

Noise exposure files for a polysomnographic study of ground-borne noise from railway tunnels and sleep - Pilot study

SND-ID: snd1056-2. **Version:** 1.0. **DOI:** <https://doi.org/10.5878/3qpf-8w33>

Download data

stomljud_RCG_A.wav (2.56 MB)

stomljud_RCG_B.wav (2.56 MB)

stomljud_RCG_C.wav (2.56 MB)

stomljud_X55_A.wav (1.28 MB)

stomljud_X55_B.wav (1.28 MB)

stomljud_X55_C.wav (1.28 MB)

Associated documentation

225_Euronoise2018.pdf (920.86 KB)

Download all files

snd1056-2-1.0.zip (~12.44 MB)

Citation

Ögren, M. (2018) Noise exposure files for a polysomnographic study of ground-borne noise from railway tunnels and sleep - Pilot study (Version 1.0) [Data set]. University of Gothenburg. Available at: <https://doi.org/10.5878/3qpf-8w33>

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Description

In residential areas around railway tunnels, there is no direct airborne noise from the railways, but residents may be exposed to ground borne noise. Nocturnal airborne railway noise has been shown to be potentially disruptive to sleep, but there is only limited previous research on the effects of ground borne railway noise. This study present laboratory studies investigating how ground borne railway noise at levels occurring in the field impacts on sleep. Data on sound pressure level, duration and frequency content of ground borne noise from railways were collected from the scientific literature, from measurement reports and by renewed measurements at a few locations in Stockholm, Sweden.

The audio files were created to simulate a ground borne noise from a tunnel close to the dwelling. Both files are dominated by low frequencies, but one has more of the lowest frequencies (denoted "LF" in the filename).

Purpose:

The audio files were used as exposure in a sleep study focused on the effect on ground borne noise from railway tunnels.

Noise exposure files for the pilot study, the files marked RCG are simulate freight train passages, and files marked X55 are passenger trains. A,B and C denotes the different spectra.

Data format / data structure

[Audio](#)

Geographic spread

Geographic location: [Sweden](#)

Responsible department/unit

Institute of Medicine

Research area

[Other civil engineering](#) (Standard för svensk indelning av forskningsämnen 2011)

[Health](#) (INSPIRE topic categories)

Keywords

[Trains](#), [Sleep](#), [Rail traffic](#), [Polysomnography](#), [Railway tunnels](#)

Publications

Smith M., Ögren M., Ageborg Morsing J., Jerson T., Persson Waye K. (2018).The effects on sleep of ground borne noise from trains in tunnels. Proceedings of Eurnoise 2018. Paper 16.1.

Smith M., Ögren M., Ageborg Morsing J., Persson Waye K. (2019). Effects of ground-borne noise from railway tunnels on sleep: A polysomnographic study. Building and Environment Volume 149, February 2019, Pages 288-296.

[Link to publication](#)

DOI: <https://doi.org/10.1016/j.buildenv.2018.12.009>

If you have published anything based on these data, [please notify us](#) with a reference to your publication(s). If you are responsible for the catalogue entry, you can update the metadata/data description in DORIS.

Accessibility level

Access to data through SND

Data are freely accessible

Use of data

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Versions

Version 1.0. 2018-07-06

Related research data in SND's catalogue

[Noise exposure files for a polysomnographic study of ground-borne noise from railway tunnels and sleep - Main study](#)

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[DDI 2.5](#)

[DDI 3.3](#)

[DCAT-AP-SE 2.0](#)

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[File overview \(CSV\)](#)

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