Traffic Behaviours at Minor Roads in Southern Part of Sri Lanka

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Abstract: The importance of rural road improvements through integrated road transport accessibility for rural economic development has been identified in the recent past by the Government of Sri Lanka. Road improvement project namely iRoads project has considered the short length access roads for improvements to certain standards with good surfacing even though the ownership of these roads does not belong to Central Road Development Authority. Traffic levels of each road are captured overnight and the weekly variations are also surveyed and such data are analysed with reference to various attributes to evaluate the relationships with that of traffic flow levels. The population density of roads, urban and rural nature, connectivity to the other road classes such as A and B Class Roads, road length, etc have been used as the independent variables to check the relationship for variations with the traffic levels. The weekly variations of the traffic levels at rural roads are also evaluated with the data collected overnight for seven days. The precision of the traffic data is assured as all field data are recorded by using the video technology and the classified traffic data have been used to analyse if there are any significant mode choice behaviour of the rural road users in the province.

The usefulness of this research is that it will contribute to future traffic forecasting of roads of the similar nature and will be decided based on the statistic confidence of the expected traffic analysis outputs. Fixing the night time traffic expansion factors, weekly variations and their significance and the variations over the geography, development of annual average daily traffic factors using a large database, average vehicle composition factors that can be used for forecasting mode based traffic flows when only the total counts are available in similar conditions, are some of the important outcomes of the analysis. Series of analysis using statistical analysis techniques is included as the methodology for data analysis. It is expected that the outcomes will be useful to shortcut the data collection effort in future for rural road development projects and decision making for prioritization of the rural project roads for investment opportunities at the planning stages.

Keywords: Rural Roads, Traffic Expansion Factors, Mode Choice, AADT,