

***Dublin City Council***

**Strategic Noise Mapping and Noise Action Plans for the  
Agglomerations of Dublin, Cork and Limerick for  
Round 4 of the Environmental Noise Regulations 2018**

**Report to the  
Climate Action, Environment & Energy  
Strategic Policy Committee**

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## Executive Summary

A project to implement Round 4 of the Strategic Noise Mapping and Noise Action Plan for Dublin City commenced in May 2021 and is due for completion by September 2024. In addition to delivering Dublin City Council's obligations in respect of preparing Strategic Noise Maps and a Noise Action Plan for the Dublin City administrative area, a project management team from Dublin City Council is managing the delivery of the Round 4 project at a national level for all the agglomerations in Ireland.

### Legislation and Requirements

EU Directive 2002/49/EC, which was transposed into Irish law through the European Communities (Environmental Noise) Regulations 2018 to 2021, requires Noise Mapping Bodies and Action Planning Authorities to prepare Strategic Noise Maps and Noise Action Plans every 5 years. These shall apply to environmental noise created by human activities and particularly to noise emitted by road traffic, rail traffic, air traffic and from sites of industrial activity. The following two indicators must be applied in the assessment and management of noise;

- **L<sub>den</sub>** is the annual average noise level for the day, evening and night period and is designed to measure 'annoyance'. It has a defined threshold of **55dB**.
- **L<sub>night</sub>** is the annual average noise level for night-time periods and is designed to assess sleep disturbance. It has a defined threshold of **50dB**.

Member states must report the numbers of people who are exposed to noise levels above both these thresholds for the range of noise sources mentioned above.

Strategic Noise Maps, and Noise Action Plans, must be prepared for each of the following areas;

- Agglomerations (>100,000 persons)
- Major roads (>3,000,000 vehicle passages per year)
- Major rail (>30,000 train passages per year)
- Major airport (>50,000 movements per year).

The Noise Action Plans shall include actions and measures to address priorities which may be identified by the exceedance of the main indicators thresholds set out above.

### Agglomerations Project – Progress & Next Steps

The project being delivered by Dublin City Council at a national level deals with agglomerations only and includes the Dublin, Cork and Limerick agglomerations. The project is being delivered in the following two phases;

- Phase 1 – Noise Modelling & Strategic Noise Mapping (June 2022 – May 2023)
- Phase 2 – Noise Action Plans (June 2023 – September 2024).

At present the project team has successfully completed the noise modelling work and has delivered the digital strategic noise mapping results to the EPA in line with the statutory deadlines set by the European Commission. The project team is currently preparing the graphical Strategic Noise Maps which will be made available to the public on each Local Authority website in late February 2023.

The Noise Action Plan phase of the project is scheduled to commence at the end of Q2 2023 and it is expected that draft Noise Action Plans will be available before the end of 2023. This will be followed by a period of public and stakeholder consultation in Q4 2023 / Q1 2024 before the Plans are finalised.

# 1 Introduction

A project to implement Round 4 of the Strategic Noise Mapping and Noise Action Plan for Dublin City commenced in May 2021 and is due for completion by September 2024. This report provides an update on the statutory basis and requirements for the project, progress to date and the work that will be completed over the next two years.

As well as ensuring the delivery of Dublin City Council's obligations in respect of preparing strategic noise maps and a noise action plan for the Dublin Administrative area, a project management team from Dublin City Council is managing the delivery of the Round 4 project at a national level for all the agglomerations in Ireland that are obliged to comply with the relevant legislation. Further details are set out in Section 2.

## 1.1 Legislative Background

EU Directive 2002/49/EC relates to the assessment and management of environmental noise and is more commonly known as the Environmental Noise Directive (END). The directive was implemented on foot of an EU green paper on 'Future Noise Policy' which highlighted the need for a high level of health and environmental protection against noise. In the green paper, noise in the environment was addressed as one of the main environmental problems in Europe.

The Directive was transported into Irish law through the following Regulations;

- Environmental Noise Regulations 2006 (S.I. No. 140 of 2006) (Now revoked)
- European Communities (Environmental Noise) Regulations 2018 (S.I. No. 549 of 2018)
- European Communities (Environmental Noise) (Amendment) Regulations 2021 (S.I. No. 663 of 2021).

Round's 1 to 3 were completed under the now revoked 2006 Regulations.

The 2018 Regulations were introduced to bring into effect a new European common assessment method which was set out in Commission Directive (EU) 2015/996. This common assessment method, known as CNOSSOS-EU, ensures that Ireland and all Member States are applying a common approach to modelling and assessing the impact of environmental noise and the avoidance, prevention and reduction of harmful effects as a result of exposure to it.

The 2021 Amendment was introduced to bring into effect amendments to the agglomeration boundaries to be covered by Round 4. This included adjustments to the Dublin and Cork agglomeration boundaries as well as the introduction of the Limerick agglomeration for the first time. The Amendment also gave effect to a one year extension granted by the EU for the completion of the Round 4 Noise Action Plans from 2023 to 2024.

The 2018 Regulations make the Environmental Protection Agency (EPA) the national competent Authority for the purpose of overseeing implementation of the Regulations and for providing guidance.

## 1.2 Scope and Requirements

### 1.2.1 Environmental Noise Sources and Metrics

The END and the 2018 Regulations apply to environmental noise, created by human activities, which people are exposed to in built-up areas, in public parks or quiet areas, near schools and hospitals and other noise sensitive buildings and areas. The definition of “environmental noise” contained within the 2018 Regulations includes “unwanted or harmful outdoor sound created by human activities, including noise emitted by means of transport, road traffic, rail traffic, air traffic, and from sites of industrial activity”. The 2018 Regulations do not apply to noise from domestic activities or noise created by neighbours or natural environmental noise such as wind, waves and nature. As such the Regulations do not cover many of the noise compliant subjects which Dublin City Council Air Quality and Noise Control Unit would receive on an annual basis.

The END and the 2018 Regulations requires two main indicators to be applied in the assessment and management of noise as follows;

- **L<sub>den</sub>** is the annual average noise level for the day, evening and night period and is designed to measure ‘annoyance’. It has a defined threshold of **55dB**.
- **L<sub>night</sub>** is the annual average noise level for night-time periods and is designed to assess sleep disturbance. It has a defined threshold of **50dB**.

Member states must report the numbers of people who are exposed to noise levels above both these thresholds for the range of noise sources mentioned above.

### 1.2.2 Strategic Noise Maps

The END and the 2018 Regulations require Noise Mapping Bodies (NMBs) to prepare or review Strategic Noise Maps every 5 years for each of the following areas;

- Agglomerations (>100,000 persons)
- Major roads (>3,000,000 vehicle passages per year)
- Major rail (>30,000 train passages per year)
- Major airport (>50,000 movements per year).

For the agglomerations, there is a requirement to place special emphasis on noise emitted by road traffic, rail traffic, airports and industry activity sites including ports.

For the purpose of the 2021 (Amendment) Regulations, NMBs are defined as follows;

- Agglomeration of Dublin – Dublin City Council and the County Councils of Dun Laoghaire Rathdown, Fingal, South Dublin, Wicklow and Kildare.
- Agglomeration of Cork – Cork City Council and Cork County Council.
- Agglomeration of Limerick – Limerick City and County Council and Clare County Council.
- Major Roads;
  - National Roads – Transport Infrastructure Ireland (TII)
  - Non-National Roads – relevant Local Authority
- Major Rail;
  - Heavy Rail – Iarnród Éireann
  - Luas/Light Rail – TII
- Major Airports - relevant Airport Authority.

The purpose of the Strategic Noise Maps are to;

- Provide relevant data to the European Commission in accordance with the requirements of the END,
- Provide a source of information for the general public
- Provide the basis for developing Noise Action Plans to identify noise hotspots and quiet areas and propose relevant mitigation measures to mitigate the harmful effects of these noise sources.

The Statutory deadline for reporting the results of the Strategic Noise Mapping to the European Commission was the 31<sup>st</sup> December 2022.

### 1.2.3 Noise Action Plans

The END and the 2018 Regulations require Action Planning Authorities (APAs) to make or review Noise Action Plans every 5 years for each agglomeration and also places that may be affected by noise from major roads, major rail and major airports, each as defined above.

Action Planning Authorities as defined by the 2018 Regulations are as follows;

- Agglomeration - the Local Authorities that make up each agglomeration as defined above.
- Major Roads – the relevant Local Authority within whose functional area the major road is located
- Major Railways – the relevant Local Authority within whose functional area the major railway is located
- Major Airports – the relevant Local Authority within whose functional area the major airport is located.

The Noise Action Plans shall include actions and measures to address priorities which may be identified by the exceedance of one of the two main indicators set out above or as a result of other criteria chosen by the National Competent Authority, the EPA. They should address the most important areas as established by the Strategic Noise Maps and the exposure assessment resulting from the modelling and mapping process.

Action Planning Authorities may also use the Strategic Noise Maps to assess the impact on designated Quiet Areas and/or to identify Quiet Areas and identify actions and measures to protect and enhance existing or proposed Quiet Areas.

The Statutory deadline for reporting the Noise Action Plans to the European Commission is the 18<sup>th</sup> January 2025.

### 1.2.4 Public Information and Consultation

In accordance with the 2018 Regulations and the European Communities Act 1972 (Access to Information on the Environment) Regulations 2007 (as amended), the Noise Mapping Bodies and Action Planning Authorities are required to make the Strategic Noise Maps (new or revised) and the Noise Action Plans (new or revised) available to the public and disseminate them by any appropriate means, including through the use of available information technologies.

Furthermore as part of the preparation of the new or revised Noise Action Plans, the Action Planning Authorities are required to consult with the public and take into account the results of this consultation when finalising the Noise Action Plans.

For the purpose of this agglomerations project Strategic Noise Maps will be made available to the public on each Noise Mapping Bodies web site in February 2023. Furthermore a period of formal public and stakeholder consultation will be completed in late 2023 or early 2024 when draft Noise Action Plans are prepared. Final Noise Action Plans will be made available on each Action Planning Authorities web site on completion.

## 2 National Approach to Round 4

The implementation of the END through the completion of Round's 1 to 3 involved each Noise Mapping Body and Action Planning Authority preparing their own Strategic Noise Maps and Noise Action Plans. Notwithstanding this, consultation and co-ordination was undertaken through the EPA and between adjoining Authorities. Furthermore, the EPA provided a series of Guidance Documents to help the Noise Mapping Bodies and Action Planning Authorities with the process and ensure, where possible, consistency of approach.

For Round 4 a new national approach was adopted as follows;

- Agglomerations of Dublin, Cork and Limerick – a single consultant was appointed to complete the noise modelling and mapping for all agglomerations on behalf of the Noise Mapping Bodies and also to support the Action Planning Authorities with the production of Noise Action Plans.
- Major Roads and Rail outside the agglomerations – TII is completing the noise modelling and mapping on behalf of the Noise Mapping Bodies.
- Major Airports – Dublin Airport Authority (DAA), is completing the noise modelling and mapping as the designated Noise Mapping Body.

For Round 4 the EPA continued to provide an overseeing and co-ordination role and also provided updated Guidance documents relating to the implementation of the new common assessment approach, CNOSSOS – EU.

For the purpose of successfully implementing this new national approach for the agglomerations, it was necessary for one of the Noise Mapping Bodies/Action Planning Authorities to undertake a project management and co-ordination role. Dublin City Council's Technical Support Division (TSD), which is part of the Environment and Transportation Department, is undertaking this project management role for the delivery of this new national approach for each of the three agglomerations. This project management role is in addition to the role that Dublin City Council's Air Quality and Noise Control Unit has, on behalf of Dublin City Council, within the project in relation to their technical expertise within this field.

The project management role for the agglomerations project involved/involves the following;

- Co-ordination of the inputs from 10 Local Authorities, TII, Iarnród Éireann, the Road Management Office (RMO), the National Transport Authority (NTA), DAA.

- Liaison with and reporting to EPA and the Department of Environment, Climate and Communications (DECC).
- Co-ordination of a major data collection exercise across all NMBs (except DAA).
- Procure and appoint a consultant to complete the work in line with statutory deadlines. This included preparation of the tender documents including a detailed technical specification for the project covering both noise modelling, mapping and action plans.
- Ongoing project management across all stakeholders and administration of the noise consultant contract.

For the purpose of delivering the project, the project management team has broken the project into the following two phases;

- Phase 1 – Noise Modelling & Strategic Noise Mapping (June 2022 – May 2023)
- Phase 2 – Noise Action Plans (June 2023 – September 2024).

### 3 Milestones and Progress to Date

At present the project is currently in Phase 1 and has made significant progress since the project management team was appointed to implement the project. A summary of the key tasks and deadlines that have been achieved to date are set out in Table 3-1.

*Table 3-1 - Summary of Progress - Phase 1*

Progress Task	Timelines
Completed data register and major data collection exercise	June 2021 - March 2022
Completed tender documents and published contract notice for Consultant	18 <sup>th</sup> February 2022
Appointed project consultant and commenced project - Phase 1 – Noise Mapping	26 <sup>th</sup> May 2022
Weekly co-ordination meetings with TII on modelling of major roads at agglomeration boundaries including modelling of pilot area on M11	August – September 2022
Commenced noise modelling <ul style="list-style-type: none"> <li>• Limerick</li> <li>• Cork &amp; Dublin</li> </ul>	27 <sup>th</sup> October 2022 28 <sup>th</sup> October 2022
Provided draft model outputs results to Local Authorities <ul style="list-style-type: none"> <li>• Cork &amp; Limerick - All sources &amp; Exposure Statistics, Dublin – Road only</li> <li>• Dublin - Industry</li> <li>• Dublin – Rail</li> <li>• Dublin Exposure Statistics (all sources)</li> </ul>	25 <sup>th</sup> November 2022 29 <sup>th</sup> November 2022 2 <sup>nd</sup> December 2022 7 <sup>th</sup> December 2022
Prepare model results in line with EPA/EEA reporting requirements and deliver to EPA	9 – 16 <sup>th</sup> December 2022
<b>Note:</b> Issues with uploading reports to EEA ReportNet site have been encountered but this is due to issues with the reporting site and is being dealt with by the EPA.	

While Phase 1 of the project is ongoing, it should be noted that the project successfully delivered the results to the EPA in-line with the European Environment Agency’s (EEA) reporting requirements before the statutory deadline. To date the results for the Cork and Limerick agglomerations have been successfully uploaded by the EPA. However, problems have been encountered when uploading the

Dublin agglomeration data sets due to file size. This is a problem with the EEA's ReportNet site and the EEA are currently working to resolve the issue.

Details of the outstanding tasks to complete Phase 1 are set out in Section 5.

## 4 Strategic Noise Modelling Results – Dublin

The strategic noise modelling results for the agglomeration of Dublin are presented in Appendix A. The following results are presented;

- Roads  $L_{den}$ ,
- Roads  $L_{night}$
- Rail  $L_{den}$
- Rail  $L_{night}$
- Industry  $L_{den}$
- Industry  $L_{night}$ .

It should be noted that all roads within the agglomeration have been models including those which would be classed as Major Roads.

The source data for the modelling work is reflective of a base year of 2021.

For traffic data a traffic model was created using a combination of traffic sources which included;

- TII traffic count data on national roads
- The NTA Regional Modelling System, specifically the Eastern Regional Model for the Dublin agglomeration.
- Local Authority traffic count data, both historic and traffic surveys completed for the purpose of Round 4
- Default traffic data sets for minor roads.

Rail traffic data sets were provided by Iarnród Éireann and TII.

For industry the sites that were included within the modelled included Industrial Emission (IE) sites, as regulated by the EPA under the IPPC Directive 96/61 EC. In addition to this Dublin Port and Port of Cork were included in the industry analysis. Information on each site was provided by the EPA, i.e. Annual Environmental Reports (AERs) or obtained from other publicly available data. Where data was not available on specific noise sources, a default methodology was applied.

## 5 Next Steps

### 5.1 Phase 1 – Noise Modelling and Strategic Noise Mapping

While the digital noise contour data was reported to the EPA and the EEA in December 2022, the project team is currently working to produce graphical Strategic Noise Maps which will be made available to the public in line with Regulation requirements.

At present it is proposed to host the maps as pdfs on the Dublin City Council’s Air Quality and Noise Control web page showing the results for the full agglomeration of Dublin together with a map showing the Dublin City Council administrative area only. Each other Local Authority will host their own maps.

In addition to this it is proposed to work with the EPA to host the maps on their web site in a Web GIS format which will provide the public and other stakeholders with a more interactive experience. This will also provide a collective set of maps covering the whole of Ireland including all agglomerations and major roads and rail outside the agglomerations.

A summary of the outstanding tasks/deliverables for the remainder of Phase 1 is set out in Table 5-1.

*Table 5-1 - Outstanding Deliverables - Phase 1*

Phase 1 Deliverables	Programme Delivery Date
Finalise Graphical Strategic Noise Maps (Limerick, Cork & Dublin)	January /February 2023
Data Review, Evaluation and Model Set-up Reports (Limerick, Cork & Dublin)	January to April 2023
Noise Model Files (Limerick, Cork & Dublin)	January 2023
Noise Modelling and Exposure Assessment Report (Limerick, Cork & Dublin)	April to May 20223
Maps Available to the Public (Limerick, Cork & Dublin)	February 2023

## 5.2 Phase 2 – Noise Action Plans

An overview of the key tasks and deliverables for Phase 2 are set out in Table 5-2.

*Table 5-2 - Phase 2 Deliverables - Indicative Timelines*

Phase 2 Deliverables	Indicative Timeline
Commence Phase 2	June 2023
Draft Noise Action Plans	Q4 2023
SEA / AA	Q4 2023 – Q1 2024
Public Consultation	Q1 2024
Final Noise Action Plans	Q2 2024
Deliver Final Noise Action Plans to EPA	Q3 2024
EEA Deadline	End 2024

**Note:** SEA – Strategic Environmental Assessment

AA – Appropriate Assessment

Although the timelines set out in the table above are high-level and indicative at this time, they broadly reflect the expected progression of the various tasks required. While Phase 2 is shown as commencing

in June 2023, the project management team will review this, and the overall project programme for Phase 2, with the project consultant in the coming months and it may be possible to commence Phase 2 earlier.

The Elected Members will be keep informed of progress during the remainder of Phase 1 and Phase 2 through updates at relevant SPC meetings and by other consultative means.

## APPENDIX A – STRATEGIC NOISE MODELLING RESULTS – DUBLIN



Figure 1 - Roads  $L_{den}$



Figure 2 - Roads  $L_{night}$



Figure 3 - Rail  $L_{den}$

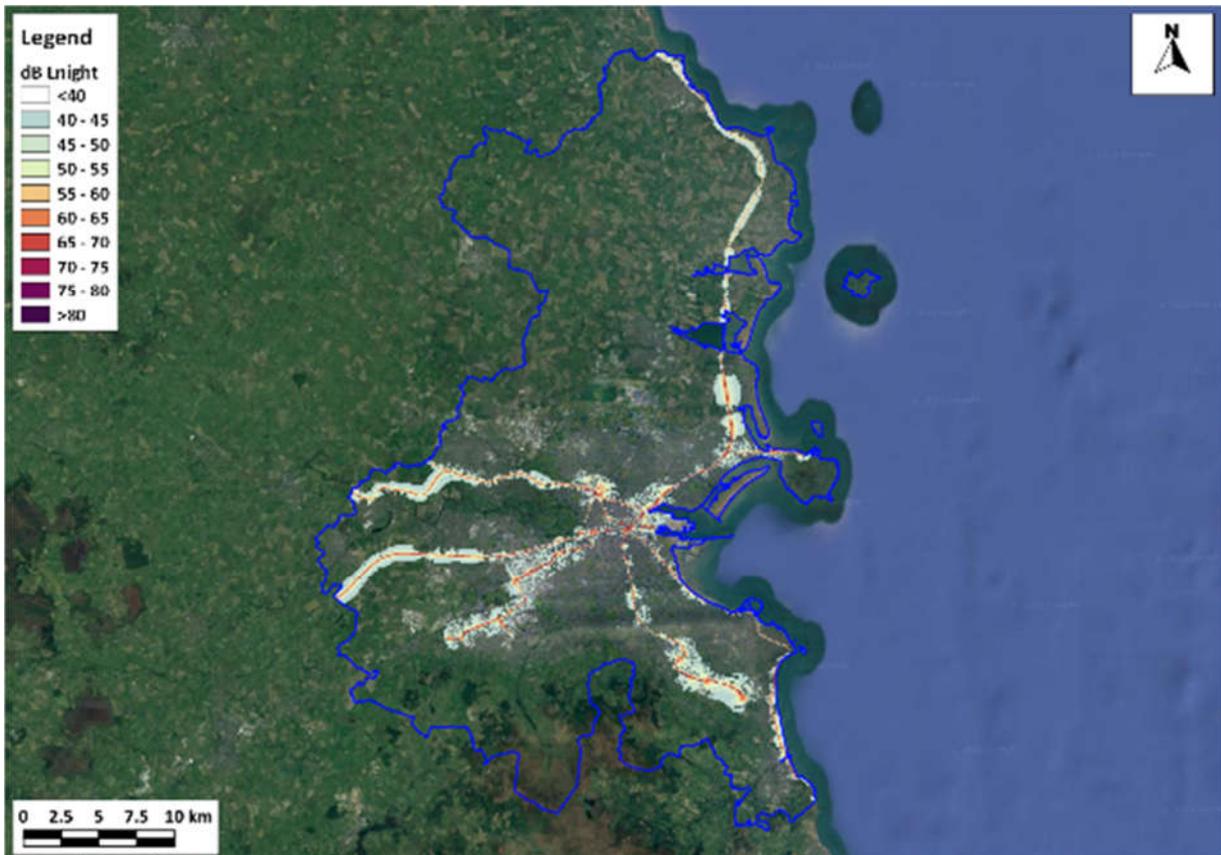


Figure 4 - Rail  $L_{night}$

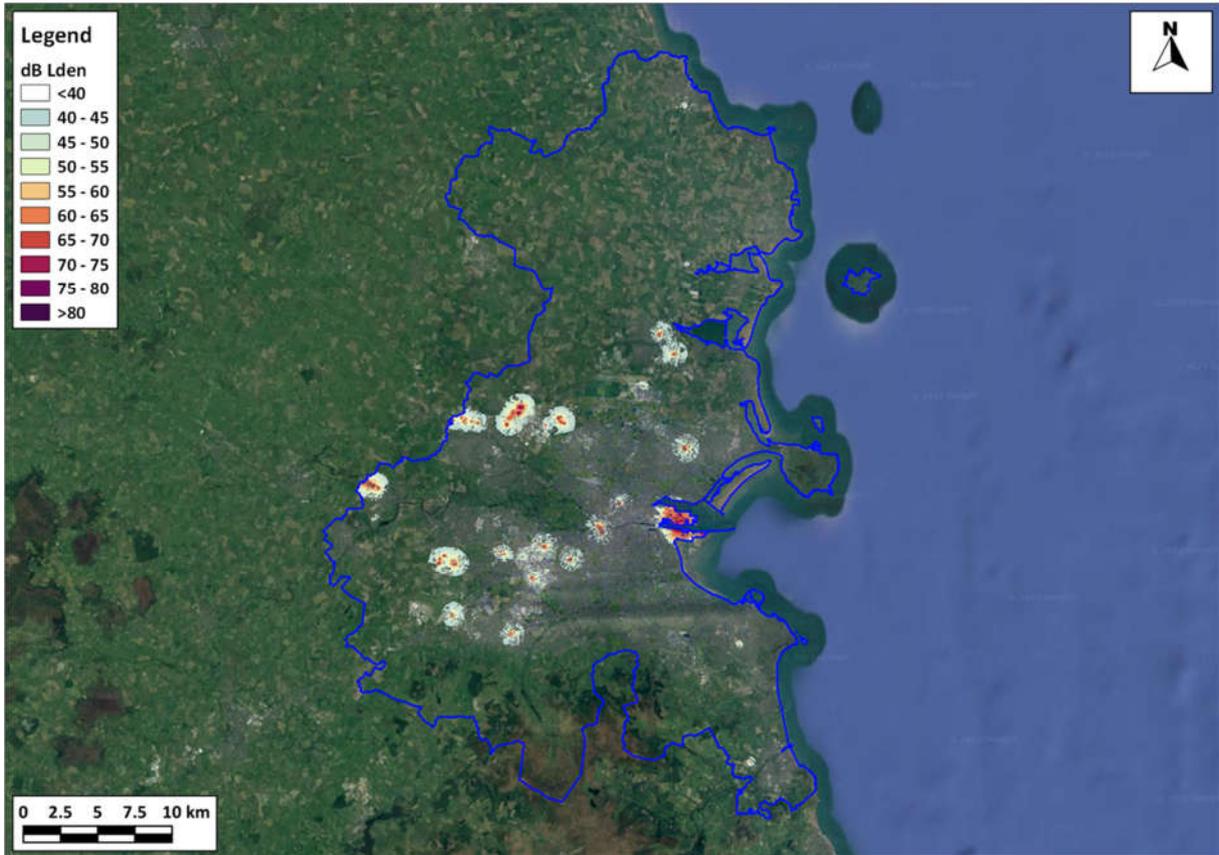


Figure 5 - Industry  $L_{den}$

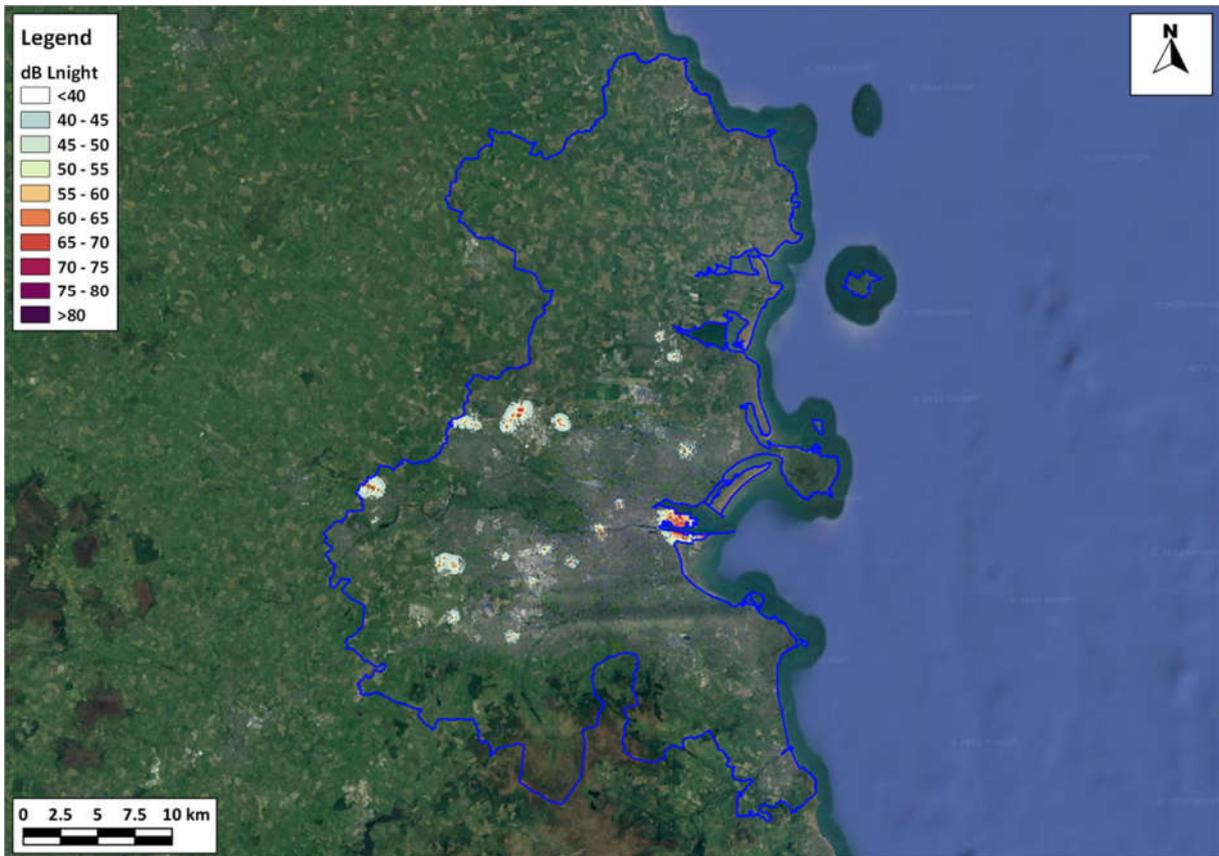


Figure 6 - Industry  $L_{night}$