

Key words : Travel Time , Travel Route

Background

ETC OD data identifies on and off ramps for each trip, but it cannot identify a route. Since travel route information can be utilized for various planning and control schemes, we here try to identify routes between on and off ramps from ETC and traffic detector data.

Purpose

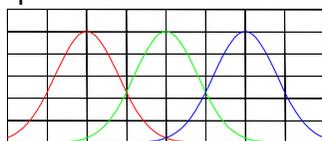
This research aims thus to identify the route of each trip on the expressway. Based on traffic detector data, travel times of all alternative routes are first estimated, then the most probable route of an ETC user is selected by comparing the travel times with his/her ETC travel time.

Method

First of all, it was necessary to check the significance between the ETC trips' travel times and the travel times computed from the traffic detector data using the **Time-Slice Method**. This was done along the Route 3 from Yoga to Kasumigaseki during the month of July 2006. An example of the results is shown besides :

Application

After having found a good correlation between the ETC and the detectors data thanks to a set of origin and destination where only one route was possible, we tried to map the travel times for an Origin-Destination couple where different routes were possible. We then mapped the ETC travel times with the closest detectors travel times as explained in the following flow chart but this single example raised an important question : how to deal with similar travel times?



When different distributions step onto each other as shown besides, we'll need a new mapping process that includes probabilistic functions.

Future Work

As this research work only starts, many questions have to be answered before really starting the development of a model that could deepen our understanding of route choice behaviour and allow a better evaluation of the information provided to the users on the network. Metropolitan Expressway Co.Ltd is working for "Development of New Real Time Traffic Simulation". This work is being studied as a part of the research topic of this group.

