COST EFFECTIVE METHOD TO DEVELOP NATIONAL ROAD INVENTORY DATABASE

MASTER OF SCIENCE

A.M.T.I.S.KUMARA

DEPARTMENT OF CIVIL ENGINEERING
UNIVERSITY OF MORATUWA, SRI LNKA

JULY 2006

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By

A.M.T.I.S.KUMARA

This thesis was submitted to the Department of Civil Engineering of the University of Moratuwa in partial fulfillment of the requirements for the Degree of Master of Science

Supervised by

Prof.J.M.S.J.Bandara

Department of Civil Engineering

University of Moratuwa, Sri Lanka

July 2006

Dedication

To My Father and Mother

Declaration

This thesis is a report on the research work carried out in the Department of Civil Engineering, University of Moratuwa, Sri Lanka, during November 2003 to December 2005. This submission is original and does not have any materials previously published or written by any others anywhere, except where citing is made.

A.M.T.I.S.Kumara,
Department of Civil Engineering,
University of Moratuwa,
Sri Lanka.

UOM Verified Signature

Prof. J.M.S.J.Bandara,
Department of Civil Engineering,
University of Moratuwa,
Sri Lanka.

Abstract

This research was focused to find out a method to develop or update the National Road Inventory Database in a cost effective manner. The main cost sensitive factor for the development of Inventory Database was identified as the Inventory Survey. Any revision on existing Inventory Databases or originating New Databases should be done with the completion of an inventory survey. The method adopted to do the survey will determine the accuracy of the data and the cost.

For the complete Road Inventory Database, the inventory survey should be carried out to cover all links in the network. In general the road networks are complicated and it is difficult to find a method to travel on each and every link without having to back track. Sometimes survey team compelled to travel several times on same road section just to reach other links without collecting any data (i.e. idle traveling). It was experienced that a survey trip can be carried out in two different ways such as the origin and destinations as the same point or origin and destination as two different points.

According to the inventory survey carried out by Transportation Engineering Division of University of Moratuwa, it was found that approximately half of the total cost of inventory survey occurred for the idle traveling.

If the road inventory survey can be carried out with minimum idle traveling that method will be the most effective method to carry out the survey. Hence under this research, it was found a method which minimizes the '**idle traveling**' by considering the both cases of survey trip patterns.

Acknowledgement

I gratefully acknowledge my thanks to my supervisors, Professor J.M.S.J.Bandara, University of Moratuwa and Dr.I.M.S.Sathyaprasad, University of Peradeniya, for valuable comments and suggestions throughout the work on this reaserch.

I wish to thank Dr. Athula Kulathilaka, Dr. (Mrs).Manoja Weerasinghe, and Dr. Ashok Peris, University of Moratuwa, coordinators of my research.

I would like to acknowledge particularly the advice and support of Professor Amal S. Kumarage, University of Moratuwa and Mr.M.B.S.Fernando, Chairman, Road Development Authority, Sri Lanka.

I wish to thank Mr.R.M.Amarasekara, Derector, Planning Division of Road Development Authority, for valuable comments and suggestions for the final submission of the thesis.

Professor (Mrs).N.Ratnayaka, Head of the Department of Civil Engineering, University of Moratuwa and all the staff members of Transportation Engineering Division of University of Moratuwa deserve special gratitude for their help in this research possible.

A.M.T.I.S.Kumara

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