

**METHODS FOR URBAN SOUNDSCAPE QUALITY
EVALUATION
*A CASE STUDY OF THE HIGH LINE AND
TOMPKINS SQUARE***

By

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ABSTRACT

Sound recording is an obvious method when the sound quality of a soundscape needs to be assessed. The benefit of a recording, beyond archival purposes, is that the signal can be analyzed to obtain objective metrics of quality such as spectral composition, roughness, etc., and it may also be played back to listeners under controlled settings for the purpose of qualitative evaluation. The goal of the research reported here was to evaluate the advantages and disadvantages of different recording and reproduction methods and determine which method offered the greatest correlation between subjective evaluations made in a laboratory and those made *in situ*. In addition, binaural and multichannel reproduction techniques were explored in tandem with videos to create different levels of immersion and determine the impact of visual cues on sound quality evaluation. All participants were given identical surveys which evaluated sound quality using descriptive content analysis techniques and semantic differential ratings.

Two public spaces in Manhattan were chosen as test environments for this study – The High Line and Tompkins Square. The *High Line* is a newly opened park, developed on an abandoned elevated train line located along the West Side of Manhattan. The location and elevation of the *High Line* make it an unorthodox site for a park, particularly in terms of sound, as the park traverses over and along streets and intersections, offers sightlines to the adjacent West Side Highway, exposes visitors to HVAC noise on nearby roofs, and is parallel to a helicopter flight path.

By comparison with a more traditional urban public space, such as Tompkins Square, The High Line is significantly louder and contains an entirely different set of sound sources, typically more industrial in nature. This research was concerned with the differences in attitudes and expectations between visitors to The High Line and Tompkins Square. Following this, issues of soundscape design in the context of urban planning and landscape architecture are raised, with recommendations for improvements and ideas for future soundscape design strategies.