

Logit Choice Model for Boat Passenger Transportation in Colombo, Sri Lanka

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Abstract

Public transportation service in Colombo canal network is a viable alternative or addition to road and rail road on Colombo Metropolitan Region (CMR) corridors. Though environmentally friendly and frequently, the most economical mode of canal boat service, it remains largely under exploited in Sri Lanka. The prevailing public transportation modes such as bus, train and private transportation modes such as cars, motor bikes and taxis play vital roles in passenger movements within the country. But with the increasing population and the land scarcity in CMC region vast traffic and congestion problems exists in prevailing conditions. Thus, introducing another transportation mode is essential for future. Lack of data availability in the transport mode choice modelling has create problems implementing passenger boat transportation in CMR that leads to do more researches in the field. This study intends to present an idea of developing suitable passenger choice model on the basis of discrete choice modelling technique. ALOGIT software has been used for model setup and data analysis process. A stated preference pilot survey has been carried out in CMR region by proposing a public boat service route from Wellawatta to Battaramulla. The model was done for single level logit model. ALOGIT model was estimated to develop utility function to get an idea about people's behavior patterns based on their socio-economic characteristics like age, gender, income level and based on travel characteristics like journey time, journey cost, waiting time, transit time. Further, separate travel characteristics, boat journey time and boat journey cost has been introduced to the model setup to identify public opinion of suitable fare terms for public boat transport service along the Colombo canal network. Results of this study provides an insight to incorporate boat transport service within the mainstream of CMR transportation planning.

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