

Guideline for the Selection of Appropriate Specifications for Low Volume Roads

Wannige E.P., Abeywardena H.S.T , Haththotuwa H.M.D.S, J.M.S.J. Bandara

The paper presents the research carried out to prepare a set of guidelines for the selection of appropriate specifications for low volume roads. It is an essential requirement to have such a guideline because lack of such guideline has resulted in waste of valuable resource in road construction work. This research finding are very important to Sri Lanka as there are many problems associated in the low volume roads due to lack of technical knowhow of the majority of people involved in the low volume road construction and maintenance. This paper describe the work is carried out in order to provide a guideline to minimize existing problems.

For the purpose of selecting suitable specifications for low volume roads a wide range of data base was needed. Areas selected for data collection were Badulla, Diyathalawa and Mahiyanganaya Engineering divisions in Uva Province. With the purpose of having a good database for analysis, data was collected through both discussions with engineers in provincial Road Development Department in Uva Provincial Council and observed data through field visits. Practice of low volume road planning, design and material selection, construction and maintenance were discussed with engineers and important road sections for visits were identified. Through field visits data on various parameters affecting the road condition were collected including all road types such as DBST, gravel, concrete and metalled & tar.

The data collected was statistically analyzed using SPSS software to identify significant relationships are present between parameters identified as important. The identified important parameters were drainage condition, traffic volume, terrain, land use, material used and carriage way width. Crosstab analysis was carried out between two parameters and also in between more than two parameters using layer option available in SPSS. Results of the data analysis were used for producing the set of guidelines for planning, design and material selection, and construction and maintenance phases.

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A GIS map was also produced to indicate the existing road conditions as a tool for identifying access needs during planning process of roads. A sample inventory of road infrastructure is presented to demonstrate how to use collected information during planning, design, and construction and operation stages of low volume roads.

Key Words: Low Volume Roads, Specifications, guidelines, SPSS, Crosstab