

## FAQs relating to Interpretation of Strategic Noise Map

**Note:** It must be noted that these strategic noise maps have been produced only for the purposes of the Environmental Noise Regulations 2006. Iarnród Éireann will not be held responsible for any outcomes that may arise from the use of these results by any party for any reason other than for the purpose of fulfilling the requirements of the Environmental Noise Regulations.

<p><b>What is noise?</b></p>	<p>Noise is unwanted sound judged to be unpleasant. The issue of noise is subjective to the individual receiver, i.e. what is noisy for one person may not bother someone else. "Environmental Noise" is the accumulation of all noise present in a specified environment.</p> <p>Noise is measured in decibels on a logarithmic scale, such that a doubling of sound energy equates to a 3 decibel increase.</p>
<p><b>What is a Strategic Noise Map?</b></p>	<p>A Strategic Noise Map shows banded annualised average contour noise levels resulting from noise generated by rail operations. Just as a weather map might have isobars joining points of equal air pressure, a noise map can have contours joining points having the same noise level.</p>
<p><b>What is the baseline year of the maps?</b></p>	<p>The maps represent an annualised average snapshot of the environmental noise from Heavy Rail operations for 2016, as required by Round 3 of the Environmental Noise Directive and Environmental Noise Regulations.</p>
<p><b>What is L<sub>DEN</sub> and L<sub>Night</sub>?</b></p>	<p>L<sub>DEN</sub> is the noise level of day, evening and night (i.e. 24 hour noise level). Daytime extends from 07.00 to 19.00 (L<sub>Aeq,12h</sub>), evening extends from 19.00 to 23.00 (L<sub>Aeq,4h</sub>) and night-time extends from 23.00 to 07.00 (L<sub>Aeq,8h</sub>).</p> <p>L<sub>Night</sub> is the noise level the noise level of night only (i.e. 23.00 to 07.00 (L<sub>Aeq,8h</sub>)).</p> <p>In general terms and for conceptualisation, L<sub>DEN</sub> noise level is an indicator of noise annoyance and L<sub>Night</sub> noise level is an indicator of possible sleep disturbance.</p> <p>All noise levels need to be considered relative to normal background levels or levels that are established and for which humans have become habituated.</p>

**What do the contour levels mean?**

The noise contours shown on the maps show annualised average outdoor noise levels resulting from heavy railway vehicle passages on the Iarnród Éireann network. The indoor noise levels at any particular building or residence are a function of construction of the building receiving this noise and whether there are any other influencing factors (i.e. open windows, structural changes, etc).

The European Environment Agency (Working Group on the Assessment of Exposure to Noise) has produced an explanatory scale to explain the effect of noise exposure to various levels of  $L_{DEN}$  and  $L_{Night}$ .

$L_{DEN}$	$L_{Night}$	<b>Indicative Potential Effect Description</b>
50-54dB	40-44dB	Noise likely to be noticeable but generally it will not be considered overly intrusive in urban areas. In rural areas it may be considered intrusive because of higher expectation for quiet.
55-59dB	45-49dB	Noise is becoming intrusive, even in urban environment.
60-64dB	50-54dB	Noise will be regarded as high, but not exceptionally so in urban areas.
65-69dB	55-59dB	Noise will be regarded as high even in urban areas.
70-74dB	60-64dB	Noise will be regarded as highly undesirable.
$\geq 75$ dB	$\geq 65$ dB	As noise increases the adverse effects become even more significant in terms of serious disturbance.

It should be noted that people's expectations for relative quiet and/or the effects of noise is subjective. Impacts of environmental noise is also relative to normal background noise levels. This can be significantly different between agglomeration (urban) areas and rural areas. It can also be different within agglomeration areas where streets are quieter by virtue of different exposure to transport or industrial noise. People's appraisal and annoyance to noise is also dependent on the type

	and frequency of noise and their how habitualised they are to a particular noise source.
<b>What are the Strategic Noise Maps used for?</b>	<p>The preparation and production of a Strategic Noise Map has two main purposes:</p> <ol style="list-style-type: none"> <li><b>1.</b> They can be used to provide information on noise levels that can be linked to population data to estimate how many people are affected by a particular noise source.</li> <li><b>2.</b> To assist in focusing noise action plans to manage noise and reduce noise levels where appropriate. These noise action plans will be prepared by the local authorities (i.e. City and County Councils) and will be issued for consultation with the public prior to their adoption.</li> </ol>
<b>How were the Strategic Noise Maps produced?</b>	<p>Strategic Noise Maps are produced using computer modelling techniques and are based on input information such as traffic flow data, rail construction type, and rolling stock type data. The modelling, where necessary, also took account of features which affect the spread of noise such as buildings and the shape of the ground (e.g. topographic landform and artificial cuttings and embankments), and whether the ground is acoustically absorbent (e.g. fields) or reflective (e.g. concrete or water). The calculations have produced noise level results on a grid pattern at a receptor height, as required by the END and the Regulations.</p> <p>No actual noise measurements have been made in the production of these strategic maps.</p>
<b>How accurate are the Strategic Noise Maps?</b>	<p>The maps have been produced for use at a strategic level and give an acceptable level of accuracy for the purposes they were prepared (i.e. for focusing attention during the preparation and production on Noise Action Plans, by Local Authorities).</p> <p>Strategic Noise Maps will not properly represent the situation at a local level and the results of the noise mapping should not be used alone for any land use planning or location-specific assessments.</p>
<b>Do the Strategic Noise Maps show how noisy it is where I live?</b>	<p>The noise levels shown on Strategic Noise Maps are annualised averages for an average day in the year, and therefore do not show the specific noise from individual train passes.</p> <p>The maps are only intended to be used for strategic assessment of noise levels in any given area.</p>

	<p>Strategic Noise Maps should not be used to determine, represent or imply precise noise levels at individual locations (e.g. individual houses, windows).</p>
<p><b>Why are Strategic Noise Maps published as PDFs?</b></p>	<p>The maps are currently available as non-editable PDFs only because the END, and hence the Environmental Noise Regulations, require this.</p> <p>It is an inevitable feature of the maps that they may not show, for any particular location, the total noise exposure from all sources. This is because there may be other roads, air, traffic or industrial activities in the vicinity of the particular location which have not been taken into account in the Iarnród Éireann strategic mapping. Therefore, to avoid presenting potentially misleading information, the Iarnród Éireann Strategic Noise Maps are produced to show the noise generated by Heavy Rail operations and are published in PDF format.</p> <p>It must be noted that these strategic noise maps have been produced only for the purposes of the Environmental Noise Regulations 2006. Iarnród Éireann will not be held responsible for any outcomes that may arise from the use of these results by any party for any reason other than for the purpose of fulfilling the requirements of the Environmental Noise Regulations.</p>