

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**

Strategic Noise Maps and Noise Action Plans

Round 4 Overview

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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 managed 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 (The Regulations), 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_{den}** 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_{night}** 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 any relevant noise limits or other relevant criteria established by the Environment Protection Agency (EPA).

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, and consists of the following two phases;

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

At present the project team has successfully completed the noise modelling work, delivered the digital results to the EPA, published the graphical Strategic Noise Maps and finalised the Dublin Agglomeration Noise Action Plan 2024-2028. The Maps and Plan are now available to view at the following location;

<https://www.dublincity.ie/residential/environment/role-air-quality-monitoring-and-noise-control-unit/dublin-city-noise-maps>

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 next steps during Plan implementation.

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 managed 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 introduced the requirement at a National level to complete an assessment of the harmful effects associated with environmental noise in-line with the methodology set out in the Second Schedule. Finally the Amendment 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_{den}** is the annual average noise level for the day, evening and night period and is designed to measure ‘annoyance’. It has a defined reporting threshold of **55dB**.
- **L_{night}** is the annual average noise level for night-time periods and is designed to assess sleep disturbance. It has a defined reporting 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.

Furthermore, at a National level estimates of the harmful effects in terms of number of people potentially exposed to ischaemic heart disease (IHD), high annoyance (A) and high sleep disturbance (HSD) must be reported to the Department of Environment, Climate and Communications (DECC) (for more details see Section 4.2).

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 Dún 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 reporting 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 priority areas 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 31st 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 Regulations state that the Noise Action Plan must;

“.....determine the measures to be included in an action plan” and;

“.....address priorities which –

- (i) *may be identified on the basis of exceedances of any relevant noise limit value or other relevant criteria established by the Agency in accordance with subparagraph (3), and*
- (ii) *shall, in the first instance, address the most important area or areas, as the case may be, established by strategic noise mapping. “ and ;*

“...have as its objective that of also protecting quiet areas in an agglomeration.....”.

Emphasis has been added to demonstrate the connection between the areas identified within the Noise Action Plan [Most Important Areas, Priority Important Areas and Candidate Quiet Areas], and presented in Section 5, and the requirements set out in the Regulations.

The Statutory deadline for reporting the Noise Action Plans to the EPA was the 18th July 2024. The EPA must report progress to the European Commission by the 18th 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 for Dublin City and the Dublin agglomeration are available to view by the public on the Air Quality Monitoring and Noise Control Unit's page on the Dublin City Council website, please see maps at;

<https://www.dublincity.ie/residential/environment/air-quality-monitoring-and-noise-control-unit/dublin-city-noise-maps/dublin-city-dublin-agglomeration-strategic-noise-maps>

A draft Dublin Agglomeration Noise Action Plan was prepared in 2023 and put out to stakeholder and statutory public consultation for a period of 6 weeks from the 12th April 2024 to the 24th May 2024. The submissions received were reviewed and taken into account in the completion of the Noise Action Plan. The final Dublin Agglomeration Noise Action Plan 2024 – 2028 has been completed and is available to view by the public on the Air Quality Monitoring and Noise Control Unit's page on the Dublin City Council website, at the link below;

<https://www.dublincity.ie/residential/environment/air-quality-monitoring-and-noise-control-unit/dublin-city-noise-maps/noise-action-plan>.

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 completed the noise modelling and mapping on behalf of the Noise Mapping Bodies.
- Major Airports – Dublin Airport Authority (DAA), completed 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, undertook this project management role for the delivery of this new national approach for each of the three agglomerations. This project management role was 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.
- Ongoing project management across all stakeholders and administration of the noise consultant contract.

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

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

Both phases have been successfully completed within the statutory deadlines required by the Regulations.

3 Strategic Noise Maps Dublin City and Dublin Agglomeration

The Strategic Noise Maps for both Dublin City and the agglomeration of Dublin are presented as low resolution images in Appendix A and B respectively. A higher resolution copy of the maps as pdfs can be viewed and/or downloaded from the Air Quality Monitoring and Noise Control Unit's page on the Dublin City Council website, please see maps at;

<https://www.dublincity.ie/residential/environment/air-quality-monitoring-and-noise-control-unit/dublin-city-noise-maps/dublin-city-dublin-agglomeration-strategic-noise-maps>.

The following maps for both Dublin City and the agglomeration of Dublin are provided;

- All Roads - L_{den} , & L_{night}
- Major Roads - L_{den} , & L_{night}
- All Rail - L_{den} , & L_{night}
- Major Rail - L_{den} , & L_{night}
- Industry L_{den} & 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 (RMS), 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
- Generated traffic flows for minor roads using NTA RMS data combined with other data sets
- 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 model 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.

In addition to the pdf maps provided, the maps can also be viewed on the EPA's mapping web site in a Web GIS format at the following link;

<https://gis.epa.ie/EPAMaps/>

This provides the viewer with a more interactive experience. This also provides a collective set of maps covering the whole of Ireland including all agglomerations and major roads and rail outside the agglomerations.

4 Noise Population Exposure Statistics and Harmful Effects

4.1 Population Exposure Statistics

Member states must report on the number of people who are exposed to noise levels above the END reporting thresholds. The exposure statistics are assessed independently for each noise source, and are summarised for the noise indicators across the noise exposure bands defined in the 2018 Regulations. The population exposure statistics are rounded to the nearest 100 as required by the 2018 Regulations. The results for Dublin City and the Agglomeration of Dublin are presented in the Table 4-1 below.

Table 4-1 - Population Exposure Statistics Dublin City and Agglomeration

Road (All Sources)			Road (Major Sources)		Rail			Industry	
Noise Exposure (dB Lden)	Dublin Agglomeration	Dublin City Council	Dublin Agglomeration	Dublin City Council	Noise Exposure (dB Lden)	Dublin Agglomeration	Dublin City Council	Dublin Agglomeration	Dublin City Council
55-59	287,400	90,300	151,000	31,300	55-59	33,900	18,700	1,700	1,400
60-64	160,500	55,900	78,800	20,700	60-64	19,300	10,500	400	300
65-69	78,700	39,700	53,600	26,700	65-69	14,600	7,800	100	100
70-74	23,100	12,300	20,700	11,200	70-74	10,700	6,600	0	0
>=75	2,500	400	2,400	400	>=75	5,700	4,400	0	0
	552,200	198,600	306,500	90,300		84,200	48,000	2,200	1,800
Noise Exposure (dB Lnight)	Dublin Agglomeration	Dublin City Council	Dublin Agglomeration	Dublin City Council	Noise Exposure (dB Lnight)	Dublin Agglomeration	Dublin City Council	Dublin Agglomeration	Dublin City Council
50-54	169,200	50,700	104,800	22,900	50-54	22,400	12,700	1,100	1,000
55-59	78,400	35,400	54,700	22,600	55-59	15,500	8,200	300	200
60-64	33,000	19,200	29,000	16,500	60-64	10,600	6,800	0	0
65-69	6,300	2,600	6,200	2,500	65-69	6,200	3,900	0	0
>=70	400	0	400	0	>=70	1,900	1,700	0	0
	287,300	107,900	195,100	64,500		56,600	33,300	1,400	1,200

4.2 Harmful Effects Assessment

The Environmental Noise Regulations 2021 requires an assessment to be made of the harmful effects associated with environmental noise for the following;

- Ischaemic heart disease (IHD)
- High annoyance (HA)
- High sleep disturbance (HSD).

The exposure of harmful effects is assessed independently for each noise source. The method used the dose-effect relationships set out in the Second Schedule of the Environmental Noise Regulations 2021 and which are based on work by the World Health Organisation (WHO).

The Environmental Noise Regulations 2021 does not set out the noise thresholds above which the health effects should be calculated. Advice from the EPA suggested that the WHO Guidelines, which sets out noise levels above which adverse health effects may be associated, should be used. The values for road and rail are set out in Table 4-2 below.

Table 4-2 - WHO Guidelines

Level of effect	Source	Level	WHO Guidelines
Noise above these levels is associated with adverse health effects and adverse effects on sleep	Aircraft	45 dB Lden, outside 40 dB Lnight, outside	ENG 2018
	Railways	54 dB Lden, outside 44 dB Lnight, outside	ENG 2018
	Roads	53 dB Lden, outside 45 dB Lnight, outside	ENG 2018
	Wind Turbines	45 dB Lden, outside	ENG 2018

The results of the harmful effects assessment for Dublin City and the Agglomeration of Dublin are presented in Table 4-3 below.

Table 4-3 - Harmful Effects Assessment Dublin City and Agglomeration

Dublin Agglomeration			Dublin Agglomeration		
Road			Rail		
Harmful Effect	Dublin Agglomeration	Dublin City Council	Harmful Effect	Dublin Agglomeration	Dublin City Council
Ischaemic Heart Disease	101	40			
Highly Annoyed	108,380	40,727	Highly Annoyed	21,052	12,406
Highly Sleep Disturbed	28,996	10,641	Highly Sleep Disturbed	10,987	6,630

Note: It should be noted that the method is a statistical approach across the whole population covered by the strategic noise maps and does not provide an accurate assessment of possible health effects at any specific building or location.

5 Noise Action Plan

5.1 Methodology to Identify Areas Prioritised for Noise Mitigation Measures

The Regulations require that APA's address "priorities" and "the most important area or areas" with a view to identifying "measures" that will help "avoid, prevent or reduce" the "harmful effects, including annoyance, due to exposure to environmental noise", see Section 1.2.3. The EPA Guidance on Noise Action Plan preparation provides guidance on these concepts, and sets out a recommended three-step approach to identifying priorities as follows:

1. **Important Areas (IAs)** – these are locations exposed to environmental noise which exceed "any relevant noise limit or other relevant criteria" as established by the EPA in their guidance;
2. **Most Important Areas (MIAs)** – these locations are a sub-set of Important Areas where the health effects are highest, typically through a product of noise exposure levels and the number of people highly annoyed; and
3. **Priority Important Areas (PIAs)** – between 5 and 10 Most Important Areas or group of similarly affected Most Important Areas, identified, through a prioritisation process, as those which will be evaluated and addressed during the implementation of the NAP.

The "relevant criteria" recommended by the EPA Guidance to establish the Important Areas is the WHO Guidelines as set out in Table 4-2.

The findings of the Important Area process were used to inform an automated process within Geographic Information System (GIS) software to generate a heatmap of the relative number of people highly annoyed due to noise per 100m². The EPA Guidance then recommends using a criterion of 15 people highly annoyed per 100m² to identify areas to be defined as Most Important Areas, which are areas of higher concentration of people exposed to noise. The resulting Most Important Areas were then prioritised to identify which areas will to be addressed during the implementation of the NAP with the top 5 to 10 areas carried forward as Priority Important Areas.

5.2 Most Important Areas

The results of the analysis identified 277 Most Important areas across Dublin City with the breakdown by noise source, population and harmful effects criteria shown in Table 5-1 below.

Table 5-1 - Most Important Areas Dublin City

	No. of MIAs			Total Population*	Harmful Effects Statistics**		
	All Sources	MIAs (Road)	MIAs (Rail)		HA	HSD	IHD
Dublin City Council	277	200	77	120,300	22,939	8,935	17

* The total population inside all Most Important Areas (MIAs)

** Total harmful effects inside all MIAs (the harmful effects presented are determined from a statistical approach across the whole population covered by the noise maps, and should not be considered to be an accurate assessment of the possible health effects at any specific building or location).

These MIAs are presented geographically in Figure 5-1 below.

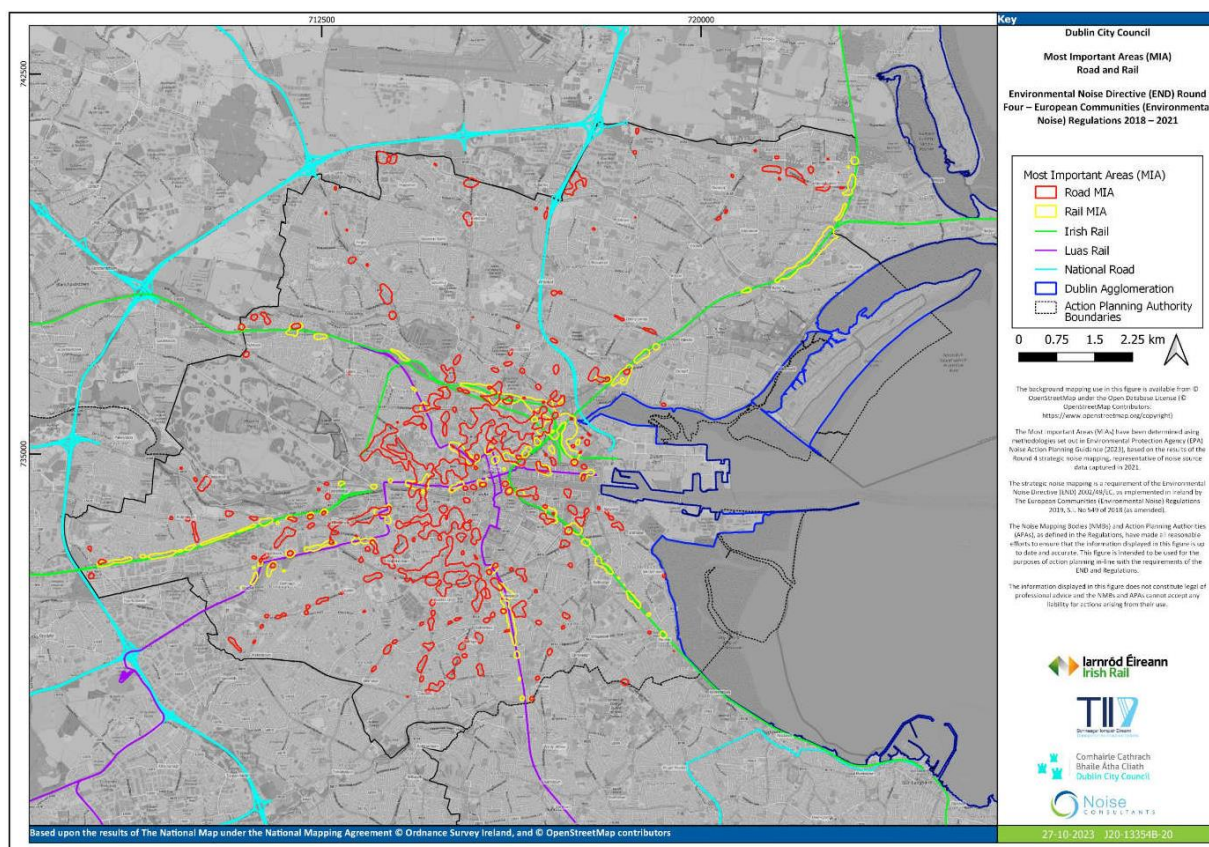


Figure 5-1 - Most Important Areas Dublin City

It should be noted that Dublin Airport, as a major Airport, is required to prepare its own Noise Action Plan. Therefore, exposure to aircraft noise will be addressed by the Dublin Airport Noise Action Plan and is not addressed within the Dublin agglomeration Noise Action Plan. The Dublin agglomeration Noise Action Plan thus only addresses Most Important Area relating to road and rail.

It should also be noted that no Most Important Area relating to industry have been identified. This is because no methodology exists to permit an assessment of highly annoyed criteria for industry and also because the exposure statistics relating to industry are considerably less than those relating to rail and road, see Table 4-1.

5.3 Priority Important Areas

It is not possible to address all the road and rail Most Important Area as set out in Section 5.2. In line with the requirements of the Regulations, these have been prioritised for Dublin based on the number of people located within each Most Important Area. Using this approach the top eleven Most Important Areas have been identified and are carried forward to the Noise Action Plan for evaluation as part of the implementation of the Noise Action Plan. These eleven areas are known as Priority Important Areas and are shown for the whole of Dublin City in Figure 5-2 below.

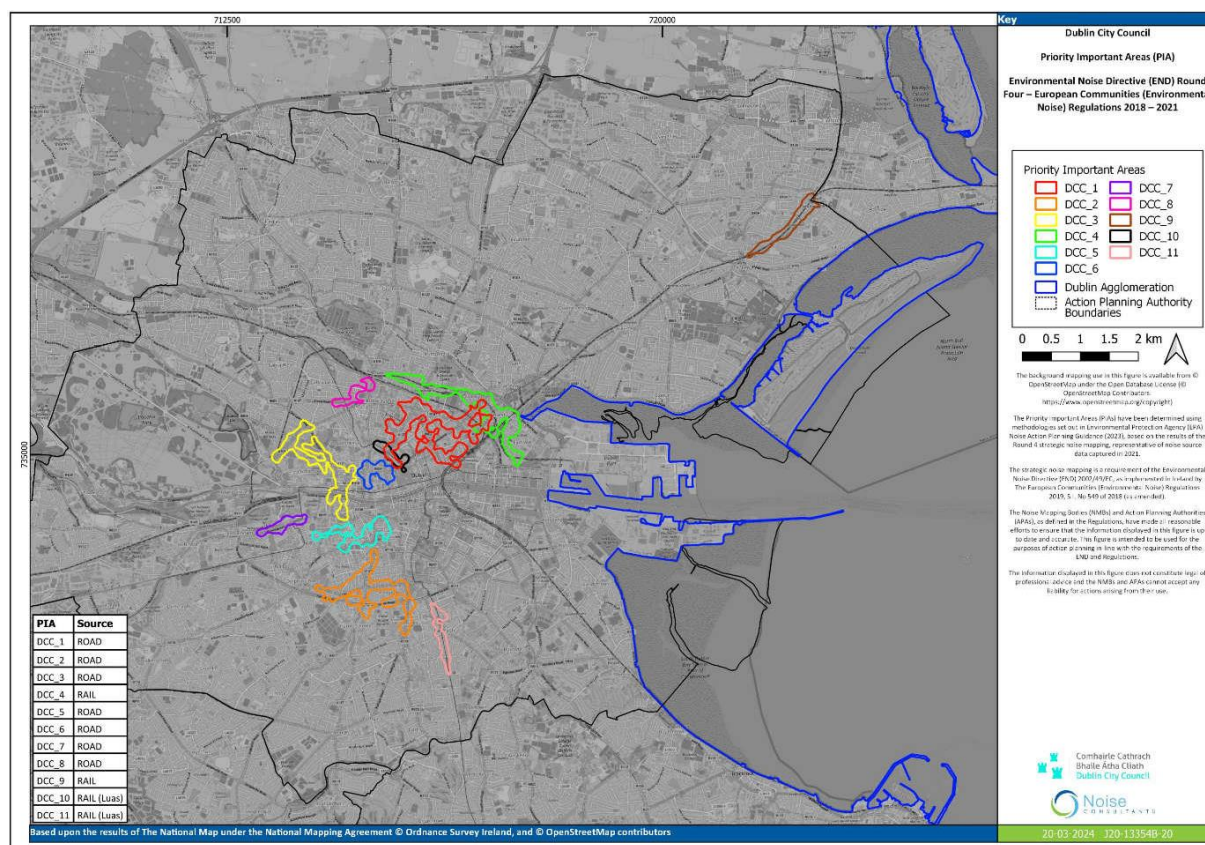


Figure 5-2- Priority Important Areas Dublin City

The eleven areas include seven road, two Luas and two Irish Rail related areas. As can be seen from Figure 5-2 above, the road related Priority Important Areas are all located within the core city centre area bounded by the canals. A key measure which will benefit the reduction of noise exposure in these areas will be the implementation of the Dublin City Centre Transport Plan 2023, which seeks to reduce the number of vehicles travelling through this core city centre area.

5.4 Methodology to Identify Areas to be Preserved for Environmental Noise Quality

As noted in Section 1.2.3, the Regulations require the Noise Action Plan to “have as its objective that of also protecting quiet areas in an agglomeration”. There are 8 existing designated Quiet Areas within Dublin City which were designated during the implementation of previous Rounds of the Regulations.

The EPA Guidance sets out a methodology for the identification of Quiet Areas based around Green and Blue spaces and includes a list of primary and secondary public open spaces which should be considered such as: recreational areas; playing fields; playgrounds; public parks and gardens; beaches;

nature reserves; cemeteries; riverbanks; canals, places of worship; hospitals, including nursing and convalescence homes; educational institutions; and childcare/crèche facilities.

For the purpose of Round 4 of the Environmental Noise Regulations, the focus was placed mainly on major parks and gardens with an area greater than 1 hectare and this resulted in 210 areas for consideration, which are known as Potential Candidate Quiet Areas (PCQAs).

These Potential Candidate Quiet Areas were then evaluated, in line with the EPA Guidance, using the results from the strategic noise modelling and to identify each of the following categories of Candidate Quiet Area;

- **Absolute candidate quiet areas:** where environmental noise levels are low (median noise level of a Potential Candidate Quiet Area is less than 50 dB $L_{Aeq,16hr}$);
- **Relative candidate quiet areas:** where environmental noise levels are relatively low in comparison to community noise exposures (25% of population within 1000m of Potential Candidate Quiet Areas are exposed to noise 10 dB above the median noise level of the Potential Candidate Quiet Area); and
- **Other candidate quiet areas:** in cases where environmental noise levels, although low, do not meet either of the above Candidate Quiet Area categories, but the Potential Candidate Quiet Area is deemed by Dublin City Council as an area of high community value.

The results of this analysis are set out in Section 5.5 below.

5.5 Candidate Quiet Areas

A total of 71 Candidate Quiet Areas have been identified for Dublin City using the methodology set out in Section 5.4. This includes the existing 8 Quiet Areas, which results in a total of 63 new Candidate Quiet Areas for consideration as part of the implementation of this Noise Action Plan.

Table 5-2- Candidate Quiet Areas Dublin City and Agglomeration

Action Planning Authority	Total: PCQAs Considered	Candidate Quiet Areas (CQAs) - Absolute	Candidate Quiet Areas (CQAs) - Relative	Candidate Quiet Areas (CQAs) - Other	Total: CQAs
Dublin Agglomeration	652	166	4	10	180
Dublin City Council	210	62	2	7	71

These Candidate Quiet Areas are presented in Figure 5-3 below.

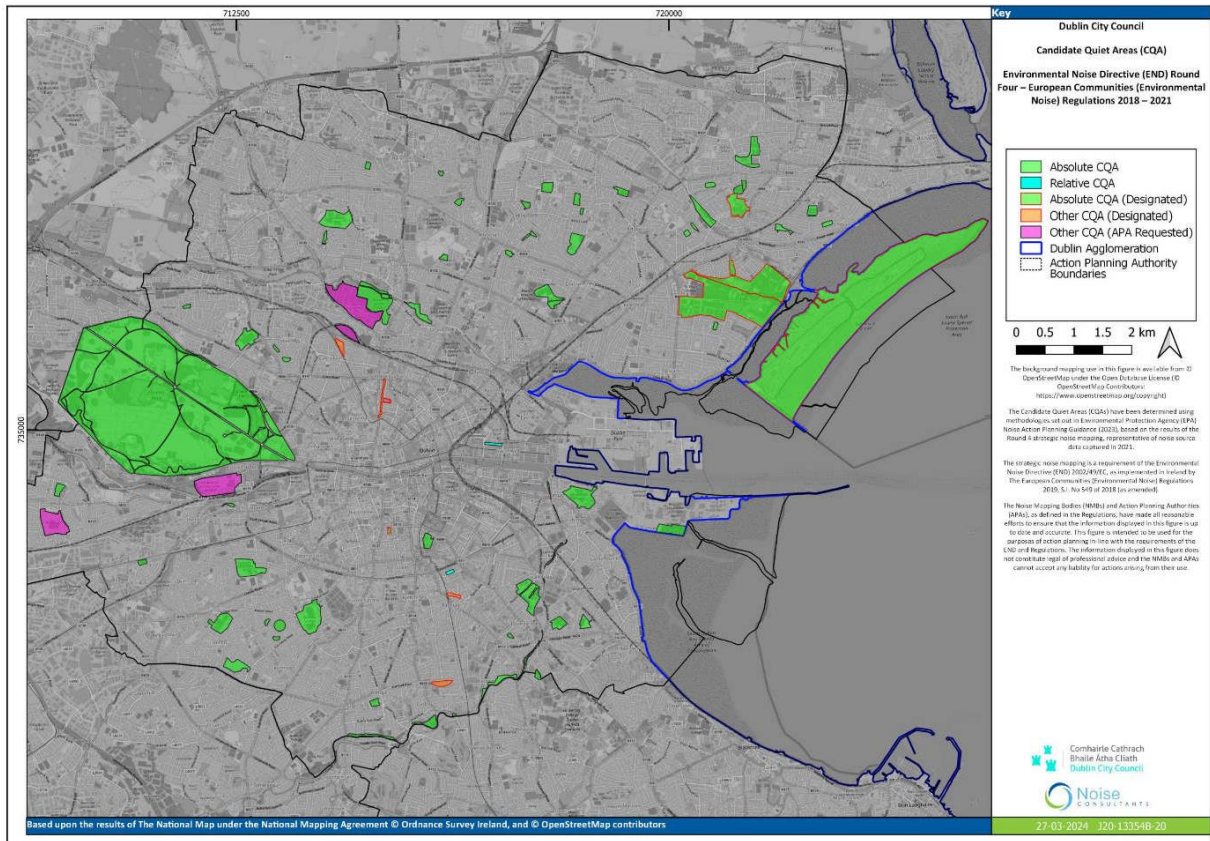


Figure 5-3- Candidate Quiet Areas Dublin City

It is not possible to evaluate all 63 new Candidate Quiet Areas for consideration to be designated as Quiet Areas within the period of this Noise Action Plan. It is proposed to shortlist eleven areas for evaluation during the implementation of the Plan and possible designation as Quiet Areas subject to the outcome of the evaluation. The shortlisting was based on a review of criteria relating to each Candidate Quiet Area including noise, size of the area, number of people living within 1km and amenity value. The shortlisting also considered the geographical spread with the aim of ensuring that at least one new Candidate Quiet Area was included for each Local Area.

The eight existing Quiet Areas (highlighted green) and the eleven shortlisted Candidate Quiet Areas (highlighted yellow) are presented in Table 5-3 and Figure 5-4 below.

Table 5-3- Existing and Candidate Quiet Areas

Committee_Area	QA_ID	NAME	LQ16 median	AREA_HA	Pop. Within 1 km	DESIGNATED
CENTRAL AREA						
CENTRAL	DCC_149	Mount Bernard Park	56	2.5	20056	Y
CENTRAL	DCC_169	Blessington Basin	48	1.8	39697	Y
CENTRAL	DCC_108	Phoenix Park	48	680	53278	N
CENTRAL	DCC_5	National Botanic Gardens	47	19	22845	N
CENTRAL	DCC_5a	Glasnevin Cemetery		37		
NORTH CENTRAL AREA						
NORTH CENTRAL	DCC_153	North Bull Island	42	360	10781	Y
NORTH CENTRAL	DCC_180	St Annes Park	42	123	27630	Y
NORTH CENTRAL	DCC_17	Edenmore Park	46	10	23309	Y
NORTH CENTRAL	DCC_145	St Vincent's GAA Grounds, Marino	46	6.6	23802	N
NORTH CENTRAL	DCC_203	Casino at Marino	49	2	20243	N
NORTH WEST AREA						
NORTH WEST	DCC_100	Johnstown Park	45	12	22547	N
NORTH WEST	DCC_23	Whiteacre Park	45	1	14305	N
SOUTH EAST AREA						
SOUTH EAST	DCC_158	Cabbage Garden	43	1	30110	Y
SOUTH EAST	DCC_105	Ranelagh Gardens	47	1	24022	Y
SOUTH EAST	DCC_39	Palmerston Park	50	2.5	18738	Y
SOUTH EAST	DCC_198	Eamonn Ceannt Park	48	17	31422	N
SOUTH EAST	DCC_122	Ringsend Park	49	14	14688	N
SOUTH CENTRAL AREA						
SOUTH CENTRAL	DCC_57	The Lawns (Le Fanu Park)	52		17038	N
SOUTH CENTRAL	DCC_39	The Irish National War Memorial Park	55		15425	N

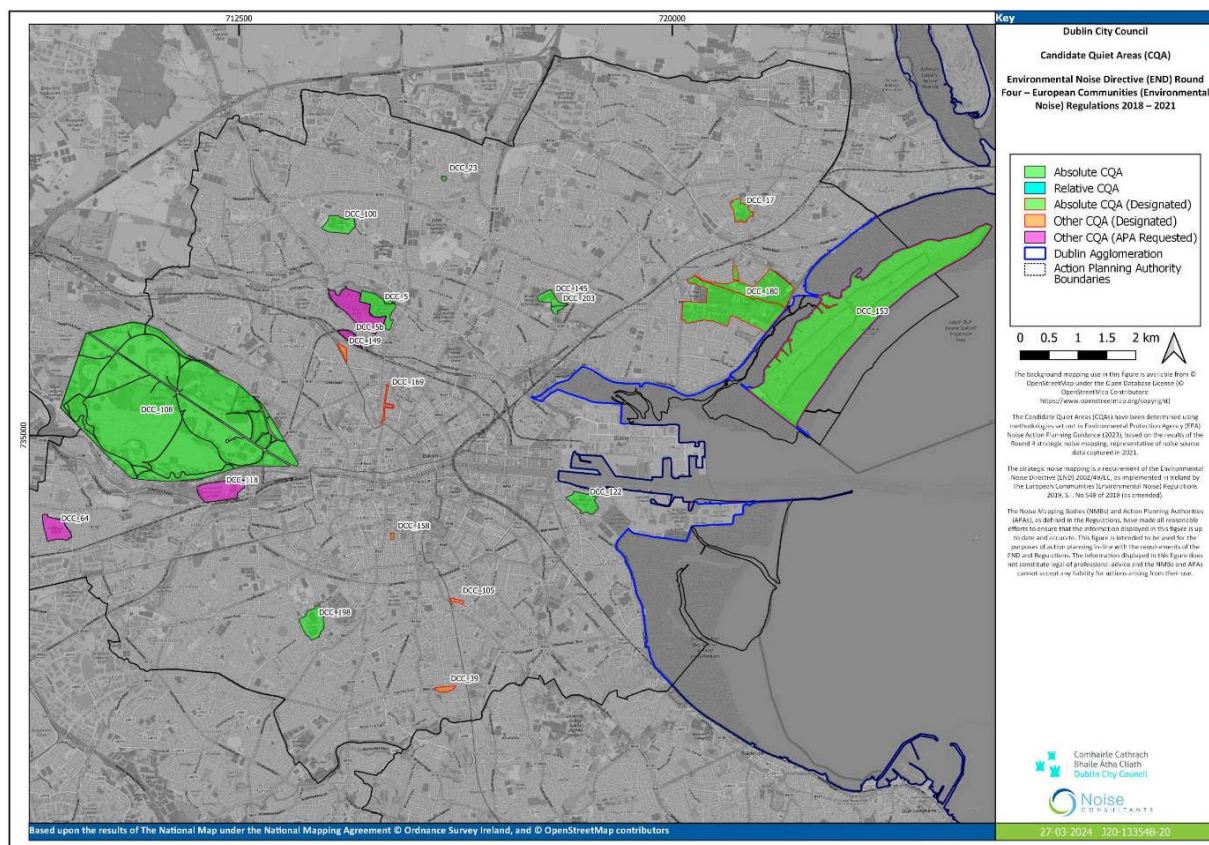


Figure 5-4- Existing and Candidate Quiet Areas

All shortlisted Candidate Quiet Areas will be evaluated during the implementation of the Noise Action Plan [dependent on budget and resources] and subject to the outcome a proposal will be prepared for submission to the EPA and the Minister to seek approval to designate them as Quiet Areas.

5.6 Noise Management Framework of Measures

An overview of the proposed framework of noise management measures included within the Dublin Agglomeration Noise Action Plan 2024-2028 for Dublin City Council is set out in Table 5-4 below.

The measures have been presented across three policy principle categories set out within the Noise Policy Statement included in the Noise Action Plan, together with a fourth supporting ‘General’ category. The four categories of measures are as follows;

1. General – Noise Management Measures and Actions
2. Prevention – Noise Management Measures and Actions
3. Protection – Noise Management Measures and Actions
4. Mitigation – Noise Management Measures and Actions.

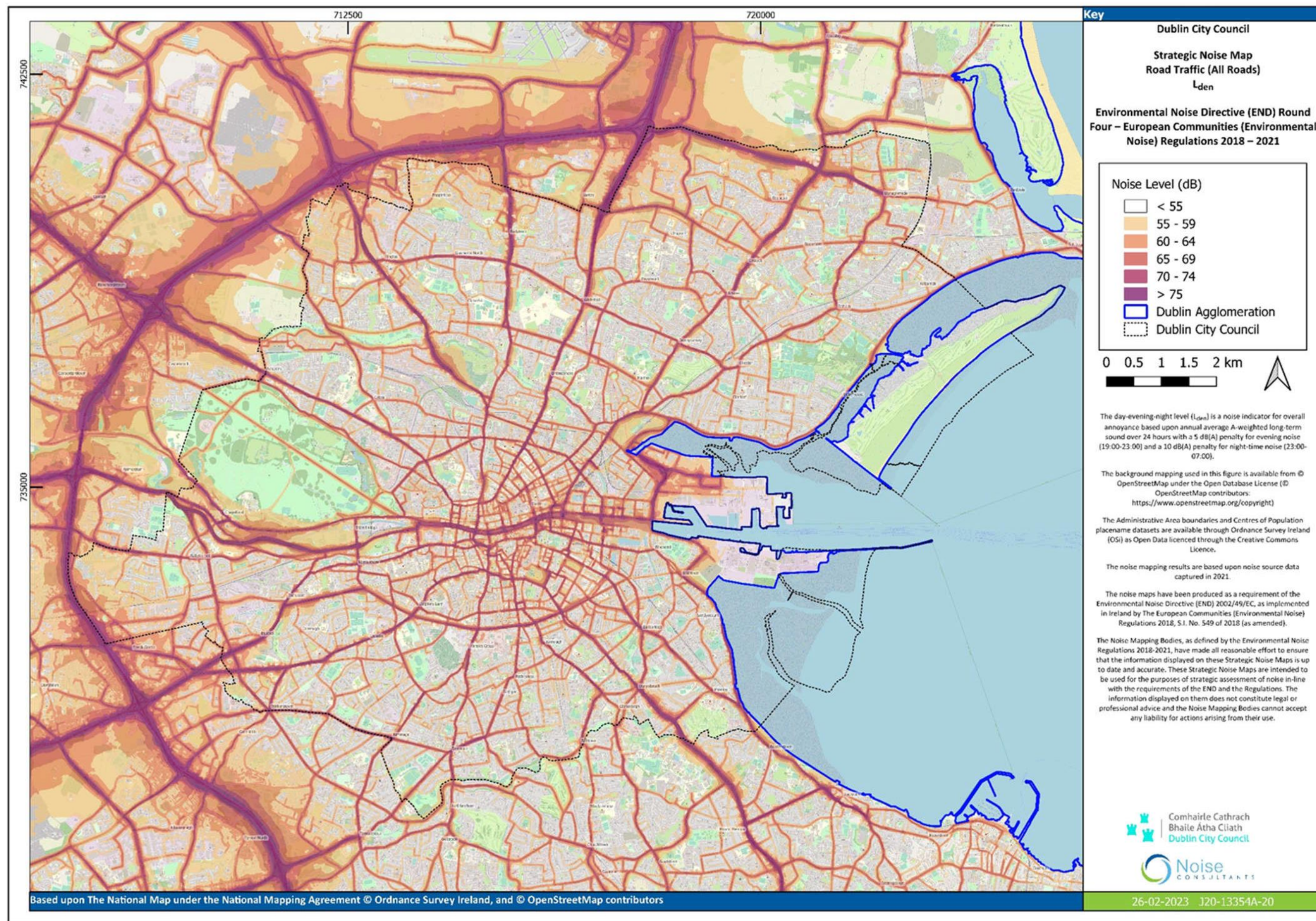
Table 5-4 – Dublin City Council Noise Management Framework of Measures

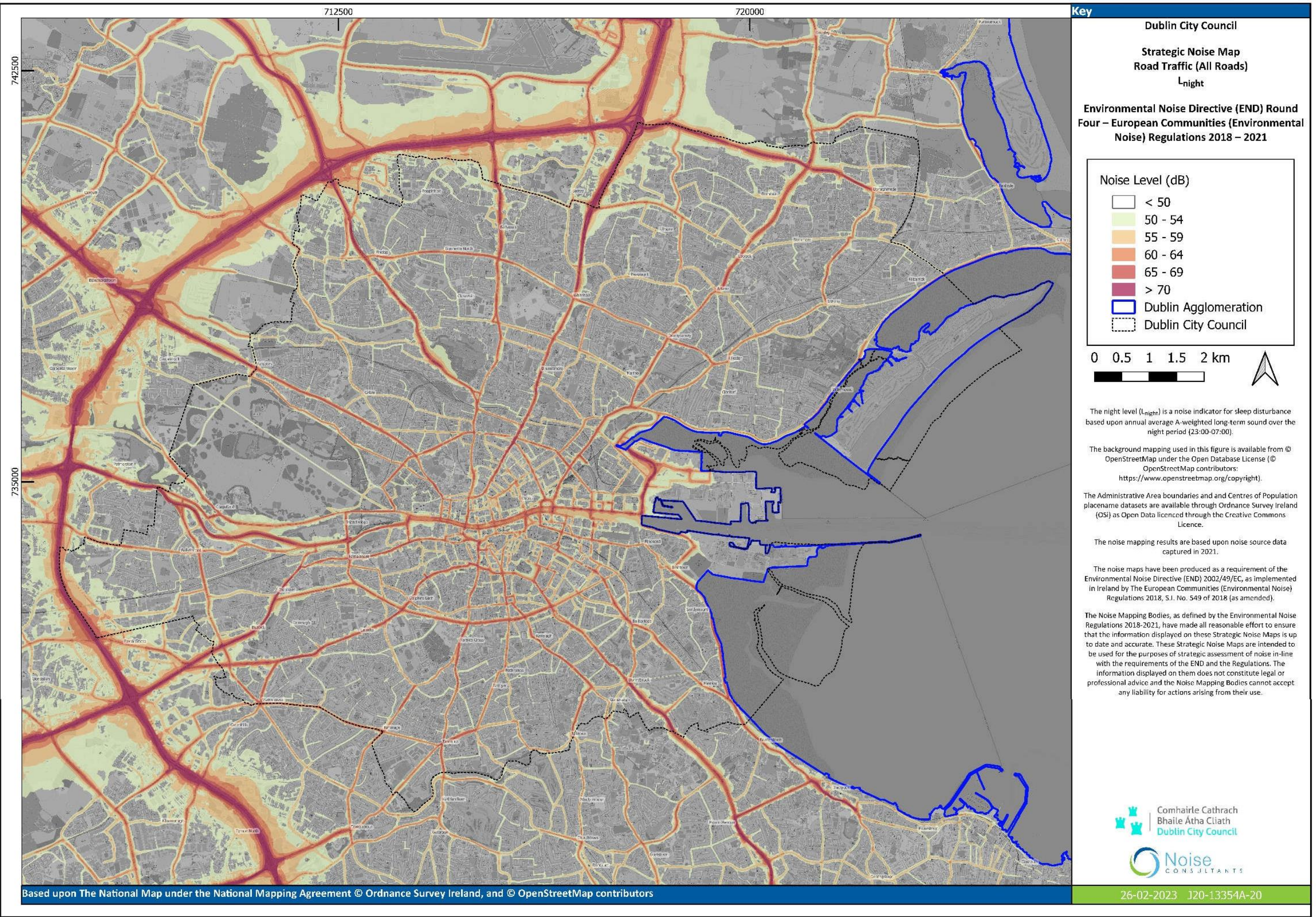
Dublin City Council Measures		Responsible Aim (RA)	Time scale
Noise Action Plan Preparation			
Noise Action Plan Completion			18th July 2024
General - Noise Management Measures			
DCC_M1	Support the Development of National Noise and Other Related Policy & Guidance	RA_1 & 5	Short to Long-term
DCC_M2	Dublin City Council Noise Working Group	RA_2, 3, 4 & 5	Bi-annual
DCC_M3	Noise Action Plan Working Group(s) - Action Planning Authorities and Transport Infrastructure Owners	RA_2, 3, 4 & 5	Bi-annual
DCC_M4	Annual Report to EPA	RA_8	Annual
DCC_M5	Continued Investigation and Management of Noise Complaints	RA_5 & 7	Ongoing
DCC_M6	Stakeholder Collaboration	RA_3, 4 & 5	Ongoing
DCC_M7	Ongoing Community Engagement	RA_3, 4, 5 & 6	As Required
Prevention - Noise Management Measures			
DCC_M8	Planning Application Advice, Conditioning and Enforcement	RA_5	Ongoing
DCC_M9	Maintain Existing Ambient Noise Monitoring Network	RA_5	Ongoing
Protection - Noise Management Measures			
DCC_M10	Evaluation of Shortlisted Candidate Quiet Areas	RA_4	Short to Medium-term
DCC_M11	Proposal for Quiet Area(s) Designation	RA_4	Annually
Mitigation - Noise Management Measures			
Existing Plans, Projects and Strategies			
DCC_M12	Implementation of the Dublin City Centre Transport Plan 2023	RA_3	Short to Medium-term
DCC_M13	Support Implementation of Other Relevant Plans, Projects & Strategies	RA_3 & 5	Ongoing
Priority Important Areas			
DCC_M14	Evaluation of each Priority Important Area (PIA)	RA_3	Short to Medium-term
DCC_M15	Review Road Maintenance Works Programme for Noise Benefits within PIAs and other Areas	RA_3	Ongoing
DCC_M16	Road Surface Noise Mitigation Desktop Study	RA_3	Short-term
DCC_M17	Implementation of Recommended Noise Mitigation Measures	RA_3	Medium to Long-term

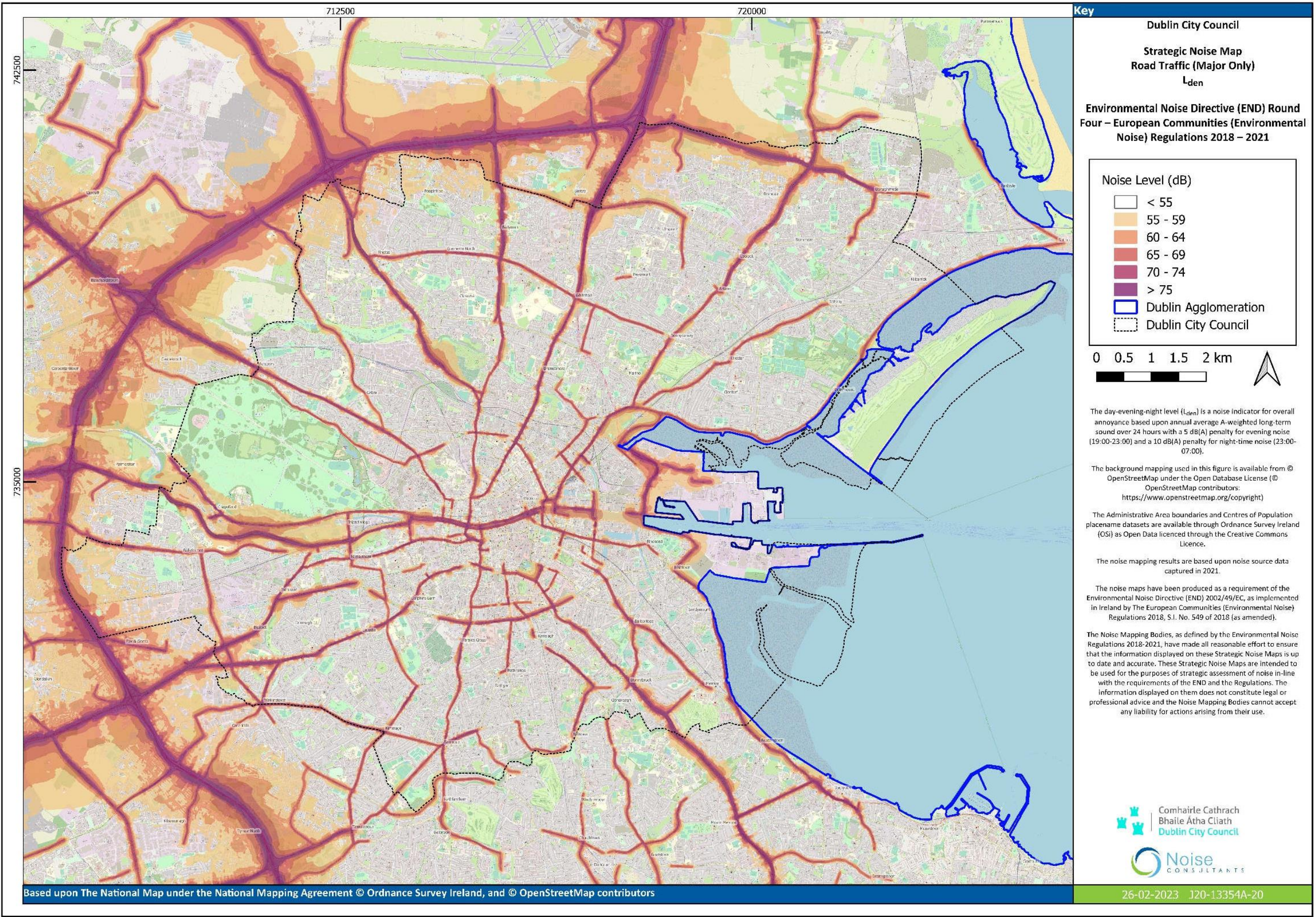
While it was noted in Section 1.2.1 that the definition of “environmental noise” covered by the Regulations covers mainly noise from transport and industry related human activities, it is recognised that many noise issues which the Council deals with relates to other activities and issues. As such many of the proposed range of measures set out above under the “General” category are intended to cover the full remit of noise related activities and not just those covered by the Regulations, for example investigation of noise complaints. This ensure that a holistic framework for the management of noise is included as part of this Round 4 Noise Action Plan.

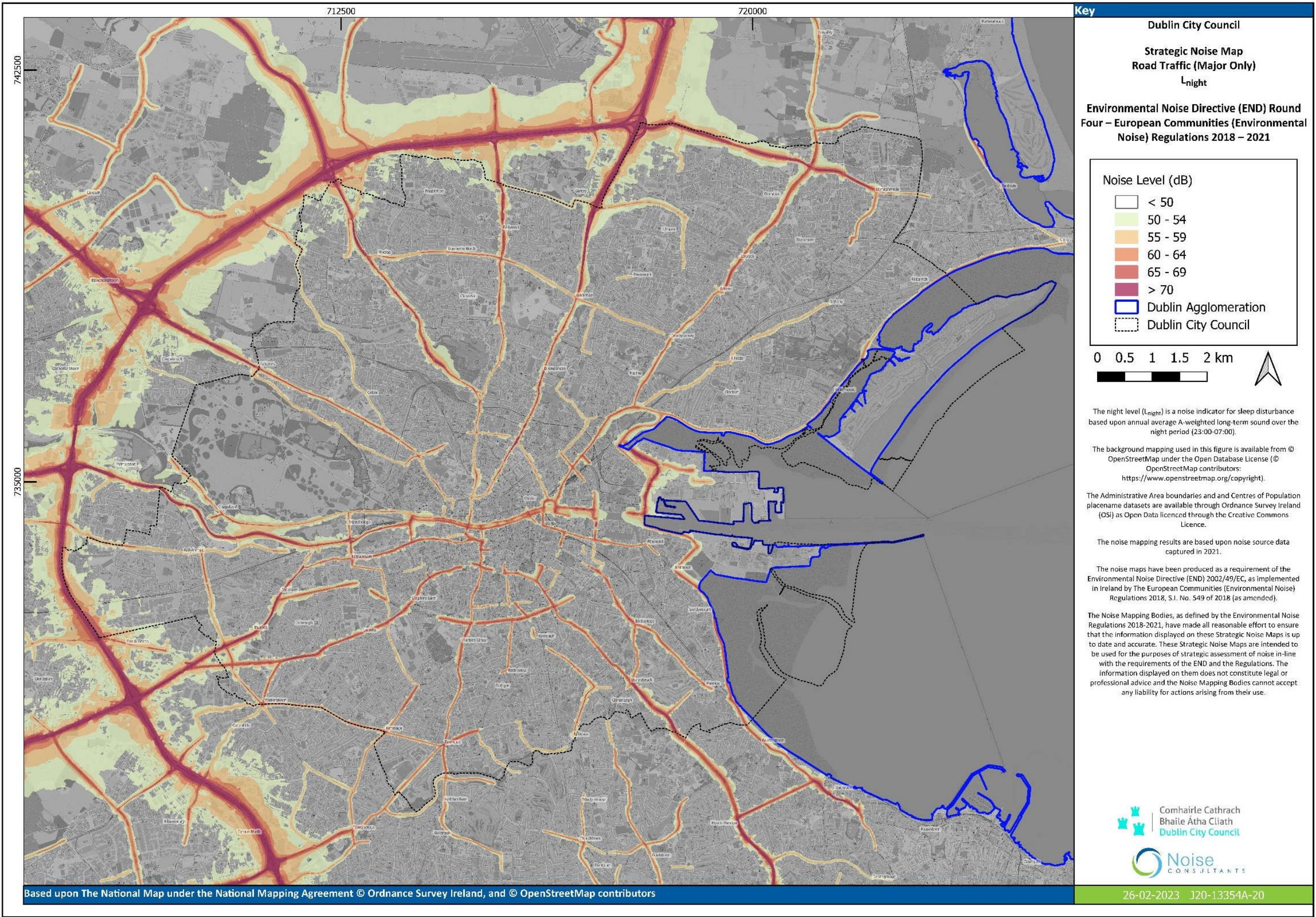
Furthermore the management of noise through mitigation measures will be addressed through a combination of existing Plans, Projects and Strategies together with an evaluation of the Priority Important Areas which have been presented in Section 5.3. In respect of the rail related Priority Important Areas this will involve consultation and collaboration with both Transport Infrastructure Ireland and Iarnród Éireann.

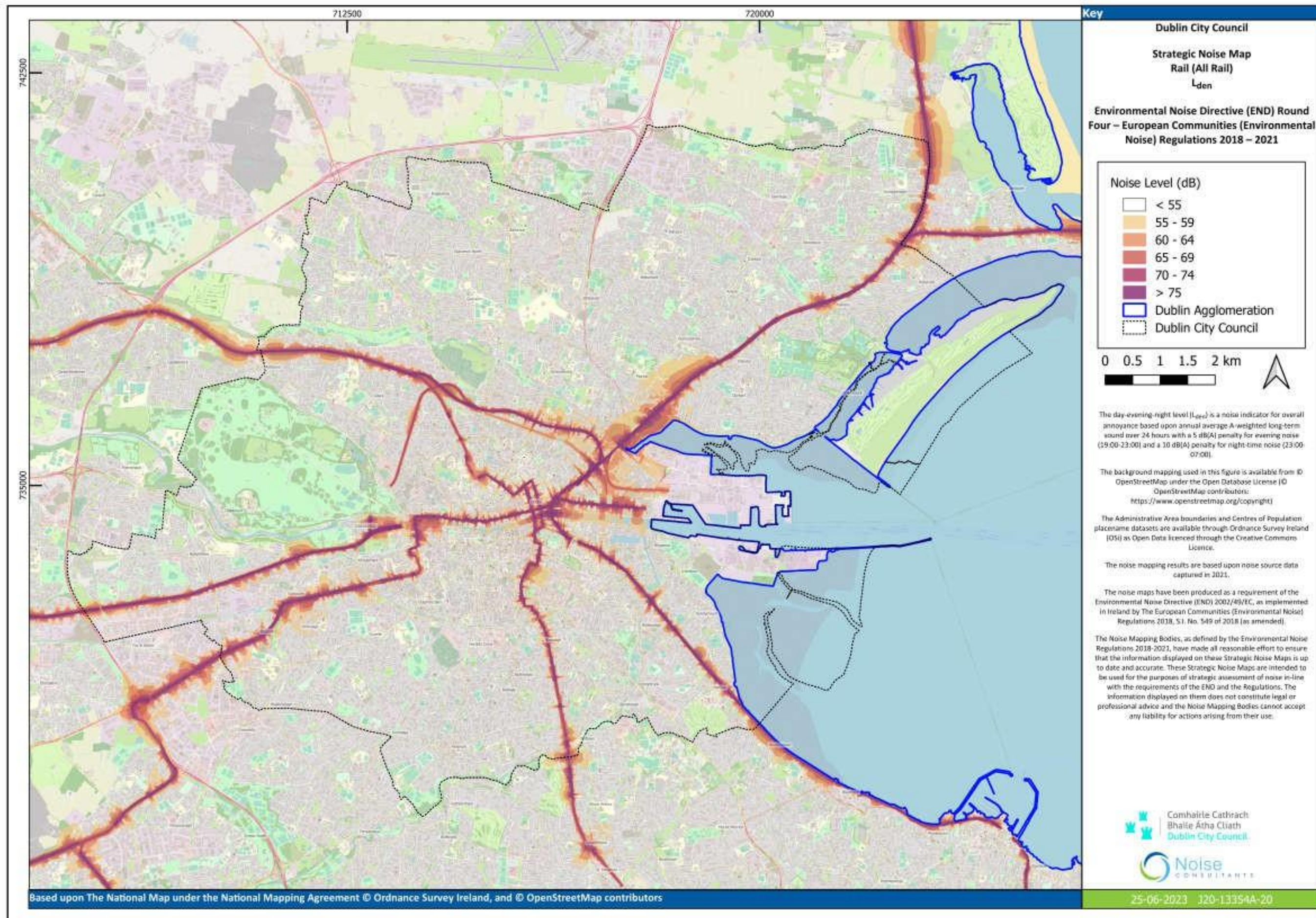
APPENDIX A – STRATEGIC NOISE MAPS – DUBLIN CITY

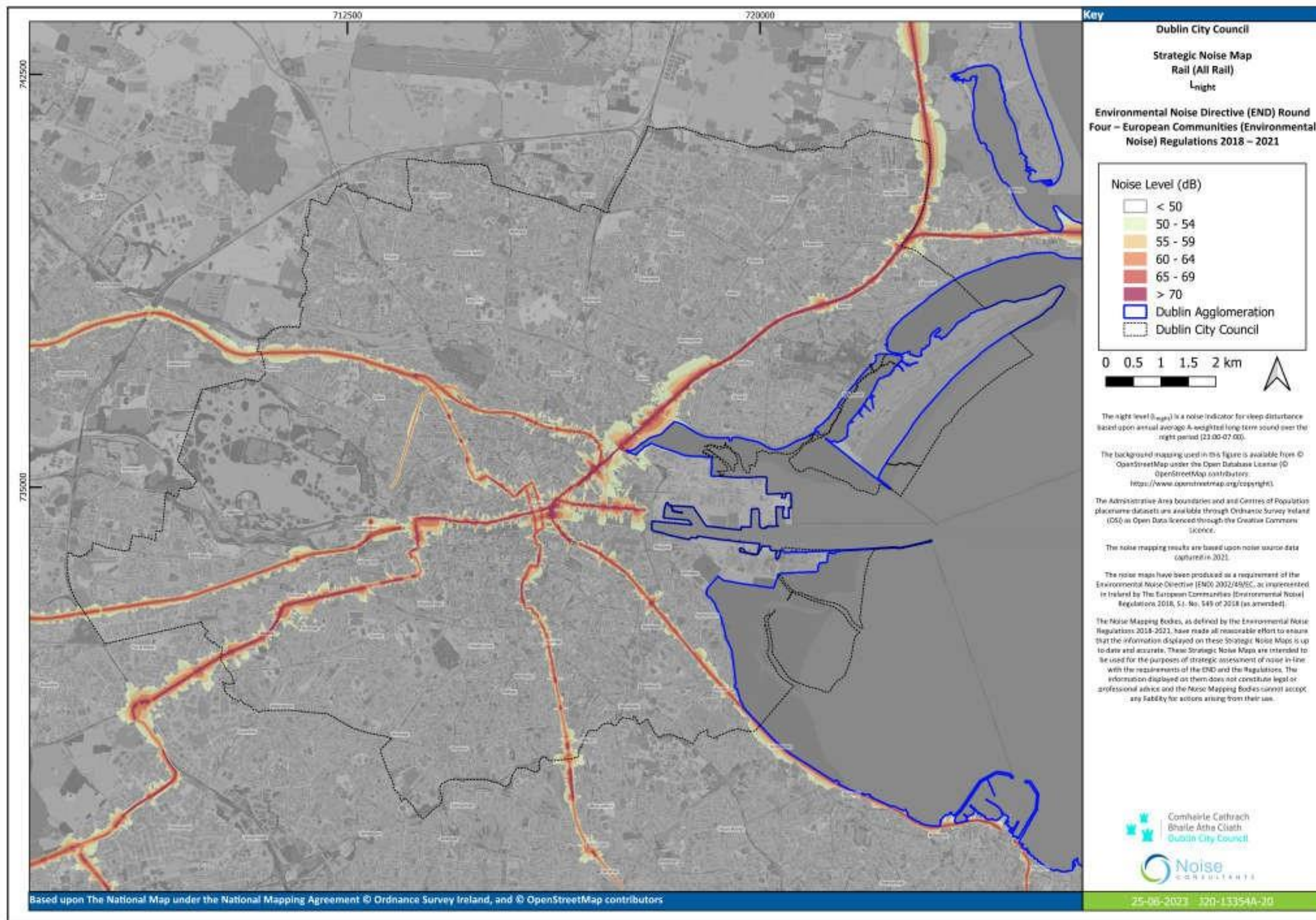


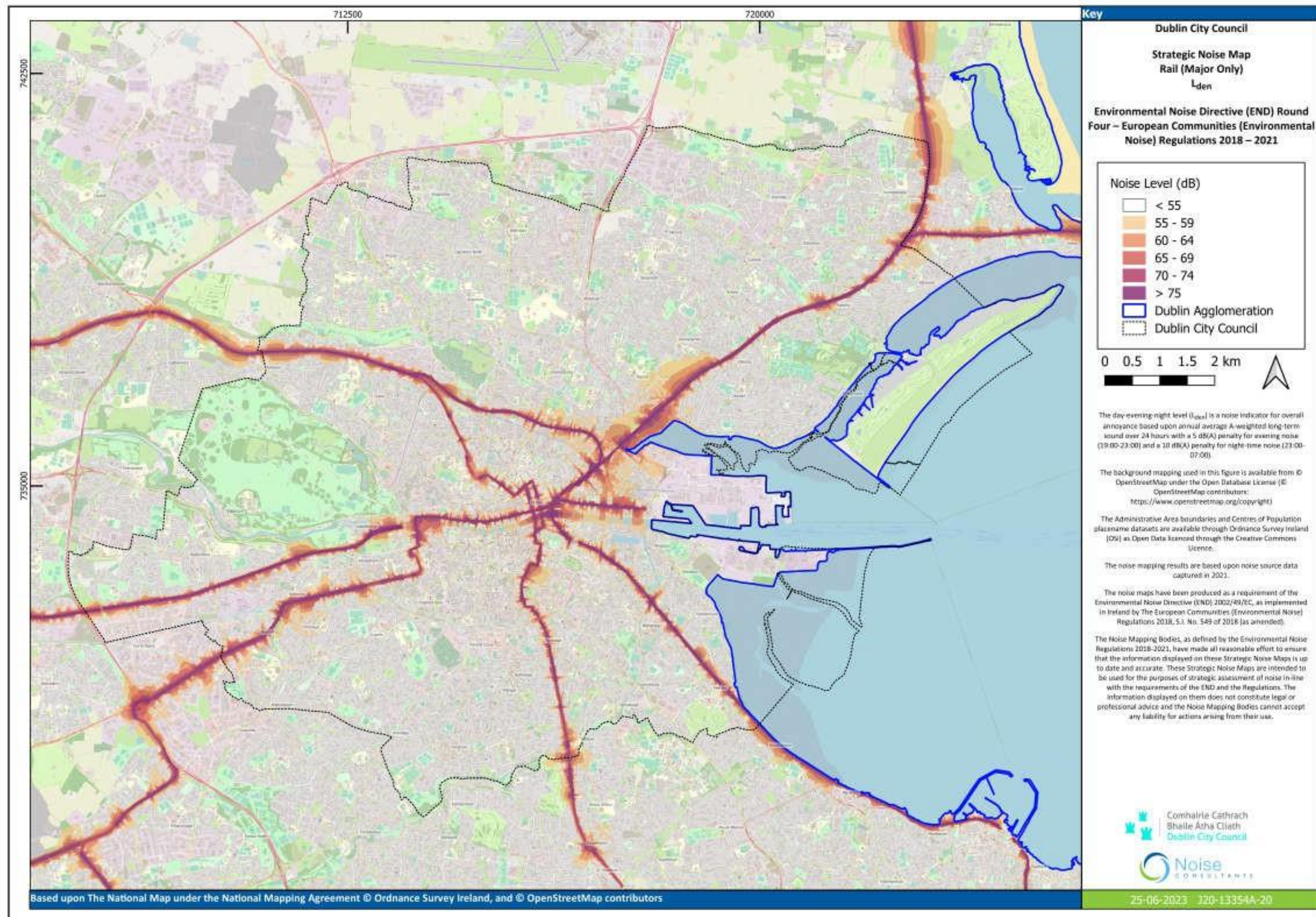


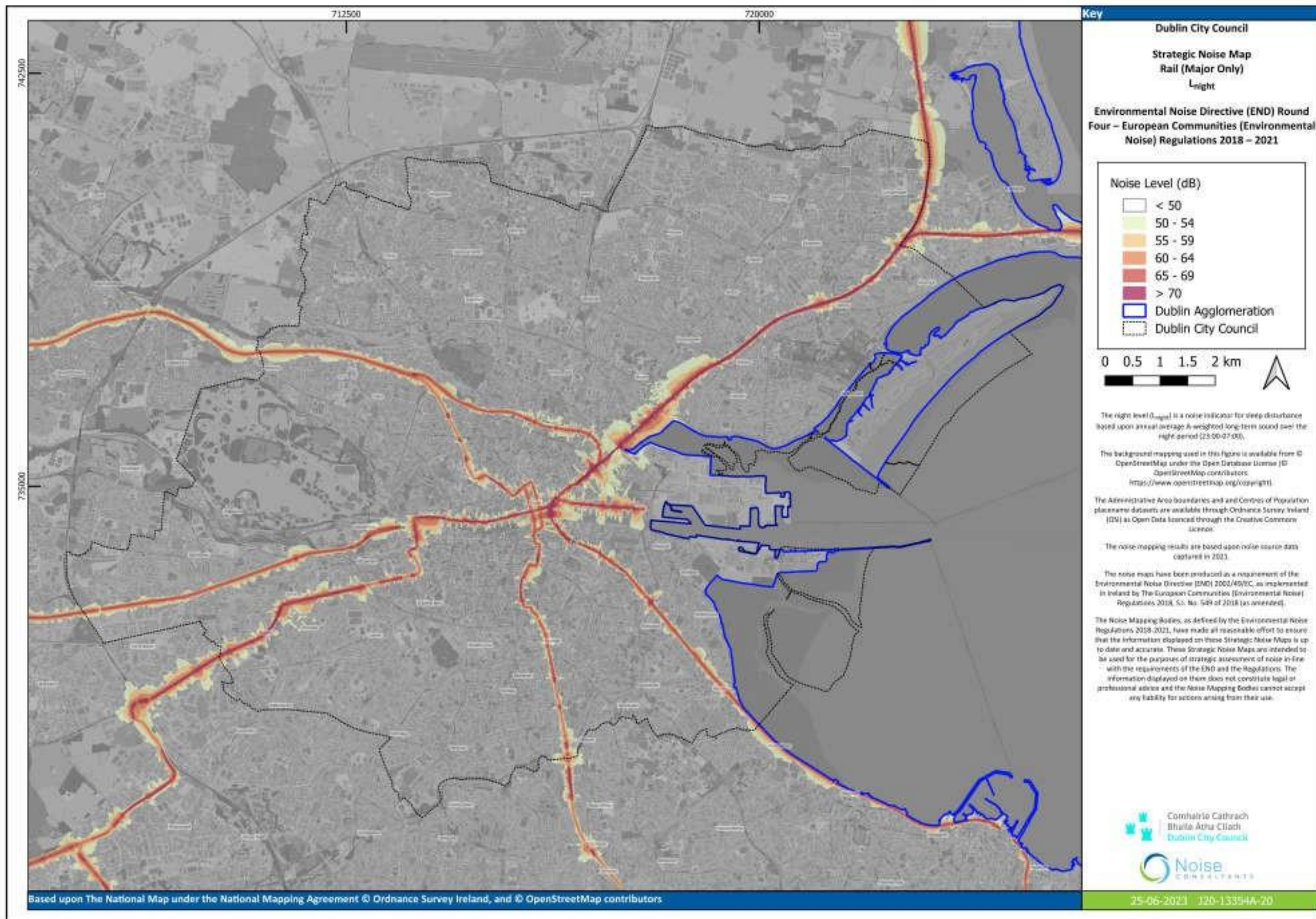


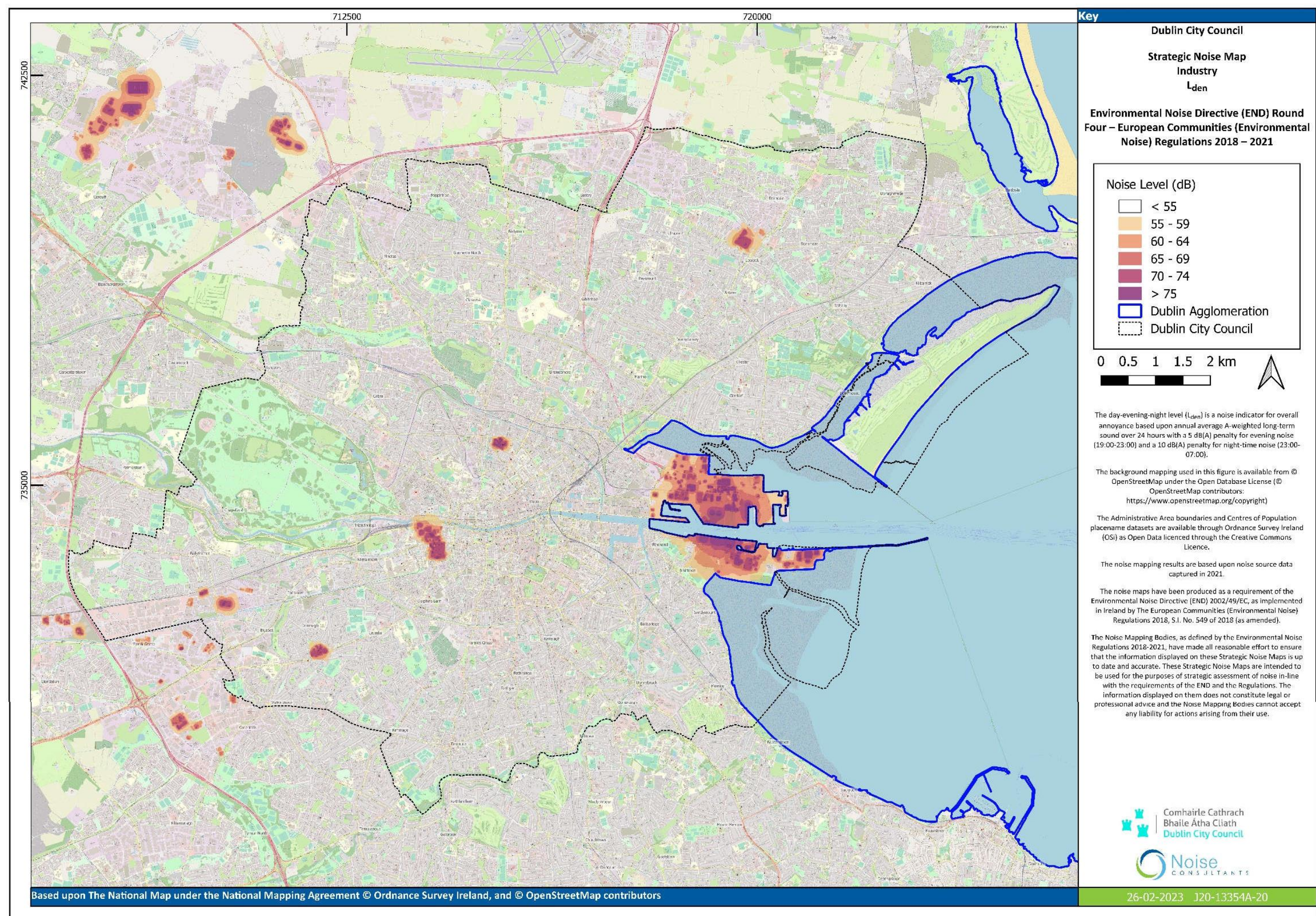


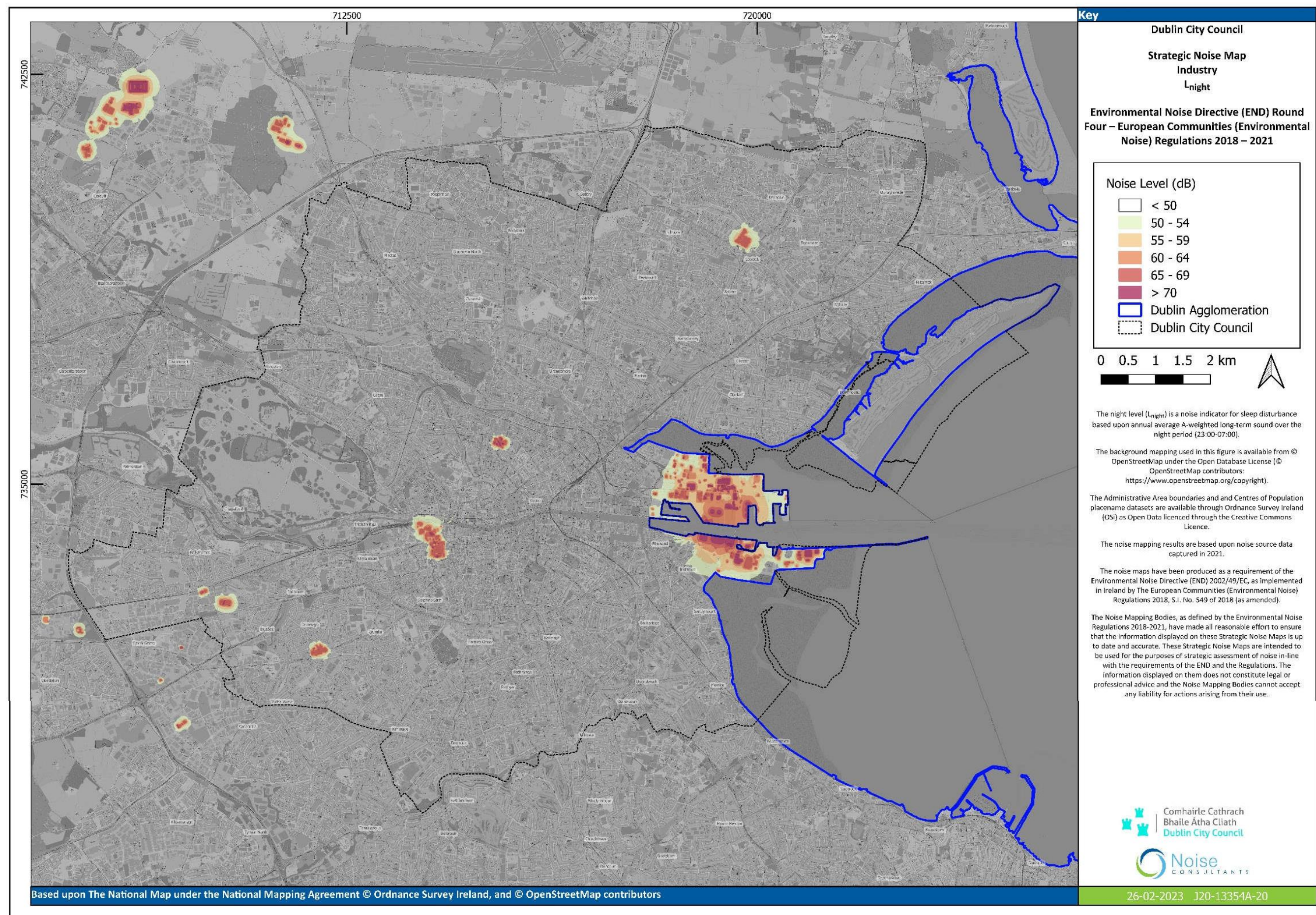












APPENDIX B – STRATEGIC NOISE MAPS – AGGLOMERATION OF DUBLIN

