

# **COST OVERRUNS IN FORING FUNDED HIGHWAY PROJECTS IN SRI LANKA**

H.H.N.A. Hettiarachchi

08 / 8841 – H



University of Moratuwa, Sri Lanka.  
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Master of Engineering in Highway & Traffic Engineering

Transport Engineering Division  
Department of Civil Engineering

University of Moratuwa  
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February 2011

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Thesis / Dissertation submitted in partial fulfillment of the requirements for the degree  
Master of Engineering in Highway & Traffic Engineering

Department of Civil Engineering

University of Moratuwa

Sri Lanka

February 2011

## Declaration of the Candidate

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I hereby affirm that this dissertation report is an outcome of my own effort for the best of my knowledge and it contains my own work done for the fulfillment of requirement for the higher Degree of Master of Engineering in Highway and Traffic Engineering. It does not include any written material previously submitted for the award of any preliminary degree, higher degree or diploma of a university or any other institution of higher education, or published by any other person or institution except where acknowledgment and references are made in the text.

.....

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February 2011



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## Declaration of the Supervisor

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I certify that the above statement is correct.

.....

Prof.J.M.S.J.Bandara

Transport Engineering Department

Department of Civil Engineering

February 2011



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## **Dedication**

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This dissertation report is dedicated to my loving wife & daughter who always backed me up to fulfill my academics.



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## Abstract

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When an infrastructure development project is planned, an accurate estimation is critical. As a result of failing the fulfillment of expected accuracy, the cost overrun of the projects would result. The cost overrun is defined as a difference between the initial project estimate at the planning stage and the accounted project cost at the time of project completion. However, cost overrun is one of the major negative consequences that may influence to the economy of a developing country, like Sri Lanka. In order to fill the aforesaid financial gap, the necessity of pumping additional funds through the consolidated fund by the GOSL would be arisen.

Out of the significant impacts of which caused by cost overruns in foreign funded projects are delay in completion and curtailment of original scope of work. But both adverse impacts are restricted by the conditions and policies of funding agencies. It is the normal practice that influencing to complete the project up to the agreed scope under the specified standards by the funding agencies. Due to the fact that the highway projects would make greater impacts not only to the development of infrastructure but also to the higher cost overruns, it was decided to limit the analysis only for the highway projects.

The overlooked main factors that cause to turn the project into track of the cost overrun path are;

- Increase quantities
- Price Changes

However, there can have many factors that have supported above mentioned main factors. The objective of this research is to

- To study what is cost overrun?
- To identify factors behind cost overruns in Sri Lankan projects
- To identify main risk factors & risk management

The research would address the gap of knowledge of why highway projects overrun their cost. In addition to that, a method for minimizing cost overruns or identify cost overruns in advance will be proposed.

In this research, twenty numbers of cost overrun highway projects completed within resent years and funded by different agencies were collected and analyzed.

What are the main causes for cost overrun, how is a BoQ item correlate to each other item and what is relationship of cost overruns with project period or delay will be studied.

**Key Words:** Highway construction, project budgeting, inflation,

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## List of Abbreviations

AACE	-	Association for Advancement of Cost Engineering
ADB	-	Asian Development Bank
ASCE	-	American Society of Civil Engineers
BoQ	-	Bill of Quantity
BOOT	-	Build Own Operate Transfer
CE	-	Chief Engineer
CEA	-	Central Environmental authority
CEB	-	Ceylon Electricity Board
CM	-	Construction Management
CPD	-	Continuing Professional Development
CQS	-	Chief Quantity Surveyor
DB	-	Design Build
DBB	-	Design Bid Build
DBOM	-	Design Build Operate Maintain
DBFO	-	Design Build Finance Operate
DD	-	Deputy Director
EDCF	-	Economic Development Cooperation Fund
FIDIC	-	International Federation of Consulting Engineers
GOSL	-	Government of Sri Lanka
ICB	-	International Competitive Bidding
ICTAD	-	Institute of Construction Training and Development
LCB	-	Local Competitive Bidding
MFAP	-	Miscellaneous Foreign Aided Projects
MOHRD	-	Ministry of Highways & Road Development

NHSP	-	National Highways Sector Projects
NRMP	-	National Roads Master Plan
NWS&DB	-	National Water Supply & Drainage Board
PCA	-	Principal Component Analysis
PD	-	Project Director
PMBOK	-	Project Management Book of Knowledge
QS	-	Quantity Surveyor
RCC	-	Reinforced Cement Concrete
RDA	-	Road Development Authority
RDC	-	Recourses Development Consultants
RRM	-	Random Rubble Masonry
SLR	-	Sri Lankan Rupees
SLT	-	Sri Lanka Telecom
STDP	-	Southern Transport Development Project
SWK	-	Scott Wilson & Kirictpatric (Consultancy Firm)
TDCA	-	Transport Data Collection & Analysis