

Towards Round 5 of the Strategic Noise Mapping and Noise Action Planning: the Possibilities Offered by the Soundscape Approach

Welcome

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Program

- **Reason for the Need of Proactive Noise Action Planning** (5 mins)
Simon Jennings (Limerick City and County Council)
- **Explaining the Soundscape Approach: Assessments, Advantages & Practice** (20 mins)
Dr Francesco Aletta (University College London)
- **Pioneering Soundscape in Legislation & Action Planning** (15-20 mins)
Karen Fulford (Welsh Government)
- **Soundscape in Action: Limerick Examples & Irish Context** (10 mins)
Simon Jennings (Limerick City and County Council)
- **Questions & Answers** (10 mins)

Reason for the Need of Proactive Noise Action Planning

Reduction

Avoidance

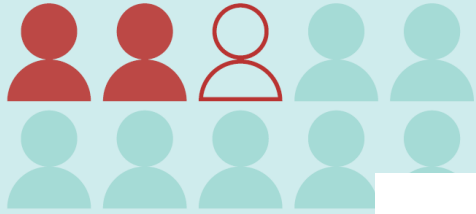
Simon Jennings

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Environment & Climate Action

Environmental Noise in Europe 2025 (EEA)

Extent of the problem



at least **20% population** affected by unhealthy levels of noise due to road, rail and air traffic

30% according to WHO recommendations



Progress and outlook

Zero Pollution target 2030
-30% people chronically disturbed by transport noise

Outlook 2030
reduction in people highly annoyed



0%
Conservative scenario

-21%
Optimistic scenario

In Ireland – Impact of Road Noise

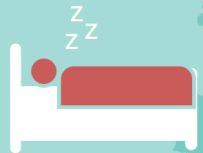
Dublin, Cork and Limerick Agglomerations – urban populations

- 8% Highly Annoyed ~ 132,000 citizens
- 2% Highly Sleep Disturbed ~ 33,400 citizens

Rural populations outside agglomerations along major roads

- 4.6% Highly Annoyed
- 1.4% Highly Sleep Disturbed

Health impacts



almost **17 million Europeans** experience long-term high annoyance

approximately **4.6 million** suffer from severe sleep disturbances due to transport noise

cardiovascular disease cases



23,000 type 2 diabetes cases

EPA State of the Environment Report (2024)

Urban green spaces



Only **34% of the population** in urban areas assessed can access green and quiet areas within a 400-metre walking distance from their homes.

Environmental Noise Directive - Overview

At the broadest level - the Environmental Noise Directive is the main EU law to identify environmental noise pollution levels and act on them. It focuses on four action areas:

- 1) determining exposure to environmental noise and assessing its health effects on the population;
- 2) ensuring that information on environmental noise and its effects is made available to the public;
- 3) preventing and reducing environmental noise;
- 4) preserving environmental noise quality in areas where it is good.

Measures for Reducing Environmental Noise

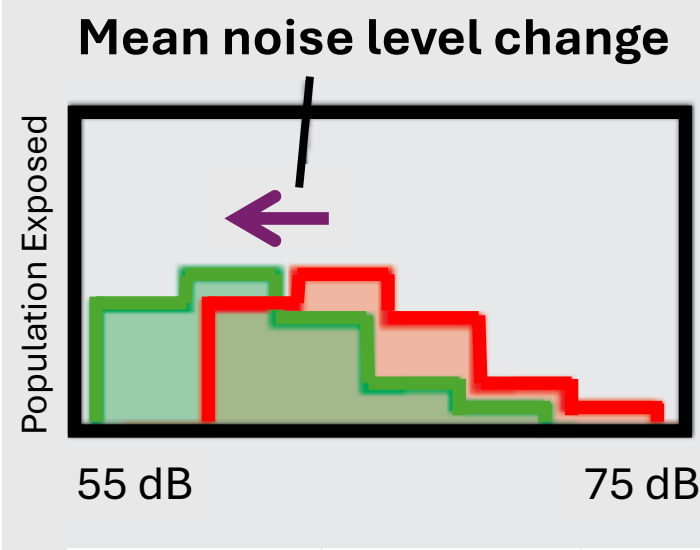
Measures and tools for Competent Authorities to reduce environmental noise under the Environmental Noise Directive - Overview of noise measures for road traffic with an indication of ratings for each measure on the selection criteria (EC Technical support for Noise Action Plans, 2026)

Selection criteria for noise measures				Noise reduction	Costs	Applicability	Scale of impact	Availability	Co-benefits	Constraints	Stakeholder complexity	Maturity	Information level
Criterion	Positive (+1)	Neutral (0)	Negative (-1)										
Noise reduction	high (> 5 dB)	medium (2 – 5 dB)	low (0 – 2 dB)										
Costs	free or cost-saving	low cost	high cost										
Applicability	most situations	some situations	few situations										
Scale of impact	large or everywhere	wider area (200 – 1,000 m)	local (< 200 m)										
Availability	large choice everywhere	several products / suppliers	single product / supplier										
Co-benefits	multiple	limited (1 – 2)	none										
Constraints	none	limited (1 – 2)	multiple										
Stakeholder complexity	simple / single	intermediate / multiple	complex / many										
Maturity	common practice	limited practice	experimental										
Information level	complete	partial	little										
Noise measure													
Promotion of low noise tyres				0	1	1	1	0	0	0	-1	0	0
Low noise pavements				1	0	1	0	1	1	0	0	1	1
Pavement maintenance				-1	0	1	0	1	1	0	0	0	0
Lower speed limits for major roads				0	0	1	0	1	1	-1	-1	1	1
Lower speed limits for urban roads				0	0	1	0	1	1	0	-1	1	1
Loud vehicle control				0	1	0	0	0	0	0	-1	0	0

Noise Level Reduction Approach

Impact of measures (Limerick):

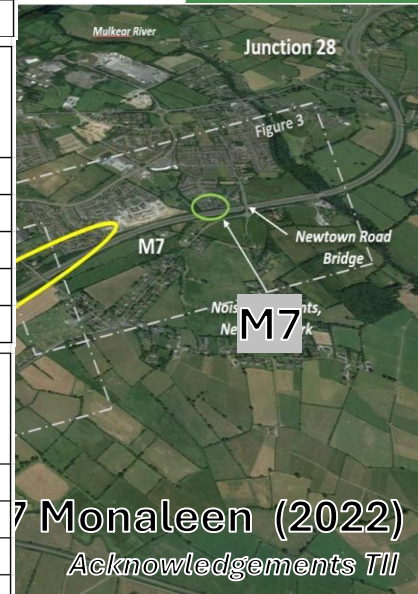
- Health benefit at a community scale is **necessary and important**;
- Health risks for individual citizens exposed to the highest noise levels is not eradicated;
- Health benefit can be limited and at significant financial cost (often implementation is undertaken through projects with co-benefits);
- Noise complaints probably still exist.



Highly Annoyed	Road	Measure	Do Nothing, N	Do Something, N	Reduction, N	Harmful Effects (HA) Reduction (PIA), %	Harmful Effects (HA) Remaining (PIA), %	Relevant NAP
Monaleen PIA	M7	LNRS	443	334	109	25	75	2018-2023
Ballycummin PIA	M20	LNRS	337	219	118	35	65	2023-2028
Patrickswell PIA	M20	LNRS	86	73	13	15	85	2023-2028
Limerick City PIA	All roads	Speed reduction	2568	2503	65	3	97	2023-2028
Total			3434	3129	305	9	91	

High Sleep Disturbance	Road	Measure	Do Nothing, N	Do Something, N	Reduction, N	Harmful Effects (HSD) Reduction (PIA), %	Harmful Effects (HSD) Remaining (PIA), %	Relevant NAP
Monaleen PIA	M7	LNRS	116	89	27	23	77	2018-2023
Ballycummin PIA	M20	LNRS	103	68	35	34	66	2023-2028
Patrickswell PIA	M20	LNRS	27	23	4	15	85	2023-2028
Limerick City PIA	All roads	Speed reduction	364	351	13	4	96	2023-2028
Total			610	531	79	13	87	

Ischaemic Heart Disease	Road	Measure	Do Nothing, N	Do Something, N	Reduction, N	Harmful Effects (HA) Reduction (PIA), %	Harmful Effects (IHD) Remaining (PIA), %	Relevant NAP
Monaleen PIA	M7	LNRS	0.40	0.29	0.11	28	73	2018-2023
Ballycummin PIA	M20	LNRS	0.30	0.20	0.10	33	67	2023-2028
Patrickswell PIA	M20	LNRS	0.10	0.08	0.02	20	80	2023-2028
Limerick City PIA	All roads	Speed reduction	2.76	2.68	0.08	3	97	2023-2028
Total			3.56	3.25	0.31	9	91	



“Sound, like air, surrounds us and affects us all every day, no matter where we are.”

Mike Potts, The Search for Tranquility



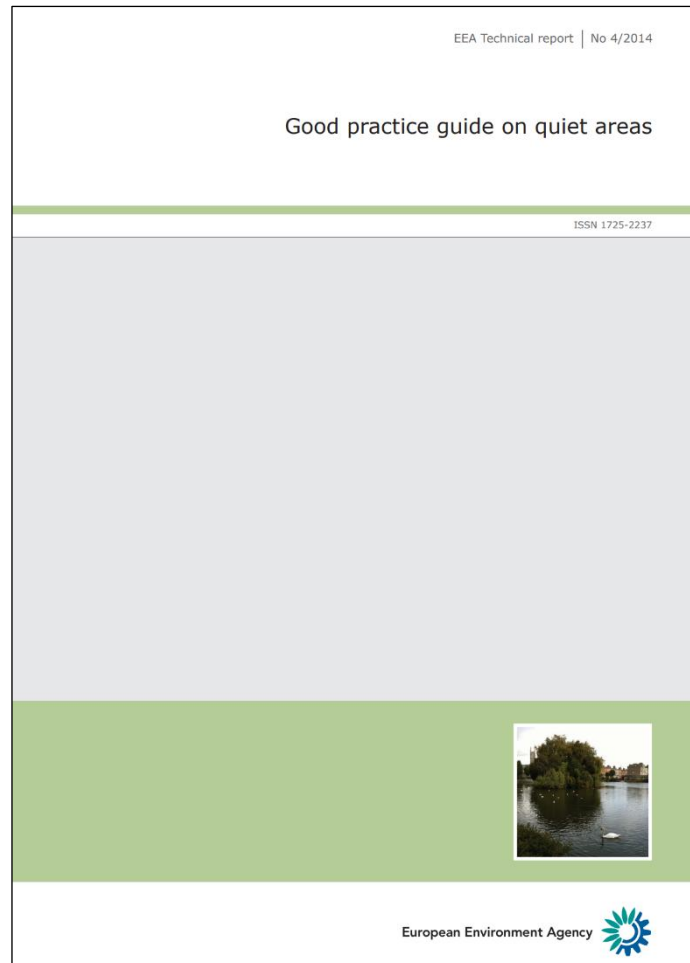
Access to good quality green space is important

Sounds of nature can facilitate recovery from psychological stressors and the experience of low environmental noise result in a lower degree of annoyance, contributing to physiological and psychological well-being (Öhrström et al. 2006, Alvarsson et al. 2010 etc.)

Preserving Environmental Noise Quality in Areas Where it is Good

The Directive also requires:

- competent authorities to protect quiet areas in urban and countryside environments.



*"Quiet would not be the right designation for the general public. Absolute silence tends to frighten most people. Therefore, we are not searching for silence, we are searching for relaxation. Most people feel the need to compensate their busy, noisy city life with an occasional or more regular calm and relaxing day.instead of searching for quiet, we should be **searching for calm**. Defining a quiet area only by the **noise level is therefore not adequate**. "*

Main methods recommended:

- Noise mapping
- sound level measurements
- evaluation of visitor experience
- Expert assessment



Article 9 – Citizen Engagement

Directive 2002/49/EC

Information to the public

- 1. Member States shall ensure that the **strategic noise maps** they have made, and where appropriate adopted, and the **action plans** they have drawn up **are made available and disseminated to the public** in accordance with relevant Community legislation, in particular Council Directive 90/313/EEC of 7 June 1990 on the freedom of access to information on the environment(13), and in conformity with Annexes IV and V to this Directive, including by means of available information technologies.
- 2. **This information shall be clear, comprehensible and accessible.** A summary setting out the most important points shall be provided.



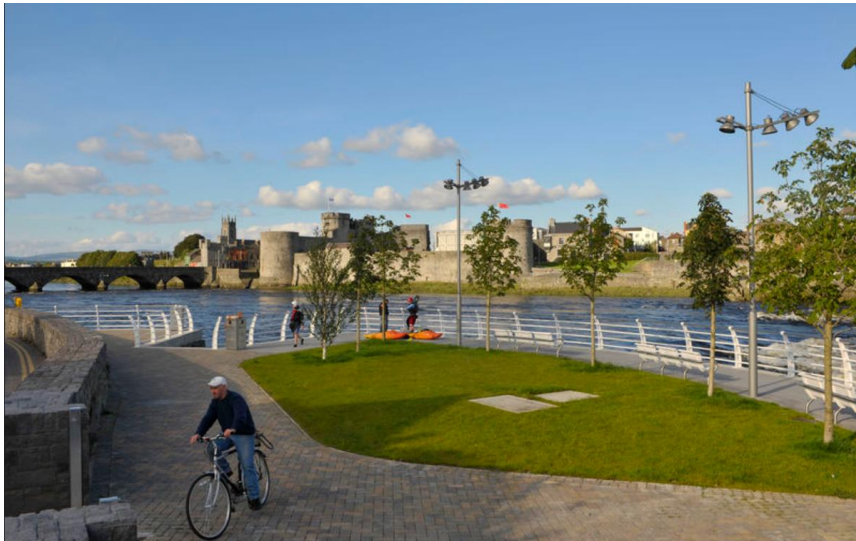
Sound Quality and Public Realm



*Green Space: Castlegate
Grey to Green Park, Dublin*



*Acoustic Intervention:
Sheaf Square, Sheffield*



*Curragower Falls beside the
Robert Byrne Pocket Packet*

