Increasing accessibility has been the one of the main goals in land use and transportation planning. Current accessibility measures focus on a single person’s ease of participation in a single activity. In reality, people make decisions on their participation in an activity in the context of interacting with other people and also in the context of participating in many other activities. To better measure the impacts of land use and transportation policies, the effect of multiple person interaction and multiple activity participation on an individual’s accessibility has to be captured and thus a new formulation is required.

Here, a multi-activity multi-person accessibility measure (MAMPAM) will be elaborated, building on time allocation theory and space-time geography for dealing with spatial-temporal constraints.

Preliminary Results

To illustrate the ability of MAMPAM to reflect household interactions, temporal and spatial changes, an activity-travel diary of a household is used. This household comprises of two working adults, each engaging in one discretionary activity (shopping), and both having to juggle or share one maintenance activity (banking) between them.

Base scenario:
- Person 1 in the household has two time windows, 7 a.m. - 9 a.m., and 5 p.m. - 7 p.m.
- Person 2 in the household has two time windows, 7 a.m. - 10 a.m., and 5 p.m. - 7 p.m.

Assume: \( wi = 0.5 \) for both persons

Household accessibility is calculated for each possible household location in the spatial context of the province of Utrecht in the Netherlands.

Work Progress

- Ongoing Development
  - Calibrating the household time allocation model
  - Analysing the parameter outcomes for different household types

- Additional Research Questions
  - Do certain household types reside more frequently on locations for which multi-activity multi-person accessibility is high?
  - How can the insights gained from MAMPAM be interpreted in terms of Dutch spatial planning policy?

References