

37) Name: Allocation to route segment based on NO_x emission (buses)

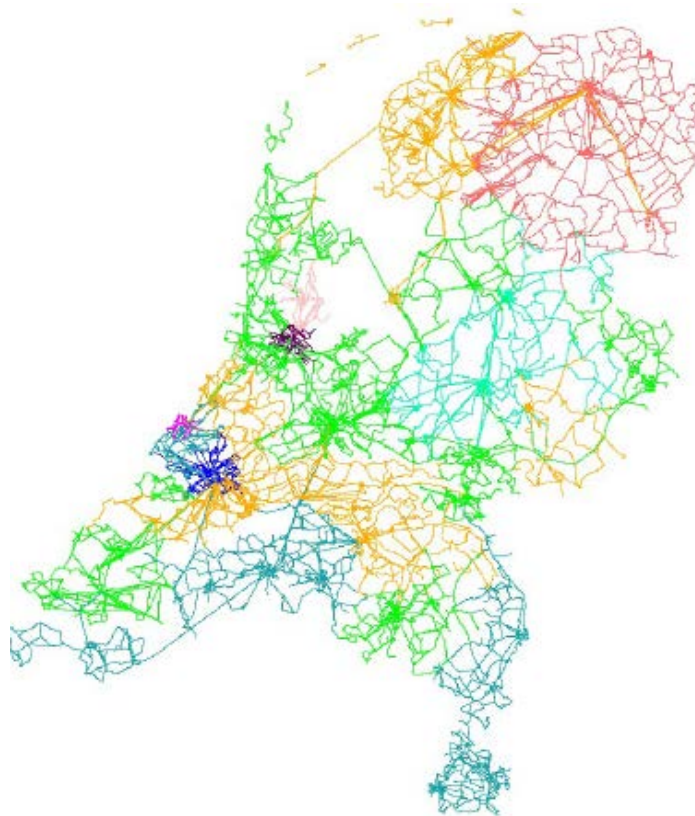
Considering the allocation of traffic emissions from buses used in public transport, there are three different route types, depending on the maximum speed allowed:

- NO₂ emission route maximum speed <60km/h
- NO₂ emission route maximum speed ≥ 60 and <100km/h
- NO₂ emission route maximum speed ≥ 100 km/h

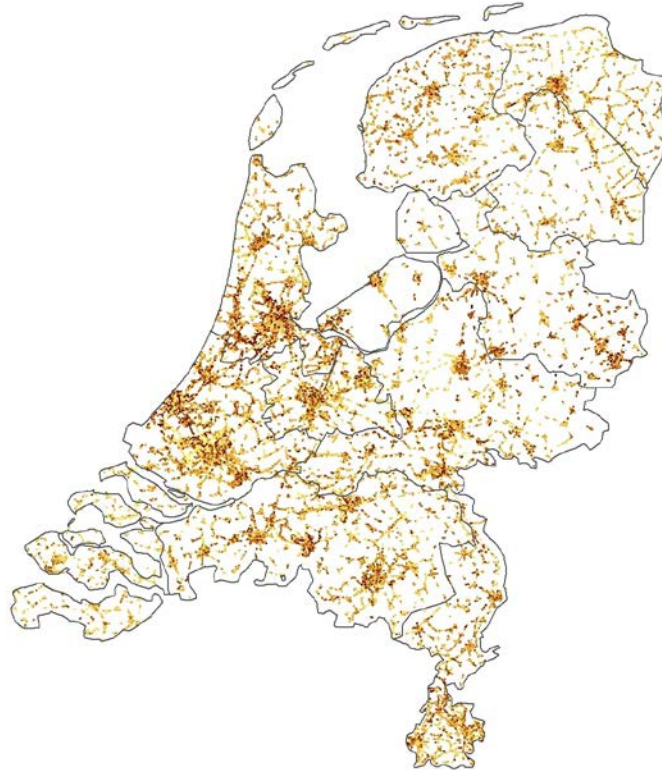
For each of these categories, the spatial distribution is based on the NO_x emission per route segment, calculated from vehicle kilometres and specific emission factors. Route segments are derived from General Transit Feed Specification (GTFS) data. These data make it possible for public transportation companies to publish their routes, departure and arrival times on Google Maps. Google provided DATMobility traffic consultants with GTFS data of all transport lines in the Netherlands for three specific days (a Tuesday, Saturday and Sunday in 2013). From these data, a global route map for the Netherlands was drawn up.

For each particular route segment, vehicle kilometres are calculated as the mean number of vehicles per day multiplied by the segment length in kilometres. Emission factors are obtained from research carried out by the Netherlands Organization for Applied Scientific Research (TNO). No separate distribution is calculated for other traffic emissions as particulate matter (PM₁₀), SO₂ and VOC, as they have a high correlation with NO_x. Emissions from touring cars are not included, but allocated in the same way as those from heavy traffic (see document 27).

Example



Map 37a: route map public transport based on GTFS, different colors indicate specific bus companies



Map 37b: spatial allocation NOx emission bus routes maximum speed <60km/h

Institutes involved

DAT Mobility
TNO

Currency of data

2013

Background documents

Databases verkeer 2014 voor milieumodelling
Technische rapportage RIV004/Ztk/0012.01
DATMobility Deventer, 2016