



## Noise Briefing

# Noise Mapping

### 1. Why Noise Mapping?

#### Mapping to Inform Noise Management

Under the terms of the Environmental Noise Directive (END) a programme of actions on noise is set out for member states. These actions include the determination of noise exposure from the results of strategic noise mapping, actively informing the public about the noise maps, environmental noise and its effects and the adoption of noise action plans. The overall aim of the END is to prevent and reduce noise where necessary - prioritising the prevention of noise that is harmful to human health and preserving of areas where environmental noise quality is good.

#### EU Legislation

Environmental noise policy is driven by European legislation. The aim for the noise climate of Europe as set out in the EU 6<sup>th</sup> Action Programme – *Environment 2010: Our Future, Our Choice*, is:

“to achieve reduction of the number of people regularly affected by long-term high noise levels from an estimated 100 million people in the year 2000, by around 10% in 2010 and by 20% in 2020.”

#### Environmental Noise

Environmental noise, in the context of the END, is noise from transport and some industrial sources. The END *does not* cover domestic/neighbour noise, noise at work, noise inside means of transport or military noise. The END has no quantitative goal for noise reduction, but sets out an ongoing programme of noise mapping and noise action planning, aimed at:

“preventing or reducing noise exposure and preserving environmental noise quality where currently good.”

### 2. What is a Noise Map and what does it show?

A noise map is normally generated using computer software that calculates noise levels from input data such as traffic flows and topography (e.g. ground levels)

Computer modelling is used rather than noise measurement as measurement would be prohibitively expensive and it would be technically difficult to isolate different sources of noise (e.g. that from road, rail, aircraft or industry).

Noise maps are normally contour maps showing areas of differing levels of noise

They can be maps of individual noise sources i.e. road traffic, railway traffic, aircraft in flight or industry. However, all the sources can be combined into one map to give an overall picture of the noise climate.

In the case of END maps the noise levels are calculated at a height of 4 metres above ground level (i.e. roughly at first floor height).

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The noise levels are long-term levels determined over a period of a year and are shown in terms of the noise indicators  $L_{den}$  (a good indicator of annoyance which takes into account noise levels during the day, evening and night) and  $L_{night}$  (a good indicator of sleep disturbance – the night time period being defined as 11 pm to 7 am)<sup>1</sup>.

### 3. What are Noise Maps for?

The purpose of strategic noise maps is:

- To enable the assessment of the exposure of populations to noise – by linking population data to high noise areas on the maps
- To inform the development of action plans to reduce the exposure of populations to noise, and prevent areas of existing quiet from becoming noisy
- To inform the public and thereby engage them in the development of noise action plans

END Noise maps do not account for individual noisy incidents. What they do show is an indication of the areas most consistently affected by relatively high levels of environmental noise (and those areas likely to be relatively quiet). When interpreting the maps for the purposes of noise action plans, local knowledge will be needed to ensure all factors are considered.

See our Noise Action Planning Briefing Note for more on Noise Action Plans.

### 3. Where are Noise Maps required?

To comply with the END, environmental noise levels have to be strategically mapped in the following areas:

- In agglomerations - large, densely populated urban areas – over 250,000 people and in the UK with a population density of more than 500 people per  $km^2$  (maps of all roads, railways, airports and selected industry)
- Around roads with more than six million vehicle passages a year
- Around railways with more than 60,000 train passages a year
- Around airports with more than 50,000 movements a year

For first round mapping the following urban areas and airports are mapped:

<b>England</b>	
Cities	Blackpool, Bournemouth, Brighton, Bristol, Coventry, Hull, Leicester, Liverpool Birkenhead, London, Manchester, Nottingham, Portsmouth, Preston, Reading, Sheffield, Southampton, Southend, Teeside, The Potteries, Tyneside, West Midlands, West Yorkshire
Airports	Birmingham International, Blackpool Squire's Gate, Bournemouth, Bristol Lutsgate, Coventry, Leeds Bradford, Liverpool John Lennon, London City, London Gatwick, London Heathrow, London Luton, London Stansted, Manchester International, Newcastle International,

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	Nottingham East Midlands, Shoreham, Southampton Eastleigh, Southend
<b>N Ireland</b>	
City	Belfast
Airport	Belfast City Airport
<b>Scotland</b>	
City	Edinburgh, Glasgow
Airport	Glasgow, Edinburgh, Aberdeen, Prestwick
<b>Wales</b>	
Cities	Cardiff, Swansea

### 4. Who is responsible for Noise Maps?

Under the Environmental Noise Directive, each member state must declare a competent authority or authorities to be responsible for noise mapping. In the UK these are as follows:

<b>Administration</b>	<b>Noise source</b>	<b>Competent Authority</b>
England	Agglomerations Roads Railways Designated airports - Heathrow, Gatwick, Stansted	Secretary of State
	Other airports	Airport operators
Scotland	All sources	Scottish Ministers
Wales	All sources	Welsh Assembly Government
Northern Ireland	Agglomerations	Department of the Environment
	Major roads	Department of Regional Development
	Major railways and airport operators	Northern Ireland Transport Holding Company

### 5. Where can I see Noise Maps?

Noise maps England – <http://www.defra.gov.uk/noisemapping>

Noise maps Scotland – <http://www.scottishnoisemapping.org>

Noise maps Northern Ireland – <http://www.noiseni.co.uk>

Some cities have produced their own noise maps:

Birmingham Noise Mapping -

<http://www.defra.gov.uk/environment/noise/mapping/birmingham/index.htm>

Bristol Noise Mapping - <http://www.bristol.gov.uk/ccm/content/Environment-Planning/Pollution/noise-maps-pdf.en>

## Environmental Protection UK View

**To comply with the END, national noise maps have been completed by required dates. The Directive also states that they should also be actively disseminated to the public.**

Environmental Protection UK believe that, in order to begin addressing population exposure to noise, noise considerations must be integrated into transport and planning policy. To allow this a clear national noise policy is essential to enable local and regional authorities to set noise priorities in the context of other environmental issues where there are existing national frameworks – and we hope that the pending National Noise Strategy England will achieve this.

We also believe that to raise awareness of noise issues, increase understanding and enable the public to usefully engage in the consultations on noise action plans, a more active communication strategy on the sources, effects and management of environmental noise must be developed.

1. A full technical explanation of these indicators is found in Annex 1 of the Environmental Noise Directive - <http://ec.europa.eu/environment/noise/directive.htm>

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