

Brigit Staatsen, Elise van Kempen | 25-06-07

Evidence briefing transport-related noise: THE toolbox

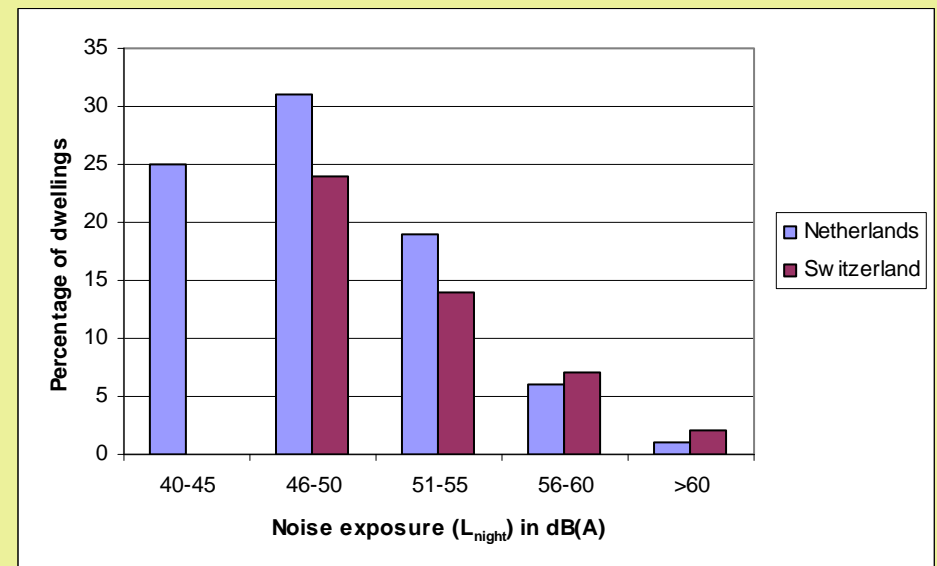
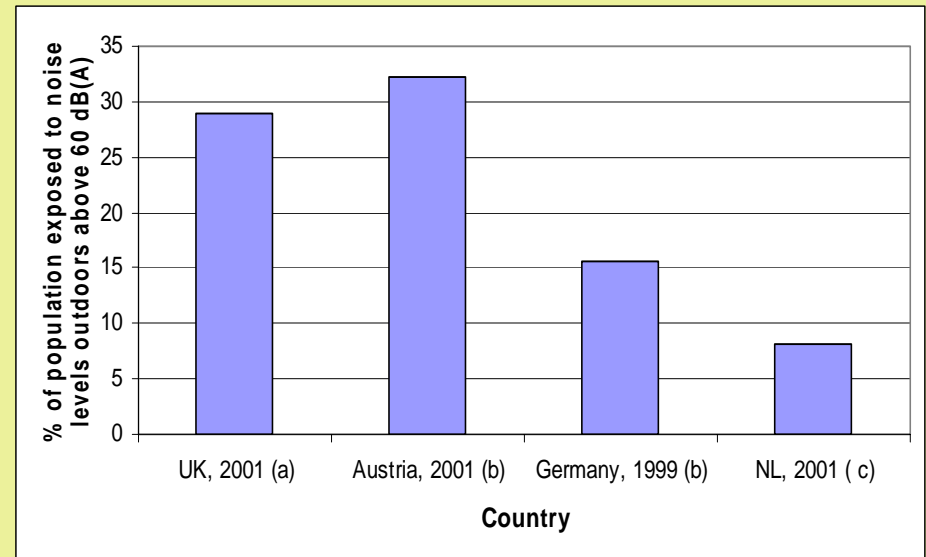


Format for THE PEP toolbox evidence briefings

- Overview: link between issue, transport and health
- Definition (if applicable) : indicators
- What's the problem? Key facts exposure/impacts across EU
- What are the potential solutions?
- Costs and benefits
- What are the potential tools for action?
- Uncertainties
- Max 3-6 pages

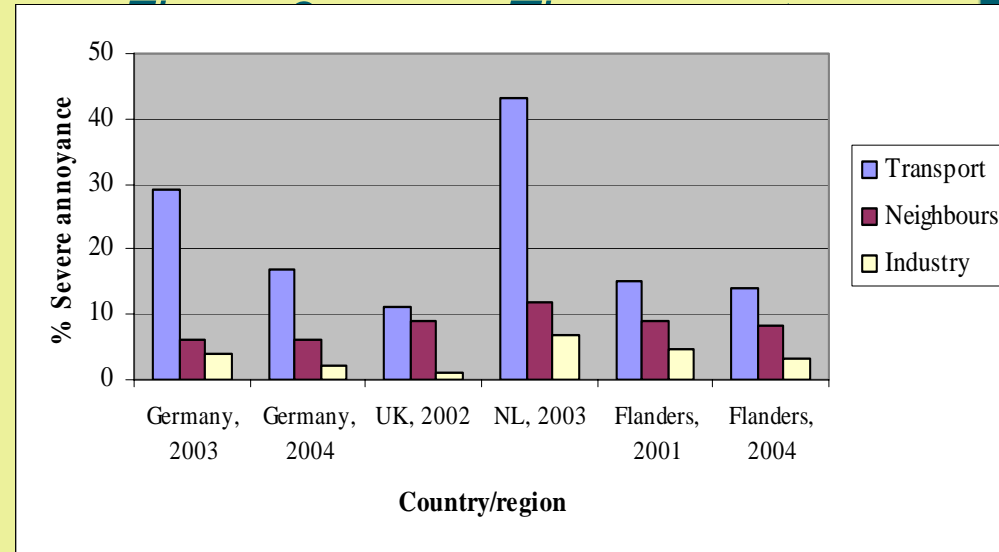
What is the problem: exposure

- About 40% of EU population exposed to road traffic noise > 55 dB(A), 20% > 65 dB(A) during daytime.
- Noise levels difficult to compare: in future better overview with noise maps (EU)
- Noise will remain a problem, despite decrease in emission levels...



What is the problem: health impacts

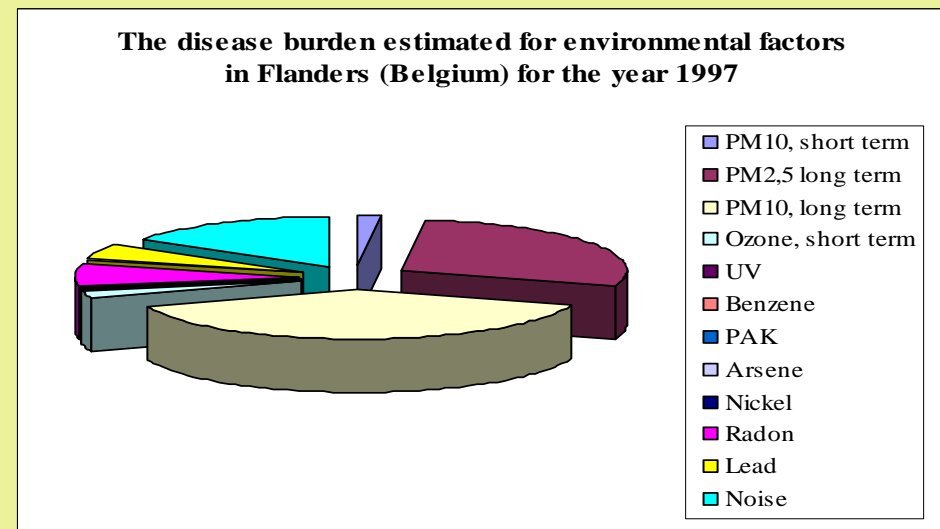
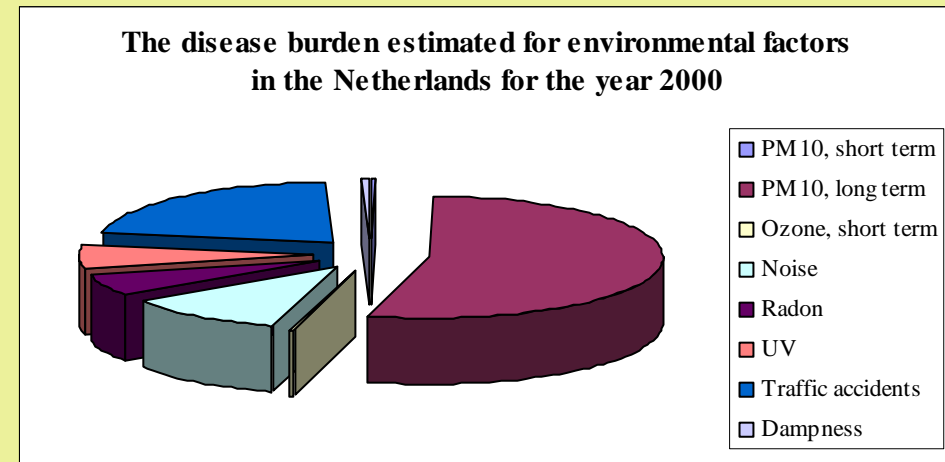
- Noise from transport sources (road traffic, rail traffic or air traffic) main source of annoyance;
- 10-40% of population severely annoyed by transport noise;
- Due to differences in the measurement of annoyance and definition of sources, only an indicative comparison between countries and regions possible



Percentage severe annoyance in several European studies (Source: Franssen et al 2004; Grimwood et al 2002; UBA, 2003/4; MIRA, 2005)

What is the problem: disease burden

- Disease burden attributable to annoyance, sleep disturbance and cardiovascular disease due to noise exposure is considerable
- 3.2% of the myocardial infarctions in Germany might be attributable to road traffic noise exposure
- Noise is associated with effects on the cardiovascular system but epidemiological evidence is still limited



Potential policy solutions

- Enforcement and control implementation EU-guidelines.
- Promotion of eco-driving
- Traffic calming measures, such as reduction of speed limits and traffic volume in cities
- Night-time regulations for heavy lorries, noisy trains and aircraft in/over residential areas
- Zoning may assist planning authorities to keep noise-sensitive land uses away from noisy areas.
- Objectives for urban and transport planning with regard to e.g. the design of quiet areas, location of schools and dwellings in relation to busy roads, railways and airports
- Further development and enforcement of (innovative) technological measures
- A child-friendly mobility plan, with attention for infrastructure and education measures promoting safe walking and biking by children and their parents

Cost and benefits

- Making road traffic more silent (as opposed to construction of noise barriers) is most cost effective way
- WTP: 23.5 Euro per dB(A) per household per year:
- Monetary values available for noise-related health impacts such as myocardial infarction, angina pectoris, hypertension and sleep disturbance (Source: Bickel, 2001).
- Abatement costs of road- and rail traffic noise have been estimated to amount to 0.4% of the total GDP (36 billion Euros), but benefits of these measures outweigh the costs (ECMT, 1998).

What are the potential tools for action?

- Promote discussion between parties involved (traffic sector, land use and urban planners, health specialists)
- Map and monitor the noise exposure of the population, using the EC-Directive for noise calculations.
- Update WHO guidelines upon new evidence for health effects

Discussion

- How to improve the instrument
 - Link to case-studies – in which situation are what interventions successful
 - More information (eg trends in exposure distribution, health impacts) from other countries (EECCA, new MS) needed
 - Link to HIA/CBA guidelines (under development)
 - Suggestions?

- Comments and additions (case-studies etc) welcome
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