



ABSTRACTS

9. Efthimios Bakogiannis, Charalampos Kyriakidis, Maria Siti, Nikolaos Kougioumtzidis and Chryssy Potsiou: Exploring the relationship between soundscape and urban environment characteristics using VGI

The quality of the soundscape in urban spaces is significant to the total environment of a city. However, from planning perspective, limited attention has been given to the acoustic environment of a city. In Greece, research about the acoustic environment and its representation at the city scale have been conducted only in a limited number of cities whereas in most Greek cities and towns there is no available data.

This paper presents an overview of a research about the acoustic environment in typical mid-sized Greek cities. This research is conducted as part of the ongoing Sustainable Urban Mobility Plans (SUMP's), aiming to improve the urban landscape, increase quality of life and transform cities into more compact urban cores. The aim of this paper is to demonstrate how car-free areas contribute to more people-friendly soundscapes.

For that purpose, once the urban design characteristics are listed, audio recordings are collected through crowdsourcing (using smart phones and app) in several spots in three city centers (Kozani, Drama, Rethymno), according to a grid-based sampling methodology. Then, a sound map is created by volunteers using an Inverse Distance Weighting (IDW) technique in GIS and is imported in OpenStreetMap (OSM). The soundscape data are then assessed by taking into consideration the European and national legislation about urban acoustic environment as well as the various characteristics of each case-study area.

As expected, results show that residents are exposed to high sound levels during the day. However, sound levels in car-free zones are considerably lower except from specific streets where motorcycles enter illegally (for delivery or freight purposes). In overall, this research proved that it is crucial for municipalities to activate citizen in promoting urban renewal projects in main streets as well as in vulnerable city areas (i.e. neighborhoods, school zones) in order to discourage the use of cars in the city centers and create a better acoustic environment. Through these case studies, this paper points out that crowdsourced soundscape mapping may be utilized as a tool for participatory planning.

Organisers



Partners

