


For our Environment

Umwelt
Bundesamt

Working Group Noise EURO CITIES

State of the art of German Noise Maps and German Action Plans

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German Environment Agency
Section I 3.4 "Noise Abatement, Noise Impact"



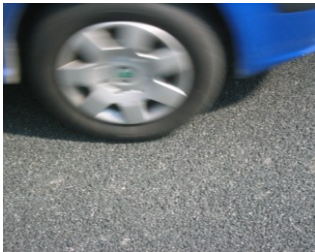
State of the art of German Noise Maps and German Action Plans

Topics

1. Noise mapping
2. Noise action planning
3. Noise abatement regulations
4. Conclusions

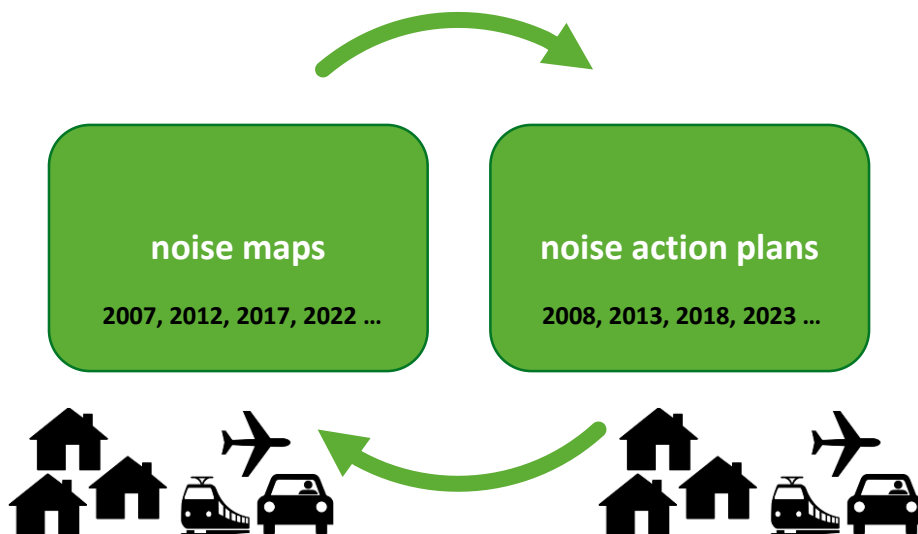
14 September 2016 Working Group Noise EURO CITIES - Munich 1

Environmental Noise Directive 2002/49/EC



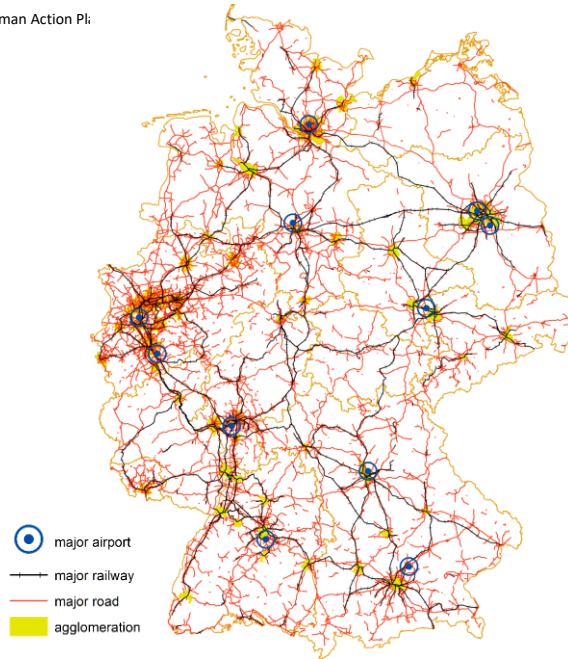
- determination of noise exposure
- information and participation of the public
- action plans for reducing noise exposure
- protection of quiet areas

Environmental Noise Directive 2002/49/EC

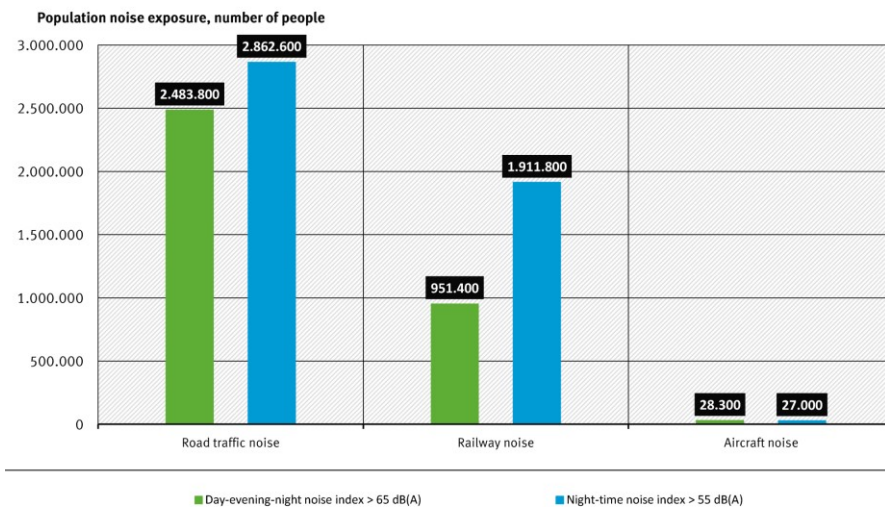


Mapping scope 2012

- major roads: 44,000 km
- major railways: 13,700 km
- major airports: 11
- agglomerations: 71

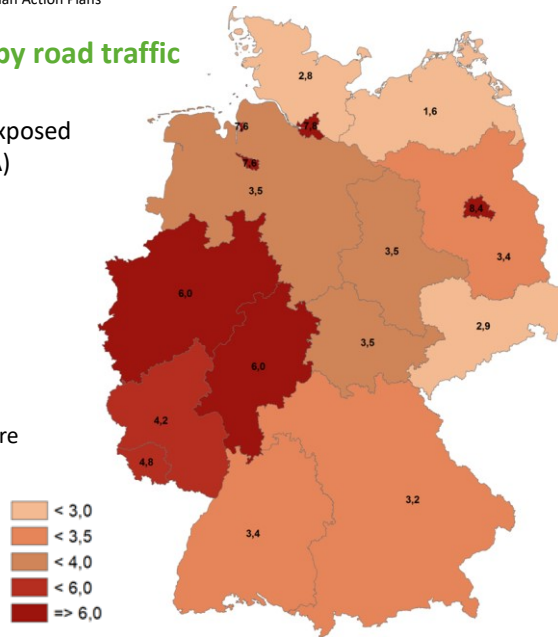


Population exposure to traffic noise according to Environmental Noise Directive around major roads, major railways, major airports and in agglomerations



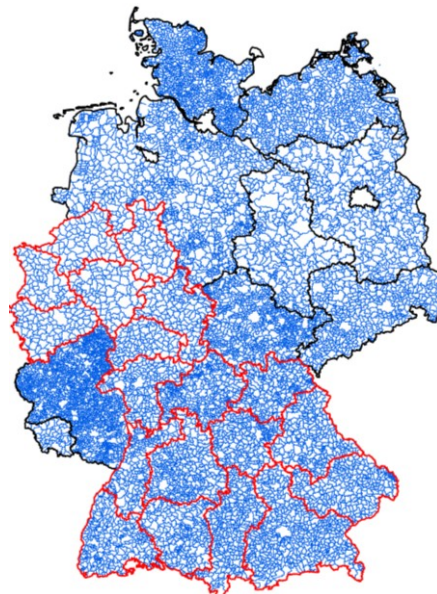
Noise exposure caused by road traffic

- percentage of population exposed by road noise $L_{den} > 65 \text{ dB(A)}$
- regional differences
 - 1.6 ... 8.4 percent
- depends on
 - population density
 - density of traffic infrastructure



Germany

- 16 federal states (Laender)
 - administrative districts (regional)
 - about 11,500 municipalities
 - competent authorities ... are the municipalities or the competent authorities according to state law ...
 - municipalities
 - associations of municipalities
 - regional authorities
- ➔ END = regionalised approach

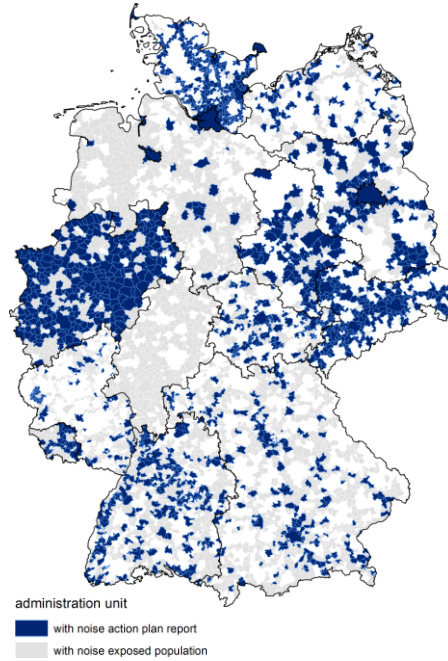


Status of Noise Action Planning

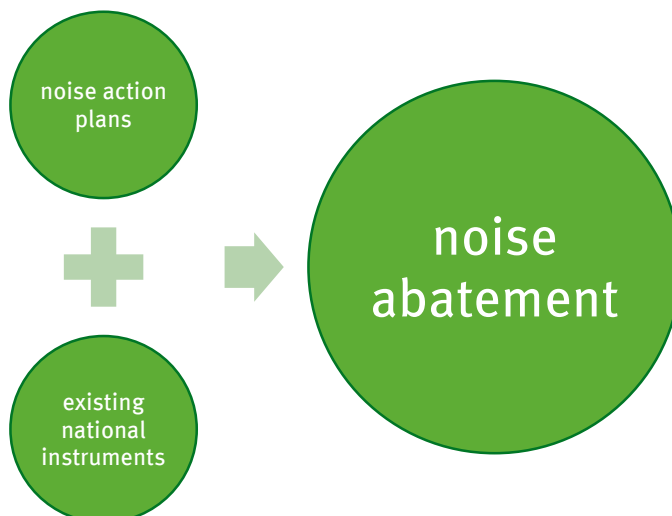
- “action plans”: to manage noise issues and effects, including noise reduction if necessary (Article 3)
- no limit, trigger or recommended values in END nor in national law

→ decision of competent authorities

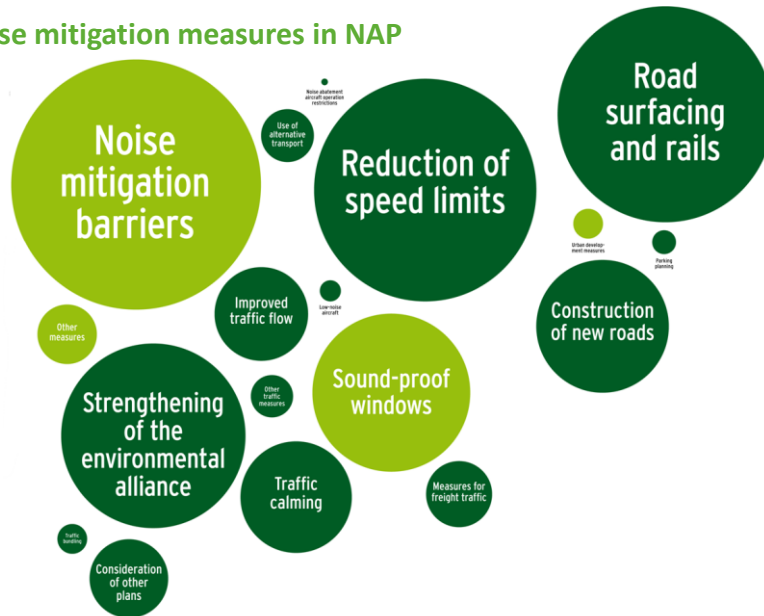
- wide variety of criteria
- mostly used:
exposed population with
 - $L_{den} > 65 \text{ dB(A)}$
 - $L_{night} > 55 \text{ dB(A)}$



Measures have to be based on existing national legislation



Noise mitigation measures in NAP



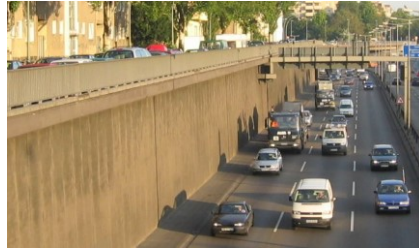
Noise prevention programmes

- for newly built or significantly changed roads/railways
- since 1974
- required by law
- limit values for residential areas
 - $L_{day} = 59 \text{ dB(A)}$
 - $L_{night} = 49 \text{ dB(A)}$
- possible measures
 - noise-reducing road surfaces / grinded rails
 - noise barriers
 - sound proof windows



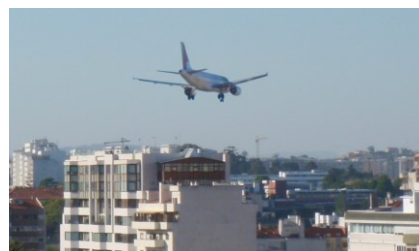
Noise abatement programmes

- for existing federal roads/railways
- since 1978 (roads) / 1999 (railways)
- on a voluntary basis (Budget Act)
- limit values for residential areas
 - $L_{\text{day}} = 67 \text{ dB(A)}$
 - $L_{\text{night}} = 57 \text{ dB(A)}$
- yearly budget (2016)
 - roads: 65 million EUR
 - railways: 150 million EUR
- possible measures
 - noise-reducing road surfaces / grinded rails
 - noise barriers
 - sound proof windows



Act on protection against aircraft noise

- for existing and new or expanded commercial airports and military airfields
- since 1971
- required by law
- limit values for commercial airports
 - daytime protection zone 1: 60 dB(A)
 - daytime protection zone 2: 55 dB(A)
 - night-time protection zone: 50 dB(A) and NAT 6 x 53 dB(A)
- possible measures
 - building restrictions
 - noise insulation (e.g. sound proof windows)



Technical instructions on noise abatement – TA Lärm

- for newly built and existing industry
- since 1968
- required by law (Federal Immission Control Act)
- limit values for residential areas
 - $L_{\text{day}} = 55 \text{ dB(A)}$
 - $L_{\text{night}} = 40 \text{ dB(A)}$
- possible measures
 - source related measures
 - restrictions of operation time
 - noise barriers

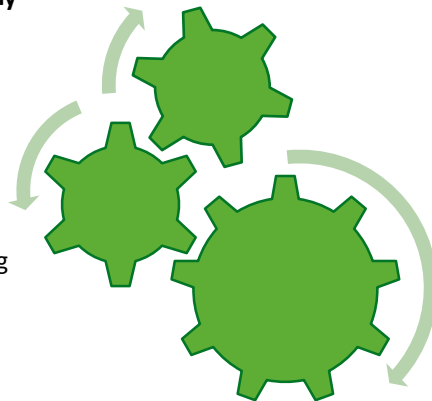


Conclusions

Environmental Noise Directive in Germany

- huge task for competent authorities
- comparable results of noise exposure
- successful noise abatement regulations since late 1960s
- NAP measures based on existing national legislation
- “friction” between new END and existing regulations

➔ **better interaction for effective noise abatement necessary**



Thanks for listening.

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