**National Transportation Noise Exposure Map Download  
README**

2022-02-01

Tract-level noise exposure map data for each state, from Seto and Huang, 2023 paper on the National Transportation Noise Exposure Map for the United States.

Each state file has the following variables:

* GEOID - tract ID
* NAME - tract name from American Community Survey
* variable - ACS table variable name for total population (B01003\_001)
* estimate - 5-year (2016-2020) ACS tract estimate for total population
* moe - 5-year (2016-2020) ACS tract margin of error for total population
* coverage\_all - sum of the coverage for tract
* coverage\_na - sum of the NA (missing) pixels for tract
* coverage\_4050 - sum of the pixels in the ≥45 to 50 dB LAeq range for tract (note it's 45 because that's the lower limit for BTS modeling)
* coverage\_5060 - sum of the pixels in the ≥50 to 60 dB LAeq range for tract
* coverage\_6070 - sum of the pixels in the ≥60 to 70 dB LAeq range for tract
* coverage\_7080 - sum of the pixels in the ≥70 to 80 dB LAeq range for tract
* coverage\_8090 - sum of the pixels in the ≥80 to 90 dB LAeq range for tract
* coverage\_90 - sum of the pixels in the ≥90 dB LAeq range for tract
* noise4050n - estimate of number of persons exposed to noise LAeq  ≥45 to 50 dB
* noise5060n - estimate of number of persons exposed to noise LAeq  ≥50 to 60 dB
* noise6070n - estimate of number of persons exposed to noise LAeq  ≥60 to 70 dB
* noise7080n - estimate of number of persons exposed to noise LAeq  ≥70 to 80 dB
* noise8090n - estimate of number of persons exposed to noise LAeq  ≥80 to 90 dB
* noise90n - estimate of number of persons exposed to noise LAeq  ≥90 dB
* noise4050p - estimate of proportion of persons exposed to noise LAeq  ≥45 to 50 dB
* noise5060p - estimate of proportion of persons exposed to noise LAeq  ≥50 to 60 dB
* noise6070p - estimate of proportion of persons exposed to noise LAeq  ≥60 to 70 dB
* noise7080p - estimate of proportion of persons exposed to noise LAeq  ≥70 to 80 dB
* noise8090p - estimate of proportion of persons exposed to noise LAeq  ≥80 to 90 dB
* noise90p - estimate of proportion of persons exposed to noise LAeq  ≥90 dB
* geometry information - either as sf geometry in the R rda files, or as shapefile in the shapefiles. All geometry includes coordinate system info in the files themselves.

**R instructions**

To read the rda files in R, first install and load the sf package. The read in the state file into a R variable:

library(sf)

WA\_map <- readRDS("tractresultWA.rds")

**Shapefile instructions**

Shapefiles can be simply added into ArcGIS or other GIS software.  Note because of the limitation in field name length, the above variable names are truncated in the shapefiles.  It should be obvious which ones are which.  But, the field names in the shapefiles are shortened to (e.g., "variabl", "estimat", "cvrg\_ll" (for coverage\_all), "covrg\_n" (for coverage\_na), "cv\_4050" (for coverage\_4050), "ns4050n" (for noise4050n), "ns4050p" (for noise4050p).