Trading behavior in a market for multi-modal mobility credits

Problem description

Contemporary mobility systems face large challenges regarding the negative externalities caused by congestion. An innovative policy instrument which could tackle such challenges is the **tradable credit scheme (TCS)**, in which travelers pay a time-, mode- and link-dependent number of credits for their usage of the transport network. Credits can be traded between travelers in the market. TCS is a promising form of demand management, since it allows for direct internalization of externalities into the price of mobility. Also, its decentralized nature means that no money flows directly between travelers and a central authority. Unlike existing demand management measures like congestion pricing, TCS can directly address equity and inequality issues between groups of travelers. However, little is known about the trading behavior of travelers and how this will impact the market dynamics.

Assignment

In this project you will study the trading behavior of travelers in a mobility credit market. More specifically, an experiment will be designed and executed where participants interact with a (simulated) credit market and make decisions on buying, selling and consuming credits.

Research directions of interest include:
- Designing and conducting choice experiments to estimate user (group) preferences when interacting with mobility credits
- Designing and conducting experiments using a serious gaming environment to collect behavioural data and demonstrate the consequences thereof
- Analysing the social acceptability of mobility credit markets under different circumstances amongst travellers and the relevant stakeholders

All of the above will contribute to drawing conclusions on the prospects of mobility credit schemes and drafting guidelines and recommendations regarding the design of the market.

The graduation project will be part of the DIT4TraM project funded under EU Horizon 2020.

Candidate
- Should have coding skills in Python
- Have affinity with choice analysis and experiment design

Research group

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