A Methodology to Develop a Demand Model for School trips in Western Province

K.D.P. Damsara[1], G.L.D.I. De Silva[2] and R.M.N.T. Sirisoma[3]

Abstract

School trip is defined as a trip generated from a household or a hostel premises and ends at an educational institution (school) or vice versa. Origin-destination data is important to understand the travel patterns and also to estimate the future travel demand on transportation network over a particular catchment area. According to the administrative system of education, Sri Lanka consists of 25 districts which has 98 number of education zones having 312 education divisions. There are 10,194 total number of functioning government schools (National schools - 3.5%, Provincial schools – 96.5%) in Sri Lanka which have been categorized into 1AB – Schools having advanced level Science stream classes (1,029), 1C – Schools having advanced level Arts and/or Commerce stream but no Science stream (1,818), Type 2 - Schools having classes only up to grade 11 (3,288), Type 3 – Schools having classes up to grade 8 (4,059). Total school children population of the country is 4,165,964 and it has been divided among those 4 school categories as 1AB - 40%, 1C – 25%, Type 2 – 19%, Type 3 – 16%. Western province consists of 1,359 number of functioning government schools (965,113 students) in 3 districts which has 11 education zones and 38 education divisions.

This study is focused on school trips, where the destination schools are located in western province. List of schools located in western province (as destination) is available in data management portal maintained by the Data Management Branch of Ministry of Education. Currently there is an ongoing project named as NEMIS-SIS (Student Information System of the National Education Management System) which collects data related to students who are currently enrolled in Sri Lankan Government schools. From that, origin city/town of the students which is required anonymously for this study can be collected. Based on those data Origin-Destination matrix can be prepared and a strong sample which covers all four types of schools discussed above can be selected. When selecting the sample, it is important to consider about the number of students and the number of teachers available in the school as well as whether the school is a boy school/girls school or mixed school.

In Sri Lankan contest, travel patterns of school children depend on various variables such as school type, distance from home, access to transport, cost of travel etc. Therefore,

identification of origin-destination patterns and their relationship to those variables are used to develop a school trip demand model.

Author Details

1. Graduate Research Assistant, Department of Civil Engineering, University of Moratuwa. pubudu.damsara.93@gmail.com
2. Senior Lecturer, Department of Civil Engineering, University of Moratuwa. dds@hbaspecto.com
3. Senior Lecturer, Department of Management and Finance, General Sir John Kotelawala Defence University. ntsirisoma@kdu.ac.lk