Thesis title:

Development of a Demand Model for School Trips in Colombo District, Sri Lanka

Abstract:

Traffic congestion on roads in peak hours has been negatively impacted to a country's economy as well as the well-being of its citizens. In Sri Lanka, major portion of the traffic during morning and afternoon peak hours is due to school traffic. Understanding the distribution of Origin-Destination (O-D) patterns of these school trips is a timely need in order to find a solution for this school traffic. Colombo District has been selected as the study area for the research and the primary objective of this research study is to identify O-D patterns of school trips attracted to Colombo District by preparing an Origin-Destination (O-D) matrix for home to school trips. Second objective is to develop a demand model for school trip demand in Colombo District, Sri Lanka. Data collection of the study has been carried out through a questionnaire survey of selected schools inside the study area and other supportive data has been collected through Department of Census and Statistics, Department of Surveying and Ministry of Education. Gravitational approach to be used in this study with the help of linear regression technique to develop the travel demand model. The proposed travel demand model encounters the variables affecting distribution of school trips among 15 pre-defined Traffic Analysis Zones (TAZs). The findings of this study can be used to understand the travel demand of school trips in order to provide adequate supply of public transport modes to reduce the number of vehicles occupying the roads in peak hours.