



Conférence Européenne
des Directeurs des Routes

Conference of European
Directors of Roads

DISTANCE:

Developing Innovative Solutions for Traffic Noise Control in Europe

Research project funded under the CEDR Transnational Road Research Programme

CEDR Call 2012: Noise - Integrating strategic noise management into the operation and maintenance of national road networks

CEDR Call 2012: Noise is a Transnational Road Research Programme organised by CEDR (Conference of European Directors of Roads). The funding partners for this programme are Belgium/Flanders, Germany, Ireland, Norway, Sweden and United Kingdom.

Details

Acronym:	DISTANCE
Start:	Oct 2013
End:	July 2015
Budget:	€166.4k
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Project summary

The objective of the DISTANCE project is to provide NRAs with valuable and informative guidelines to improve the optimisation of traffic noise abatement in the future on main road networks. The guidelines will help to improve the quality of their noise maps. The project will outline which noise asset information should ideally be gathered (over and above what is already collated) and with what precision. These data can then serve as input for the CNOSSOS-EU calculation scheme that is expected to be used for future mapping under the Environmental Noise Directive. Accurate noise maps will also allow more reliable identification of areas where noise abatement is required.

The DISTANCE project will also focus on developing a vision for the future for noise abatement measures. Therefore, the traffic and road network, as it is expected to develop in the future, will be investigated, and based on factors such as the development of the traffic volumes, traffic composition,

noise emission of cars and trucks, acoustic quality of tyres and low-noise pavements on the main road network.

Noise screens and pavements that are able to perform additional functions can, in terms of whole life costs, potentially be cheaper, e.g. when they also produce electricity or heat. Lots of ideas and technologies have been launched and these will be reviewed and assessed by the DISTANCE consortium. This will assist NRAs in testing and investing in promising technologies and concepts and avoid wasting money on ideas that are likely to be unsuccessful.

There is a constant stream of ideas for novel noise abatement techniques such as new screen top devices, noise absorbing ditches, resonators under the pavement, screens with acoustic crystals, and new pavement types or construction techniques etc. Some ideas are promising and deserve further investigation whilst other ideas do not pass a single critical scientific assessment (like “active” noise barriers). The DISTANCE consortium proposes to make a comprehensive review of these new concepts/ideas/technologies and to submit each of them to an independent and critical assessment. The DISTANCE project will help NRAs to avoid the use of technologies which have been proven not to work, despite some of these ideas being repeatedly investigated (e.g. Helmholtz resonators under a porous pavement).

One way of reducing noise nuisance is to make use of the psychological aspects related to it. Research has been done and presented in this field, but very little has been done in practice with this knowledge. The DISTANCE consortium proposes to carry out a literature review about this subject and distil measures which can be used by NRAs, not to reduce the noise level but to reduce nuisance, which would equally be very valuable. The work will also use this information and other sources to develop concepts for how public awareness, understanding and acceptance of noise mitigation measures can be improved.

A broad dissemination effort is proposed, including the set-up of a dedicated website and the organization of a workshop at the end of the project. The drafting of a non-technical policy brief will ensure that the findings can be readily understood by important target groups who are not necessarily skilled in acoustics, such as politicians and high-level policy makers.