Development of a real-time mobility dashboard for Munich

Call for an Interdisciplinary Project Work
in the Application Subject of
Traffic Engineering and Control

Motivation & Background Information
In recent years, real-time big data availability in the transportation sector, e.g., traffic states and bus location, as well as advanced modeling tools, e.g., 3D-speed maps (1, 2) as seen in Figure 1 or the macroscopic fundamental diagram (3–6) as seen in Figure 2, for network traffic management have been emerged.

The Chair of Traffic Engineering and Control has real-time access to thousands of traffic sensors in Munich which can be exploited to inform travelers and decision makers in and around Munich. Further, access to real-time public transport data is expected to be established soon.

Task Description
This IDP project is concerned with the development of a dashboard, hosted on the institute’s webpage, that informs in almost real-time about Munich’s transportation network status based on the most recent network modeling advances. The tasks include

- Literature review on the application of new network traffic management tools
- Developing a data processing pipeline for real-time operations (e.g., data base)
- Developing of the dashboard backend (estimation algorithms) and frontend (visualization)

Suggested Accompanying Lectures
- Traffic Flow Models (winter term)
- Traffic Flow Simulation (summer term)

Contact
Dr. sc. ETH Allister Loder
allister.loder@tum.de
TUM – Chair of Traffic Engineering and Control
Arcisstraße 21, 80333 Munich
www.mos.ed.tum.de/en/vt/

References