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NOISE CONTROL FOR A BETTER ENVIRONMENT

Development of an urban sound planning tool for railway station communities

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ABSTRACT

Railway traffic is expected to increase in the coming decades and major investments in railway infrastructure are planned in Sweden. Densification around railway stations has the potential to create more climate-neutral transport and resource-efficient travel. But the noise problem is a limiting factor for sustainable and effective solutions. The idea of this project is to develop digital planning tools to facilitate investment in innovative noise measures on or in connection with railway infrastructure close to stations and thereby contribute to climate benefit, health and resource-efficient solutions. The digital toolbox will provide the opportunity to virtualize the environment at the early planning stage to describe the effects of planned noise measures when implemented and then calculate socioeconomic costs and benefits, impact on property values and climate impact. Auralization of common train types and traffic situations at railway stations can provide a better basis for decisions in the planning process. The auralizations developed in this project are based on binaural and ambisonics recordings, which are modified to simulate various measures like noise barriers or rail dampers. A co-creation approach is implemented for the development of the digital tool, by workshops with active participation from recipient and user groups.