

## **Euronoise 2012**

SS: NS1 Acoustically Green Road Vehicles and City Area

### **Title:**

**Noise of electric and combustion powered scooters and resulting annoyance**

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### **Abstract:**

In the European research project CityHush measures and actions will be introduced, which allow for significantly reducing road traffic noise in cities and creating effectively quiet zones.

To validate proposed measures, a traffic noise synthesizer was developed providing the opportunity to listen to and acoustically analyze virtual road traffic scenarios.

The synthesis tool permits identifying the most promising noise mitigation measures with respect to annoyance not only on the basis of sound pressure level considerations, but also other (psycho)-acoustic quantities and the perceptual relevance of the proposed actions.

In this context, the particular impact of the noise of powered two-wheelers on annoyance is studied in detail. Since in southern European cities powered two-wheelers are widely used and significantly influence the noise climate in urban areas, this noise source and its annoyance potential require particular attention. Moreover, it is well-known that scooter noise frequently provokes strong annoyance reactions, even though these noise events are usually only temporary.

The impact of powered two-wheelers equipped with combustion engines on noise annoyance is discussed. Moreover, the physical and perceptual benefit due to a partial or complete substitution of motor scooters by electric scooters is highlighted.

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