

Soundscape approach integrates noise mapping techniques

January 29 2016

Noise pollution affects a large number of Europeans becoming quickly one of the most underrated environmental problems that take severe toll on human health. It can affect people in both physiological and psychological ways, interfering with basic activities such as sleep, rest, study and communication. Since the early 2000 management of urban acoustic environments has become essential part of urban planning and environmental protection, calling for new approaches to noise management and control.

According to the European Environment Agency (EEA) at least 110 million people are adversely affected by noise from Europe's busiest roads alone. People need to escape this pollution and access quiet places to work, relax and live a healthy life. Such 'quiet areas' should be protected under EU legislation. In the guidelines on how to identify and preserve areas of good environmental noise quality, the EEA reports four complementary methods , recommending their combined use : noise mapping, [sound](#) level measurements, soundscape approach, and expert assessments. New study by Francesco Aletta and Jian Kang from the University of Sheffield, published recently in Noise Mapping, demonstrates the complementarity of three different tools (noise maps, sound maps and soundscape maps), suggesting at what stage of the design process they would be more suitable to be implemented, to provide viable inputs for the urban design development.

In order to 'triangulate' all available information about the acoustic environment and the way it is perceived, the researchers employed noise,

sound and soundscape maps together. They used the former to characterize the current as well as possible future scenarios related to unwanted sources. Sound maps were used in an 'explorative' stage to provide information on the noticeability of 'desired' sound sources. Eventually, soundscape maps provided an overall description of the holistic perception of the acoustic environment.

Using an urban renovation scheme in Brighton & Hove (UK) as a test site, they concluded that the planned design intervention should aim at reducing the impact of road-traffic sources, but at the same time, also at introducing more positive sounds, like the sound of people and nature, in order to make the sound environment more appropriate for the area.

Overall, those three outputs together can lead to a more educated decision-making by city planners and policy-makers, providing effective tools and more detailed analysis about the acoustic environments towards a wider urban sound planning. It is worth mentioning that the study offers an interesting perspective on [noise](#) management – shifting from the widespread quantitative model to a qualitative approach.

More information: Francesco Aletta et al. Soundscape approach integrating noise mapping techniques: a case study in Brighton, UK, *Noise Mapping* (2015). [DOI: 10.1515/noise-2015-0001](https://doi.org/10.1515/noise-2015-0001)

Provided by De Gruyter

Citation: Soundscape approach integrates noise mapping techniques (2016, January 29) retrieved 27 April 2024 from <https://phys.org/news/2016-01-soundscape-approach-noise-techniques.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is

provided for information purposes only.