UNIVERSITY OF MORATUWA

DESIGN AND MAINTENANCE OF GRAVEL ROADS FOR SRI LANKA.

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A PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF ENGINEERING IN HIGHWAY AND TRAFFIC ENGINEERING

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ABSTRACT

A study has been carried out to gather, review, summarise literature in order to prepare a set of recommendation for design and maintenance of gravel road for Sri Lanka.

Paved roads are all weather while earth roads are not. The cost of construction and maintenance of paved roads are very high compared to earth roads. A need has always been there for all weather gravel roads to bridge the gap between paved roads and earth roads, in order to accommodate low volume of traffic on agricultural and rural roads

In this study, the available literature and practices were studied and revived by the author, who has considerable field experience in this subject, spanning a period of about two decades. It was possible after the study to present suitable recommendations, for most required items in design and maintenance of gravel roads. The surveys carried out reveal that magnitude of traffic and their composition can be accommodated with suitably designed, constructed and maintained gravel roads.

The outcome of the study presents recommendations on selection of sites for gravel roads, essential geometric standards, drainage, selection of material, design procedure for pavement structure, maintenance requirements, items of maintenance and their frequencies, and the cost aspects of construction and maintenance.

The study of cost aspect reveal that the gravel roads require one third of the cost that would require for traditional bitumen surfaced aggregate base (mettaled and tarred) roads. Maintenance of gravel roads could be carried out on self-help basis. This would further help to bridge the gap with respect to cost, between traditional paved roads and earth roads.

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