Multi-agent based simulation of individual traffic in Berlin
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Multi-agent simulations of traffic are widely expected to become an important tool
for transportation planning in the mid-term future. In order to evaluate the practical
usability of this simulation approach, one has to analyze

• if it can be set up using commonly available data,
• if it is able to run large real-world-scenarios in terms of computational
tractability and
• if the results are realistic and meaningful enough to replace traditional
modelling approaches.

This paper reports on the first results of a study evaluating the feasibility of a
large-scale multi-agent-simulation based on the example of Berlin. The study
covers the creation of a synthetic population of about 3,5 Mio. agents, the
generation and localisation of activities from demographic data, running the
simulation with the MAStim software currently developed at ETH Zurich and TU
Berlin and comparing the simulation results with the output of traditional models
(VISUM) and traffic counts.

The simulation process implemented in MAStim is based on an iterative feedback
procedure, allowing the agents to learn to take different routes or to modify their
plans in terms of time and location of activities.

The results of this study will also be compared to similar study from Zurich (CH) in
order to investigate the transferability of multi-agent simulation models between
study regions. Future extensions of the study will possibly include public transport
simulation, commercial traffic, aspects of land-use models and impact
assessment.

References:
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