

INVESTIGATION OF DISTRESSES OF BLOCK PAVED ROADS AND CONDITION EVALUATION

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DECLARATION

I declare that this is my own work and this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any other university or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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ABSTRACT

Sri Lankan road network is consisted with high number of rural roads. Sri Lankan governments over the past decade or so have invested a substantial amount on rural road development. Large portion of them was allocated to improve rural roads with interlocking block paving. In 2013 and 2014 government allocated about 7 billion rupees for interlocking paving roads.

As we have large number of concrete block paved roads which is older than five years, this is a suitable time for reassess the performance of block paved roads. The study aims to identify common distresses in block paved road surfaces, evaluate pavement condition using interlocking concrete pavement distress manual, find out applicability of pavement condition index method to Sri Lankan paved roads and identify improvements to extend the service life of road surfaces.

Selected road sections with interlocking block paving in Gampaha District was evaluated to as a sample. The common distresses of the block paved roads observed were damaged pavers, depressions and edge restraint. The methodology proposed in the Interlocking Concrete Block Pavement Distress Guide was applied to evaluate the condition of the road sections. The results suggests that Concrete block paving is a durable road paving method with more than five years of service life, the cause for most distresses is poor drainage and 'Distress Manual' is reliable method for evaluation of block paved roads in Sri Lanka.

Result of this study would be useful for comparing the performance concrete block paving method with other pavement techniques and to identify remedial measures to in the construction method to mitigate the observed issues It further assesses applicability of PCI method as quality to assess the performance of block paved roads for maintenance.

Key words: Interlocking Concrete blocks, Rural roads, Pavement Condition Index

DEDICATION

To

My Loving Wife

Who Always Encouraged Me Towards Success.

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