Measuring the Modal Split: Comparing two units of assessment - trips or section of trips

Two ways of assessing the modal split

The mobility patterns of German households is investigated periodically in a nationwide household survey called “Mobilität in Deutschland”. In Switzerland similar data is gathered by the survey “Mikrozensus”. The design of both surveys is similar, nevertheless the method to analyze and interpret the results is different. The German study is assessing the modal split focusing on the whole trip as unit of assessment. In contrast the Swiss study is considering the different stages of the trips.

The design of the study

In the following it is investigated how the two different units of assessment impact the results of the analysis. This study is based on mobility data gather from the students of the program “traffic system management” at the Hochschule Karlsruhe Technik und Wirtschaft University of Applied Sciences. In the first term of the program every student is asked to take a log of all his trips for a whole week. The design of the mobility log of the students is based on the same layout as the study “Mobilität in Deutschland” or “Mikrozensus”. A dataset of 140 mobility logs is available. The data is of high quality, nevertheless the detailed assessment illustrated, that sometimes certain stages of the trip (in particular walking to public transport stations) are missing.

The research question is: How does the different analysis methods based on trips or stages of trips results in different results for the modal split. The hypothesis is, that the method based on stages of trips will result in a higher percentage of walking in the modal split as walking is of high importance for the approach and departure to other traffic modes such as public transport or cars.

First results

Legend:
- walking
- bike
- motorised individual traffic (as passenger)
- motorised individual traffic (as driver)
- local public transport
- long - distance passenger transport

Traffic volume: means of transportation

The evaluation shows that the percentage of walking is higher in the stages method. Surprisingly the percentage of the motorised individual traffic (as driver) is smaller than in the ways method.

Modal Split: trip intent

The percentage of walking is in the Swiss assessment type also higher than in the German one. The dominance of the motorised individual traffic is decreased in “sections of trips”.

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