

**THE APPROPRIATE DELAY ANALYSIS TECHNIQUES
TO ANALYZE THE DELAYS IN ROAD
CONSTRUCTION PROJECTS IN SRI LANKA**

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Master of Science in Construction Law and Dispute Resolution

Department of Building Economics

University of Moratuwa
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Dissertation submitted in partial fulfillment of the requirement for the
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DECLARATION

I declare that this is my own work and this dissertation 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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Ekanayake E.M.K.

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The above candidate has carried out research for the Masters dissertation under my supervision.

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Ch.QS.(Mrs.) B.A.K.S. Perera
Dissertation Supervisor

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ABSTRACT

The Appropriate Delay Analysis Techniques to Analyze the Delays in Road Construction Projects in Sri Lanka

Most of the road constructions projects are unable to complete within the scheduled time and consequently subject to delay. These delays are compensated by the client and the contractor or either party as appropriate. In order to quantify the amount of time of delay and the apportionment of delay to the respective parties/party a proper delay analysis has to be carried out. It is evident that currently some ad hoc methods are followed for this purpose. Therefore it is the high time to identify the most suitable technique to analyze the delays in road construction projects in Sri Lanka.

This study is aiming to identify the most suitable delay analysis technique to analyze the delays in road construction projects in Sri Lanka. The descriptive study was carried out through a preliminary survey, questionnaire survey and detailed interviews among the practitioners of the industry. The data was analyzed using percentages on frequencies, relative importance index and mean ratings. Criterion suitability score and overall suitability scores were calculated to decide the most suitable delay analysis techniques.

The study revealed that, 66% of the projects in the study sample were delayed and DATs were used in 87.5% of them. As planned v as built method is the mostly used DAT. Unavailability of experts and difficulties in collecting reliable information were the main problems. Nine criteria which influenced in selecting a DAT were identified and the acceptance by the courts and tribunals was the mostly influenced criteria. The window analysis method which scored highest OSS was recommended as the most suitable method to analysis the delay in road projects in Sri Lanka.

Keywords: Delay Analysis Techniques, Road Construction Projects, Window Analysis Method, Time Impact Analysis Method

Dedication.....

*This dissertation is
Lovingly dedicated to
My beloved
Father, Mother, Wife
& Daughters
For their
Love and Support*

ACKNOWLEDGEMENT

This dissertation is not just a single effort of mine this is result of an immense effort and support given by the lots of others. Therefore, I would like to record my sincere thanks for the others who spent their valuable time with courtesy.

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LIST OF ABBREVIATIONS

Abbreviation	Description
APAB	As Planned v As Built
CAB	Collapsed As Built
CPM	Critical path method
CSS	Criterion suitability score
DAT	Delay Analysis Technique
EC	Excusable compensable delays
ENC	Excusable non compensable delays
EOT	Extension of time
IAP	Impacted As Planned
IT	Information technology
MR	Mean rating
NN	Non excusable non compensable delays
NPA	National Procurement Agency
OSS	Overall suitability score
RDA	Road Development Authority
RII	Relative important index
SPSS	Statistical package for social science studies
TIA	Time Impact Analysis
WA	Window Analysis
WB	World Bank

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