Noise abatement in Sweden

Karin Blidberg
National coordinator traffic noise
Trafikverket - Our tasks

• We are responsible for the long-term planning of the traffic system

• We are responsible for the construction, operation and maintenance of State roads and railways

We help to develop society
Sweden’s roads and railways

- 14,158 km of rail tracks
- 75,729 km of private roads with a State subsidy
- 98,400 km of State roads
- 42,200 km of municipal streets and roads
### Traffic and noise in Sweden

#### Railway noise

<table>
<thead>
<tr>
<th>Equivalent noise level, $L_{eq24h}$</th>
<th>Exposed (nr of persons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 65 dBA</td>
<td>19 600</td>
</tr>
<tr>
<td>60-65 dBA</td>
<td>59 200</td>
</tr>
<tr>
<td>55-60 dBA</td>
<td>153 200</td>
</tr>
<tr>
<td>&gt; 55 dBA</td>
<td>232 000</td>
</tr>
</tbody>
</table>

#### Road noise

<table>
<thead>
<tr>
<th>Equivalent noise level, $L_{eq24h}$</th>
<th>Exposed (nr of persons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 65 dBA</td>
<td>172 200</td>
</tr>
<tr>
<td>60-65 dBA</td>
<td>473 600</td>
</tr>
<tr>
<td>55-60 dBA</td>
<td>991 500</td>
</tr>
<tr>
<td>&gt; 55 dBA</td>
<td>Ca 1 640 000</td>
</tr>
</tbody>
</table>
Strategy for less noise and vibration

- **Protect the most exposed**
  - Noise protection measures
  - Noise insulating facades, Noise barriers

- **Mitigations at the source**
  - Track grinding
  - Low noise pavements

- **Plan and build properly**
  - Quieter vehicles, tyres and trains
Noise protection measures 2011 – 2018
Noise barriers and facade insulation
## Our plans 2019 – 2023

<table>
<thead>
<tr>
<th>Noise insulating facades and noise barriers</th>
<th>Rail, number of people</th>
<th>Road, number of people</th>
<th>Total, number of people</th>
<th>Number of people per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 600</td>
<td>11 000</td>
<td>19 600</td>
<td>3 900</td>
<td></td>
</tr>
<tr>
<td>Low noise pavements / rail grinding</td>
<td>15 800</td>
<td>19 700</td>
<td>35 500</td>
<td>7 100</td>
</tr>
</tbody>
</table>

- **Protect the most exposed**
- **Mitigations at the source**
- **Plan and build properly**

Plan and build properly.

- Protect the most exposed
- Mitigations at the source
- Plan and build properly
180 000 tonnes of freight transported on the railways

A normal day in Sweden
TSI noise – What’s in it for Sweden?

2024 Quieter routes will be introduced in EU
2032 Quieter routes will be introduced in Sweden (special case)

Noise reduction in Sweden
• 30 % less exposed for > 55 dBA Leq

Composite brake blocks in severe winter conditions
• 40-60% reduced braking capacity
• The Commission shall issue an assessment of the safety and braking performance and existing or potential operational and technical measures
• If necessary - the Commission shall propose amendments to preserve cross border freight traffic to and from Nordic regions.
A perfect day in Sweden

Goal 2020

Goal 2030

Goal 2050

Vision 0 – No one shall be killed or severely injured in the transport system neither by accidents nor by air pollution or noise.
Our vision

Everybody arrives smoothly, the green and safe way