



At the internoise meeting in New York, four QSIDE papers were presented.  
The abstracts are reproduced on the following pages.  
Full papers are included on the conference CD.

## **The effect of creating a quiet side on annoyance and sleep disturbances due to road traffic noise**

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**There is growing evidence that having access to a quiet side of a dwelling reduces the harmful effects of road traffic noise on health and wellbeing. One measure to create a quiet side in existing noise-exposed residential areas is to erect shielding buildings that fill existing gaps through which road traffic noise penetrates. Within the EU-financed project QSIDE, we investigated the effect of this type of measure on the acoustical conditions and resident's noise responses in a socio-acoustic intervention study. Results on sound levels, road traffic noise induced annoyance and sleep disturbances, as well as the perceived sound environment before and after the creation of a quiet side are presented in relation to results from previous similar studies. The implication for guidelines and sustainable goals related to public health, urban noise policy and urban development plans are discussed.**

## **Quiet zones and traffic policy in Amsterdam**

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**Two main features of the traffic policy in Amsterdam are the recognition of cycling as an important means of transport, and the restriction of large traffic volumes to the primary traffic network. There were a number of reasons for this, such as traffic safety, improved traffic flow, the possibilities to accommodate traffic (especially in the historical city centre), the relative high historical and present use of bicycles, as well as in more recent decades the noise and air pollution associated with motorized road traffic. The policy did leave space for busy urban roads, but as a result areas outside the noise zones have remained fairly quiet. A further improvement is the introduction of quiet road surfaces, reducing noise levels at all dwellings.**

**A new, local policy was introduced in 2006 that stressed the need for quiet when dwellings are exposed to noise from a busy (rail) road or industry. If so, a dwelling should have a quiet facade. The effect of such a policy is now investigated in a European project.**

## **On the improved point-to-point calculations for noise mapping in shielded urban areas**

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**Noise mapping of urban areas according to standardized engineering calculation methods systematically results in an underestimation of noise levels at areas shielded from direct exposure to noise, such as inner yards. In these methods, road traffic lanes are represented by point sources and noise levels are computed utilizing point-to-point propagation paths. For a better prediction of noise levels in shielded urban areas, the attenuation terms describing these propagation paths are extended by terms including geometrical aspects of the urban environment both in the source and in the receiver area. In the present work, it has been studied to what extent these terms may be treated as being independent of the source-receiver distance. Also, the validity of treating the propagation path in a 2D plane rather than in 3D is investigated. Results obtained from a wave-based acoustic propagation model have been used for this assessment.**

## **Measurements and calculations of noise in the streets of Amsterdam, Rotterdam, and Paris**

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**Results of noise measurements in the streets of Amsterdam, Rotterdam, and Paris are presented. Noise levels and GPS coordinates have been recorded during several trips by bicycle and by foot. For comparison, noise levels have also been calculated from average traffic intensities. Both the measurement and the calculations show a large contrast between high noise levels along major roads and lower noise levels in the areas between the major roads. In other words, the spatial distribution of noise in the cities shows large areas of relatively low noise level, separated by narrow bands of high noise level along the major roads. The results are interpreted in the light of sustainable urban planning. To create healthy living environments, cities make plans for the next decades that put restrictions on the growth of motorized road traffic. It is argued that cities should not only restrict motorized traffic on major roads but should also prevent a gradual increase of traffic on minor roads in quiet urban areas. The protection of quiet urban areas is supported by the European Environmental Noise Directive, but this should focus not only on parks and courtyards, but also on quiet built-up urban areas.**