

Simulating Travel Behavior under Traffic Information and Individual Day-Pattern Understanding an individuals' choice behavior and its mechanism under alternative choice situations has been a challenging issue in research field. This even becomes more demanding, when we study the aggregated impact of choice decision of all individuals (i.e. population), since differences between individuals abound.

In the analysis of transportation system, an individuals' travel behavior is an important factor because a person behaves as a consumer in the market of alternative transportation services and facilities. Therefore, the ability to unravel the individuals' travel behavior and its interaction with the transportation facilities is a challenging task for a transportation system analyst. In the presentation, citing two examples a systematic study on individuals' travel behavior and their impact on transportation facilities will be explored. In the first example, a study is carried out to simulate the travel behavior under variable message sign (VMS) based traffic information, which is used for corridor level temporal congestion management. The impact and effectiveness of traffic information are investigated on two types of trip maker, private car and taxi. The impact of traffic information on trip makers is measured in terms of valuing of travel attribute (i.e. travel time); whereas the effectiveness of traffic information in terms of temporal congestion management on alternative traffic corridors is evaluated by dynamic traffic assignment. In this study, two different types of message format are investigated as a message content of VMS based traffic information. In the second example, a study is carried out to understand and simulate every individual's day-pattern of travel behavior in order to obtain a systematic knowledge about her/his all travel related choice decisions on a typical week day. In this effort, a tour based micro-simulation assisted passenger travel demand modeling framework is developed, where an individual's tour is considered as unit of analysis. The model addresses primarily two types of tour purpose: Mandatory and Non-mandatory. In case of mandatory tour purpose a "rubber-banding" tour-pattern approach is adopted for modeling; whereas for non-mandatory travel a "growing" tour-pattern approach is adopted for modeling. The tour-based model is developed using household activity diary data. The model is developed as a tool to assess the performance of various transportation infrastructures/facilities more accurately at different periods of time on a day for various policy changes.