5.3.2, covering all tasks and deliverables with their proposed timelines for delivery of the project.

Ref	List of Deliverable	Indicative Key Deliverable Timeline / Date	
		1st Draft	**Final**
Phase 1 – Noise Modelling and Mapping			
1	Project Kick Off Meeting Project QA Plan (see section 5.1.1)	2 weeks from award	Update as required
2	Project Schedule (see section 5.3.2)	2 weeks from award	Review at Monthly Progress Meetings
3	Data Review, Evaluation and Model Setup Report (see section 3.4.1)		31st July 2027
4	Round 5 Traffic Model Review and Validation Report (see section 3.1.6.4)		31st July 2027
5	Digital Noise Contours/Maps and Exposure Statistics (section 3.2.4.1)		**30th September 2027 (or earlier)**
5a	Noise Maps and Exposure Statistics to EPA Reporting Requirements – DF1_5 & DF4_8 (section 5.1.4)		23rd October 2027
5b	Support to the EPA until delivery of Reports to the Commission (section 5.1.4)		31st December 2027
6	Noise Model Files [1,2] (see section 3.2.4.1)		December 2027
7	Graphical Noise Maps (see section 3.2.4.2)		30th September 2027
8	Noise Model and Exposure Assessment Report (see section 3.4.2)		November 2027
9	Supplementary Road Model Runs Report (see section 3.2.6)		Q1, 2028
Ref	**List of Deliverable**	**Delivery Timeline / Date**	
		1st Draft	**Final**
Phase 2 – Noise Action Plans			
10	MIAs / PIAs to EPA Guidance / Alternative methodology (see section 4.1.4)		30th November 2027
11	Technical Advice Document – MIAs (see section 4.1.4)		31st December 2027
12	CQAs to EPA Methodology (see section 4.1.5)		30th November 2027
13	Technical Advice Document – CQAs (see section 4.1.5)		31st December 2027

Ref	List of Deliverable	Indicative Key Deliverable Timeline / Date	
		1st Draft	**Final**
14	Noise Action Plans[3, 4] (see section 4.1)	16th March 2028[5]	**18th July 2028[6, 7]**
15	Public Consultation Stage 2 Submissions Report (see section 4.4.3)		30th June 2028
16	Screening for Strategic Environment Assessment Report (see section 4.2)	16th March 2028	30th June 2028
17	Strategic Environmental Assessment Report (Provisional Item, see section 4.2)	TBD	TBD
18	Screening for an Appropriate Assessment Report (see section 4.3)	16th March 2028	30th June 2028
19	Natura Impact Assessment Report (Provisional Item, see section 4.3)	TBD	TBD
20	Noise Action Plan Summary Report – DF7_10 (section 5.1.4)		17th August 2028[7]
20a	Support to the EPA until delivery of Report to the Commission (section 5.1.4)		18th January 2029

Notes.

1. Noise Model deliverables shall include input and output data files in the proprietary modelling system.
2. Noise Model deliverables shall include all noise model input and output files and all results in suitable GIS format such as Shapefile or similar for the agglomeration extent (including buffer) and also for each Local Authority administrative area.
3. Relevant strategic noise maps shall be included in the Noise Action Plans as appendices to the report in pdf format.
4. NAP should include estimated detail of the population exposure assessment reduction that may be achieved as a result of noise reduction measures.
5. Final draft of the 1st Draft Noise Action Plan Pre Stage 2 Public Consultation, see section 4.1.3.
6. Final Noise Action Plan Post Stage 2 Public Consultation, see section 4.1.3.
7. Delivery date for final Noise Action Plan and Summary Report (DF7_10) may need to be adjusted if screening concludes that a SEA or AA is required.

It is anticipated that Phase 2 will commence when the digital noise maps have been completed (ref 5) in the table above. This will require an overlap with completing a number of tasks in Phase 1 which include reporting and support to the EPA and Supplementary Road Model Runs. All tasks associated with Phase 1 shall be completed by the end of Q1, 2028 or where specific dates are set out in the above table, by those dates.

5.3.2 **Project Schedule**

The EO shall prepare a project schedule and maintain this during the lifecycle of the project. The schedule shall be prepared in MS Project (or similar) and contain detail of all the project Phases, key work areas and tasks required to deliver the project including critical paths. Key milestones together with key Contracting Authority and Dublin Agglomeration Local

Authorities inputs shall be shown together with review and turnaround timelines in accordance with the contract. The schedule shall be baselined at the beginning of the project on award of contract. An update of progress in respect of the schedule shall be included in the monthly progress report, tracking actual progress versus the baseline. A draft of the project schedule shall be prepared within 2 weeks of award and presented at the project Start-up meeting. The Schedule shall be updated if required after the Start-up meeting and final version made available within a further 2 weeks.

5.3.3 **Document Register**

The EO shall prepare a document register with a list of all deliverables and submit to the Contracting Authority to manage the timely submission of information to the Contracting Authority for review.

The EO shall include a list of deliverable dates for submission of documentation to meet the Project's required deliverable dates. Notwithstanding this the Contracting Authority notes that a phased approach for submission of some documentation may be required.

5.3.4 **Review Cycle**

The EO must allow adequate time in order for the Contracting Authority (and agglomeration Local Authorities) to complete their review of all draft submissions in order to meet the required deliverable dates. The EO shall allow for the following review and document update periods;

Deliverable	**Contracting Authority (NMBs/APAs) Review**	**EO Update Deliverable**
1st Draft Graphical Strategic Noise Maps	3 weeks	3 weeks
1st draft Noise Action Plans	3 weeks	3 weeks
1st draft All Other Reports	2 weeks	2 weeks
2nd draft Noise Maps	1 week	1 week
2nd draft Reports and Plans	1 week	1 week

The Contracting Authority (and NMBs/APAs) will endeavour to respond within a shorter time period where possible.

The Contracting Authority envisages that the deliverables will become final deliverable upon completion of the two draft cycle process. Where a deliverable amended following the 1st draft review process does not warrant further comment and a second cycle. The deliverable may be accepted as final at the end of the first cycle. Notwithstanding the above, all

deliverables will only be accepted as final when they are deemed to have met the contractual requirements and all comments from the Contracting Authority (Dublin Agglomeration Local Authorities) have been addressed to their satisfaction. If this is not the case the Contracting Authority reserves the right to require further review cycles until such time as the deliverables are deemed acceptable.

Note: It should be noted in the context of the schedule above that the draft Noise Action Plan prior to and after the formal period of public consultation, as set out in section 4.4.3, will be subject to a full review cycle as above. For the avoidance of doubt the draft Noise Action Plan will remain draft even after the review cycle set out above prior to the Stage 2 Public Consultation. The updated Noise Action Plan following the public consultation period will be subject to a further review cycle before the Plan can be considered Final. In addition to this the Noise Action Plan will not be signed-off as Final until such time as they are presented to the Elected Members of each Local Authority.

5.3.5 **Intellectual Property Rights**

The Contracting Authority (and the Dublin Agglomeration Local Authorities) shall have full intellectual rights and permissions to reproduce and re-use the datasets and modelling inputs/outputs and noise action plan as prepared by the EO. The Contracting Authority (and the Dublin Agglomeration Local Authorities) may use R5 Noise modelling files for use in future rounds of noise modelling and mapping, action planning, evaluation of MIAs/PIAs/CQAs or for any other form of environmental impact assessment, as appropriate.