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Sound Decisions: Moving forward with Acoustics

Urban sound planning – A soundscape approach

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ABSTRACT

In the field of environmental acoustics, the conventional approach, i.e. reduction of 'sound level', does not always deliver the required improvements in quality of life. Soundscape, by considering sound environment as perceived, in context, with an interdisciplinary approach, represents a step change. This paper explores a soundscape approach in the urban sound planning process. A framework is first proposed for designing soundscape in urban open public spaces, considering four key components: characteristics of each sound source, acoustic effects of the space, social/demographic aspect of the users, and other physical conditions. Consequently, the design potentials for the four key components, namely sounds, space, people and environment, are demonstrated. Designing/planning tools/models for soundscapes are then presented, including an auralisation software package for design modification and public participation, and an artificial neural network model for predicting acoustic comfort based on various design variables. Finally, the potentials and scope of soundscape approach are discussed, in terms of increasing safety, cultural preservation, and management of the various noise sources such as delivery sounds and traffic sounds.