

Accepted Manuscript

How do shared-street design and traffic restriction improve urban soundscape and human experience? —An online survey with virtual reality

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PII: S0360-1323(18)30413-X

DOI: [10.1016/j.buildenv.2018.07.005](https://doi.org/10.1016/j.buildenv.2018.07.005)

Reference: BAE 5565

To appear in: *Building and Environment*

Received Date: 23 March 2018

Revised Date: 24 May 2018

Accepted Date: 8 July 2018

Please cite this article as: Jiang L, Masullo M, Maffei L, Meng F, Vorländer M, How do shared-street design and traffic restriction improve urban soundscape and human experience? —An online survey with virtual reality, *Building and Environment* (2018), doi: 10.1016/j.buildenv.2018.07.005.

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1 **How do shared-street design and traffic restriction improve urban soundscape and**
2 **human experience? —An online survey with virtual reality**

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15 **Abstract**

16 Sound, together with other sensory impressions, contributes to the perceived quality of the
17 global environment, and influences human experience of the place. This study investigates
18 how shared-street design and traffic restriction, two widely used street management measures
19 in urban areas, influence urban soundscape and human experience of the place, by asking: 1)
20 Do shared-street design and traffic restriction improve the urban soundscape? 2) In different
21 street management scenarios, how relevant is the soundscape to human experience of the
22 place? By means of an online virtual reality application, two street-design scenarios and two
23 traffic-restriction scenarios were simulated, and a task-based online survey was carried out to
24 obtain participants' responses to the simulated virtual scenarios. The results show that shared-
25 street design made the soundscape calmer and traffic restriction made the soundscape more

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