

Activity Based Trip Generation Forecasting for a Suburban Area

Tissa U. Liyanage and Amal S. Kumarage

Abstract: Travel patterns in suburban areas are different from those of other areas as the characteristics of activities are specific to a particular area. The distribution of such activities in an area may be found in terms of the economic activities of the households and their social attributes such as age, sex, educational level etc, denoting the intensity of engagement in these activities. On the other hand the level of activity in an area is also determined by the supply of facilities for such activities, such as availability of transport, employment opportunities, commercial and service facilities and recreational facilities, found in the given area,. It has been observed that most of these supply functions do not vary significantly in the short term, a concept which has been used since the very early stages of travel forecast modelling. Therefore it has been found, that travel behaviour in a given area can be forecasted using primarily, the activity characteristics, of its population, as the demand variable.

This research paper is an attempt to forecast the travel behaviour of a suburban community, based on their social and economic activity status. It is based on an empirical analysis of travel demand data and the corresponding socio-economic activity profile of 30 Gramaseva Niladhari Divisions (GNDs) in a suburban area of Colombo. The results based on a category analysis between these variables, indicate the possibility of estimating the aggregate trip rates of a GND, based on its population classified by groups engaged in different socio-economic activities. The paper concludes by determining trip generation rates for different socio-economic households, based on their aggregate activity profile. Furthermore, that this method could be used for estimating trip generation in any suburban area wherein such data are available. .

Keywords: Category Analysis, Urban Travel Demand Forecasting, Suburban Area