

ACCIDENT INVESTIGATION OF SOUTHERN EXPRESSWAY

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Dissertation submitted in partial fulfillment of the requirement for the Degree of
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Declaration of the candidate and supervisor

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

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Prof. W.K. Mampearachchi

.....

Date

Abstract

Road accidents have become a normal and re-occurring phenomenon from the beginning of the operation of the expressway up to this date. This study focuses on analyzing the data collected by the Expressway Operation Maintenance & Management Division and Expressway Police Division, based on accidents from day one of the operation of the expressway up to the end of April 2016.

The objective is to present accident trends between interchanges and conduct a comparison with accidents which take place in other expressways based on the accident rate (Accidents per Vehicle Kilometers Travelled). For SPSS frequency analysis, Day, Time, Location, Severity, Causes of the accidents and Conditions of locations are taken as data. Thereafter, Accidents prone locations, Causes for the accidents are analyzed with SPSS based on the three main factors, namely Human, Vehicle and Infrastructure/Environment factors. The causes of accidents and their general preventive measures are discussed based on the safety audit process.

This report provides a detailed analysis on accidents within a selected time period based on various factors influencing accidents. A total of 2275 accidents, have been reported on the carriageway of the southern expressway and out of that, 14 were fatal accidents, 10.6% have caused Injuries and 88.8% have caused only property damage. This is seen as an unhealthy trend let to be continued without taking any preventative action.

Most accidents have occurred when the weather condition was fair, and 36.1% occurred during the rainy weather. 40% of the accidents were reported to have taken place on a wet road surface condition. About 13 accident prone locations have been identified in between the Kottawa to Pinnaduwa section.

This research would aid in the enhancement of the safety of the expressway network, and would be conducive to the planning of safety procedures in future expressway developments. Introduction of innovative changes is expected to minimize the accident rate and alleviate the severity of accidents.

Key Words: Accidents Rates, Causes, Preventive Measures

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Table of Contents

Abstract	ii
Acknowledgement	iii
Table of Contents	iv
List of Figures	vi
List of Tables	vii
List of Abbreviations	ix
CHAPTER 1. INTRODUCTION	1
1.1 General Background	1
1.2 Problem Definition and research background	3
1.3 Objectives	4
1.4 Scope	4
CHAPTER 02 -LITERATURE REVIEW	6
2.1 Accident Investigation and Reporting	6
2.2 Accident data analysis	7
2.2.1 Factors affecting accidents	7
2.2.1.1 Human Factors	7
2.2.1.2 Vehicle factors	8
2.2.1.3 Infrastructure/Environment	8
2.2.2 Accident severity	10
2.3 Accident rate	12
2.3.1 Accident rate in Sri Lanka	13
2.3.2 Accident rate in A2 road	15
CHAPTER 03-METHODOLOGY	16
CHAPTER 04– PRELIMINARY ACCIDENT DATA ANALYSIS	18
4.1 Statistical analysis of southern expressway accidents	18
4.1.1 Accident types and factors distribution	19

4.1.1.1 Human Factor	20
4.1.1.2 Infrastructure/Environment factor	23
4.1.1.3 Vehicle factor	25
4.1.2 Frequency of Accidents	27
4.1.3 Accident prone areas	29
4.2 Accident rate analysis of southern expressway	34
4.2.1 Accident rates on southern expressway	34
4.2.2 Sectional accident rates on STDP	35
4.2.3 Comparison of accident rate in expressway (In Sri Lanka)	37
4.3 Mark limitations of existing data recording procedure	39
CHAPTER 05- CONCLUSIONS AND MITIGATION MEASURES	43
5.1 Conclusions	43
5.2 Mitigation measures according to investigation findings	46
References	50
Annexure	52

List of Figures

Figure 1.1: Expressway Map	1
Figure 2.1: Distribution of 372 accidents by contributing factors	9
Figure 2.2: Distribution of 372 accidents by severity	12
Figure 3.1: Research methodology	17
Figure 4.1: Accident types with accident factors	19
Figure 4.2: Human factors distribution	20
Figure 4.3: Driver's age affect for accident due to fatigue/drowsiness	21
Figure 4.4: Fatigue accident distribution in each section	22
Figure 4.5: Environmental factors which lead to accidents	23
Figure 4.6: Animal categories distribution	24
Figure 4.7: Animal collision	25
Figure 4.8: Vehicle factors distribution	26
Figure 4.9: Yearly distribution of main reasons for accident	26
Figure 4.10: Accident distribution with days of a week	27
Figure 4.11: Total accident distribution with time frame	28
Figure 4.12: Yearly accident distribution with time frame	28
Figure 4.13: Daily accident distribution with time frame	29
Figure 4.14: Yearly accident distribution at prone area	31
Figure 4.15: Reasons for the prone area accidents	32
Figure 4.16: Cross fall variation at accident prone locations	33
Figure 4.17: Sectional accident rate distribution	35
Figure 4.18: Main causes effect on sectional accidents	36
Figure 4.19: Yearly distribution of sectional accident rates	37
Figure 4.20: Accident rates distribution on Sri Lankan expressways	38
Figure 4.21: Yearly accident rate distribution in expressways	38
Figure 4.22: Accident at 73.15Km (LHS)	40

Figure 4.23: Accident at 114.92Km (LHS)	41
Figure 4.24: Involvements of factors regarding expressway accidents	41
Figure 4.25: Guardrail opening	42
Figure 4.26: Guardrail end terminal/buffer	42
Figure 6.1: ROW fence	46
Figure 6.2: Secondary fence along with embankment guardrail	47
Figure 6.3: Rumble strips along the shoulder	49
Figure 6.4: Rearrangement of embankment guardrails	49

List of Tables

Table 2.1: The influences of each factor in the occurrence of accidents	9
Table 2.2: The number of accidents disaggregated by accident severity	11
Table 2.3: Road Accidents in Sri Lanka (2004-2014)	13
Table 2.4: Vehicle Kilometers Travelled in 2012 in Sri Lanka	14
Table 2.5: Accident Rate in Sri Lanka - Year 2012	15
Table 2.6: Accident rates in A2 Road sections	15
Table 4.1: Southern expressway accident summery (2012/01/01 to 2016/04/30)	18
Table 4.2: Accident prone area (RHS)	30
Table 4.3: Accident prone area (LHS)	30
Table 4.4: Accident rates on southern expressway	34

List of Abbreviations

EOMMD	-Expressway Operation Maintenance and Management Division
RDA	- Road Development Authority
LHS	- Left hand Side
RHS	- Right hand Side
PRT	- Perception Reaction Time
IRTAD	- International Road Traffic and Accident Databases
VKT	- Vehicle Kilometers Travelled
A2	- Colombo - Galle - Hambanthota - Wellaway road
SPSS	- Statistical Package for the Social Sciences
AADT	- Annual Average Daily Traffic
Km	- Kilometer