



Kolloquiums-Reihe des Instituts für Informatik

Dienstag, 14.03.2017, 16:30 Uhr,
Besprechungsraum 106, Julius-Albert-Straße 4

Forschungsprojekt: Extending AIM to handle Vehicles and Pedestrian

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Next generation cooperative traffic management schemes need to be able to deal with a wide range of traffic participants including autonomous vehicles. Vehicle-to-X communication offers the possibility for vehicles to interact with other vehicles and traffic management infrastructure, enabling new approaches for urban traffic control. One prominent example of such a research approach is the Autonomous Intersection Manager (AIM) simulation testbed which basically studies how traditional light signal-controlled intersection could be replaced by V2X-based cooperative control schemes. However, the current work on AIM does not take into consideration the safety distance, which according to a psychological study could make someone feel more secure while crossing a street, and its effects on the system for a pedestrian to cross a road.

In this project an extension to AIM simulation testbed and a new intersection control policy is designed to take pedestrians into account and the effects of applying the stopping distance rule of reservation, which can be set at various values, to a vehicle on the throughput of the system are tested.

The result of this research project is that there would not be a vast loss in the throughput of the system by taking the safety distance as measurement to make reservation for the vehicle; furthermore, the velocity of the vehicle can be minimized, which gives the pedestrian advantage for slower walking speeds and assures the safety conditions.

The following presentation will represent the approach of the system and the subsequent results.