Trajectory data Amsterdam Zuid (track 1-2) underlying the PhD-thesis: Mind your passenger! The passenger capacity of platforms at railway stations in the Netherlands

Author: Jeroen van den Heuvel (ORCID: 0000-0003-0137-3442)
Organization: TU Delft, Faculty of Civil Engineering and Geosciences, Department of Transport & Planning and NS Stations

Contact Information: jeroen.vandenheuvel@nsstations.nl

General Introduction

The sensors have measured the position of every pedestrian in the sensor area at a frequency of 10 times per second. The time coverage is March 2017 – May 2018. The data in this dataset are organised per train stop, and bundled in sets of 100 stops per subset.

The PhD-thesis *Mind your passenger! The passenger capacity of platforms at railway stations in the Netherlands* constitutes a first step towards measuring the passenger capacity of station platforms. First, it defines platform capacity on the basis of the locations of queues at exit escalators from platforms, the presence of passengers in the platform-edge danger zone and the duration of stops. It then renders capacity measurable using real-life data covering train stops and passenger behaviour on platforms. The trajectory data that were used for this research were generated by the SMART Station pedestrian sensors on the platform. See chapter 4 of the thesis for more information about the data.

Data description

The sensors have measured the position of every pedestrian in the sensor area at a frequency of 10 times per second. The time coverage is March 2017 – May 2018. The data in this dataset are organised per train stop, and bundled in sets of 100 stops per subset.

The column descriptions are:
- Date_trainnumber = Date (yyyymmdd) and train service number[4]
- Station = Train station (Asdz = Amsterdam Zuid[5])
- Platform = the track/platform of the train stop (12 = platform of tracks 1 and 2)
- Arrival time = time of train arrival (timezone = Europe/Amsterdam)
- Departure time = time of train departure (timezone = Europe/Amsterdam)
- Rolling stock = type of rolling stock and train length (abbreviation = type, number = length)[6]
- Timestampms = time of measurement in milliseconds in EPOCH-format
- Tracked-object = unique (anonymous) identifier of pedestrian in sensor area
- X-pos = X-coordinate of the pedestrian position in the sensor area (in mm)
- Y-pos = Y-coordinate of the pedestrian position in the sensor area (in mm)

The sensor area is defined as a bounding box with an offset defining the point of origin. See the ZIP-file "instructions and example" for further information about the data processing, the bounding box offset, a background image and an example in R.

---

[4] i.e. 20170301-718 = the 718 train service of 1 March 2017
[5] Geolocation (Longitude/Latitude): 4.8734324, 52.3390172
[6] i.e. ICM9 = a train service operated with ICM rolling stock with a length of 9 coaches