

ACCESSIBILITY RESEARCH GROUP

Spatial analyses of accessibility and mobility using novel data sources

Helsinki Region Travel Time Matrix 2015

DATA DESCRIPTION

The data consists of travel time and distance information of the routes that have been calculated from all SYKE (Finnish Environment Institute) YKR grid cell centroids (n = 13231) to all YKR grid cell centroids (n = 13231) by walking, public transportation and car.

In the 2015 data, the results have been calculated for two different times of the day: 1) midday and 2) rush hour.

The data may be used freely (see the licence text below). We do not take any responsibility for any mistakes, errors or other deficiencies in the data.

DOWNLOAD THE DATA

The data have been divided into 13231 text files according to destinations of the routes. The datafiles have been organized into subfolders that contain multiple (approx. 4-150) Travel Time Matrix result files. Individual folders consist of all the Travel Time Matrices that have same first four digits in their filename (e.g. 5785xxx).

In order to visualize the data on a map, the result tables can be joined with the YKR-grid shapefile. The data can be joined by using the field *'from_id'* in the text files and the field *'YKR_ID'* in MetropAccess-YKR-grid shapefile as a common key.

- **Download all the result files in a single zip-package from this link:**

[HelsinkiRegion_TravelTimeMatrix2015.zip](#)

- **Download the grid shapefile from this link:**

[MetropAccess_YKR_grid.zip](#)

If you are only interested in specific destinations, you can check the approximate locations of the YKR_ID-numbers, and the name of the associated data folder from [this map](#).

DATA STRUCTURE

The data have been divided into 13231 text files according to destinations of the routes. One file includes the routes from all YKR grid cells to a particular destination grid cell. All files have been named according to the destination grid cell code and each file includes 13231 rows.

NODATA values have been stored as value -1.

Each file consists of 14 attribute fields: 1) from_id, 2) to_id, 3) walk_t, 4) walk_d, 5) pt_r_tt, 6) pt_r_t, 7) pt_r_d, 8) pt_m_tt, 9) pt_m_t, 10) pt_m_d, 11) car_r_t, 12) car_r_d, 13) car_m_t, 14) car_m_d

The fields are separated by semicolon in the text files.

ATTRIBUTES:

from_id: ID number of the origin grid cell

to_id: ID number of the destination grid cell

walk_t: Travel time from origin to destination by walking

walk_d: Distance in meters of the walking route

pt_r_tt: Travel time from origin to destination by public transportation in rush hour traffic; whole travel chain has been taken into account including the waiting time at home

pt_r_t: Travel time from origin to destination by public transportation in rush hour traffic; whole travel chain has been taken into account excluding the waiting time at home

pt_r_d: Distance in meters of the public transportation route in rush hour traffic

pt_m_tt: Travel time from origin to destination by public transportation in midday traffic; whole travel chain has been taken into account including the waiting time at home

pt_m_t: Travel time from origin to destination by public transportation in midday traffic; whole travel chain has been taken into account excluding the waiting time at home

pt_m_d: Distance in meters of the public transportation route in midday traffic

car_r_t: Travel time from origin to destination by private car in rush hour traffic; the whole travel chain has been taken into account (see "Methods" section below)

car_r_d: Distance in meters of the private car route in rush hour traffic

car_m_t: Travel time from origin to destination by private car in midday traffic; the whole travel chain has been taken into account (see "Methods" section below)

car_m_d: Distance in meters of the private car route in midday traffic

CITATION

If you use Helsinki Region-Travel Time Matrix 2015 dataset or related tools in your work, we encourage you to cite properly to our work.

Data/Tools description:

Toivonen, T., M. Salonen, H. Tenkanen, P. Saarsalmi, T. Jaakkola & J. Järvi (2014). Joukkoliikenteellä, autolla ja kävellen: [Avoin saavutettavuusaineisto pääkaupunkiseudulla](#). Terra 126: 3, 127-136.

DOI name for the dataset:

Toivonen, T., H. Tenkanen, V. Heikinheimo, T. Jaakkola, J. Järvi & M. Salonen (2015). Helsinki Region-Travel Time Matrix 2015. DOI: 10.13140/RG.2.1.1901.3201

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If the datasets are being used extensively in scientific research, we welcome the opportunity for co-authorship of papers. Please contact project leader to discuss about the matter.
