

Themen für studentische Arbeiten:

Leiter der Arbeit: Axhausen

Assistant/in: Loder (Fourie)

Titel der Arbeit: MFDs with MATSim

Beschrieb der Arbeit:

The macroscopic fundamental diagram describes the link between speed, flow and density of the network of a city, or of parts of it. It can be extended to an multi-modal mMFD showing the interaction between public transport and private traffic. The empirical work so far has used probe data of taxi fleets or simulation results. The challenge for simulation-based results is that detailed non-equilibrium approaches are computationally too slow for large networks, and that equilibrium approaches tend to remove congestion by endogenously changing the congestion-generating behaviour.

The next challenge is to test, if there are links between the overall characteristics of the city, the network and the parameters of its MFD or mMFD .

The task of the thesis is to review the literature, especially the literature on simulation based MFDs, to calculate multi-modal MFDs for a small set of cities or parts of a large city and finally to generalise the results.

The basis of the work is either the Switzerland or the Singapore implementation of MATSIM.

Mindestumfang: 24 KP

Empfohlene Lehrveranstaltungen:

Agent-based modelling in transportation

Besonderheiten:

Can be team work
The student(s) can undertake the work in
Singapore