

# UNIVERSITY OF MORATUWA

## FINANCING OF TOLL HIGHWAYS IN SRI LANKA; REALITY CHECK

RECEIVED  
LIBRARY OF THE UNIVERSITY OF MORATUWA  
12/12/05

By  
*Gunathilaka. K.D.S*  
2005



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

G

Supervised By  
Prof. Malik Ranasinghe

University of Moratuwa



84538

Department of Civil Engineering  
University of Moratuwa  
Moratuwa, Sri Lanka

Thesis M Sc

84538

84538

# FINANCING OF TOLL HIGHWAYS IN SRI LANKA; REALITY CHECK

A Report submitted in partial fulfillment of the requirement for the Degree  
of Master of Science in Construction Project Management in the  
Department of Civil Engineering,  
Faculty of Engineering

By  
*Gunathilaka K.D.S.*



University of Moratuwa, Sri Lanka  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

Supervised By  
Prof. Malik Ranasinghe

624 ~ 05 ~  
69:65(043)

**University of Moratuwa  
2005**

## Acknowledgement

This research was carried out for partial fulfillment of the requirement for the degree of Master of Science in Construction Project Management, conducted by the Department of Civil Engineering, University of Moratuwa. Therefore, my sincere thanks are given to this institute and the department at the beginning.

Upon completion of this research it is my pleasure to express my immense gratitude to Prof. Malik Ranasinghe, who supervised my research work, by approving my research proposal and providing guidance, motivation and encouragement right throughout the project to make it a success. I deem it is an honour to carry out a research under his supervision and I am a luckier with this regard.

I extended my deepest gratitude to Mr. Nishan Mahanama, General Manager of VS Hydro (Pvt) Limited for helping me to select a timely area for the research and helping me in various ways to make this project a success and Mr. Tissa Jinasena, Jt. Managing Director of Loadstar (Pvt) Limited for encouraging me to initiate this Master degree.

I wish to thank to Dr. Sumith Pilapitiya of the World Bank, Dr. Sampath Amarathunga of the University of Sri Jayawardenapura, Mr. Dayananda of Keangnam Enterprises (Pvt) Limited, Mr. Anura Shantha of SMEC (Pvt) Limited, Mr. Sumeda De Silva of Board of Investments, Mr. Galagedara of China Jilin Company, Mr. V. Athukorala of MFAP Management unit of RDA, Mrs. R.R. Rajapakse of Provincial Director's Office of RDA-Kurunegala, Mr. Prassanna Jayasooriya of Executive Engineer's Office of RDA-Kalutara and Mr. Ratnasiri of Faculty of Business Studies and Finance at the University of North-Western for helping me to do this research.

And also I want to thank to Mrs. N.R. Abenayake, a Lecturer in Statistics, Department of Agribusiness Management, University of North-Western for helping me to analyze the statistical results and Miss Achini Samanthika of Department of Census and Statistics for helping me to solve the problems encountered during the use of statistical software.

Further, I acknowledge with gratitude the support and facilities provided by Road Development Authority of Sri Lanka to carry out this research. In addition, I wish to express my sincere thanks to the Course Coordinator, Research Coordinator and all other lecturers of this course for giving their valuable advices.

Last, but not least of my gratitude is extended to all others who helped and encouraged me in many ways.

## Abstract

Highway infrastructure and good road network play important roles in the economic development of a country and their condition affects the economic returns. Traffic congestion is a critical problem due to poor road network and improving the road network properly is essential. Most developing countries like Sri Lanka face difficulties in improving the road infrastructure because of unstable economic conditions and lack of investment funds. As a result few highways of Class A are available in the road network of Sri Lanka and no expressways have been completed so far.

The concept of toll highway was initiated during last decade and it was perceived to be a better solution for solving funding problems for expressway constructions in developing countries. It allows private entities to participate, as there are several strategies for financing infrastructure projects on this basis. However, the nation's first toll highway, the Colombo-Katunayake Expressway (CKE) is held up at the construction stage and it lends to the argument that the toll highway concept is not viable for Sri Lanka.

This research studies the concept of toll highway together with various issues relating to financing such highways in Sri Lanka in order to check their reality. The analysis is based on a questionnaire survey conducted among 104 respondents of various stakeholder groups. The willingness of vehicle owners and drivers to pay tolls, the impact of time and fuel saving on toll highways in economic terms, the current condition of infrastructure project financing, willingness of investors and bankers to finance toll highways and the reasons for collapse of such projects in Sri Lanka are the key issues analyzed under this research.

Traffic congestion is the major problem in today's highway sector. Toll highways came into existence with Private Sector Participation (PSP) for highway investments and it is a good solution for traffic problem as well as overcoming funding problems to expressway constructions. Results of this research show that vehicle owners and drivers do not resist paying tolls for the usage of expressways. In addition, it has been observed that investors and bankers are neutral on financing toll highways in Sri Lanka. They like to finance projects provided that a long-term consistent policy and strong guarantee of the government are available. The findings of this research conclude that toll highways are economically beneficial to Sri Lanka.

# Contents

Page No

Acknowledgement .....	I
Abstract.....	II

## 1.0 Introduction

1.1 Background .....	01
1.2 Research Problem .....	02
1.3 Research Objectives .....	02
1.4 Methodology of the Research.....	02
1.5 Main Findings.....	03
1.6 Structure of the Report.....	04

## 2.0 Literature Review

2.1 General.....	05
2.2 Need for Infrastructure Development.....	05
2.3 Development of Highway Infrastructure.....	05
2.4 Traffic Congestion and ways of overcoming .....	06
2.4.1 Traffic Congestion .....	06
2.4.2 Traffic Forecasts.....	06
2.4.3 User Delay cost due to Traffic Congestion.....	07
2.4.4 Congestion Charges and Area Licensing System.....	07
2.4.5 Toll Highways to overcome Traffic Congestion .....	07
2.5 Financing Infrastructure Projects .....	10
2.5.1 Background .....	10
2.5.2 Financing of Toll Highways .....	11
2.5.3 Private Sector Participation .....	11
2.5.4 Government Policies and Guarantee.....	13
2.6 Risks Associated with Toll Highways.....	13
2.6.1 Financing Risks.....	14
2.6.2 Risks of Accidents .....	14
2.7 Impacts of Toll Highways.....	15
2.8 Discussion.....	15

## 3.0 Questionnaire and Data Collection

3.1 General.....	16
3.2 Data Collection Method.....	16
3.3 Research Questionnaire .....	16
3.4 Identification of the Research Sample.....	17
3.5 Data Collection .....	18
3.6 Special Comments from Stakeholders.....	19

## 4.0 Analysis of Data

4.1 General .....	20
4.2 Analysis of Primary Data .....	20
4.3 Hypotheses Testing .....	69
4.3.1 Willingness of Drivers & Vehicle owners to pay tolls.....	69
4.3.2 Economic Impacts of Time & Fuel Saving on Toll Highways.....	70
4.3.3 Willingness of Investors to Finance Toll Highways in Sri Lanka.....	70
4.3.4 Reason to Collapse Toll Highways in Sri Lanka.....	71

## 5.0 Discussion

5.1 General .....	81
5.2 Discussion on Results.....	81
5.3 Discussion on Objectives.....	82

## 6.0 Conclusion and Recommendation

6.1 Conclusions .....	83
6.2 Recommendation for further Studies .....	83

<b>References .....</b>	<b>84</b>
-------------------------	-----------

<b>Bibliography.....</b>	<b>86</b>
--------------------------	-----------

## Appendices

A.1 Research Questionnaire.....	88
A.2 Raw Data Collected through Questionnaire Survey.....	95
A.3 Details of the Respondents.....	133



University of Moratuwa, Sri Lanka  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)