

# ACCIDENT ANALYSIS OF SOUTHERN EXPRESSWAY

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 University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
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## Declaration of the candidate & Supervisor

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## Abstract

Southern Expressway, the first ever access controlled expressway in Sri Lanka, was opened for traffic to function in year 2011. Even though it has provided several safety precautions, about 2000 number of accidents have been reported during the last three and half years (2011-2013). Therefore, identifying reasons for the accidents and critical locations where majority of accidents have taken place are essential for introducing immediate safety improvements.

Main objectives of this research are to identify accident-prone locations, identify possible reasons for the accidents, and calculate the accident rate based on vehicle travel kilometre.

According to this research study, ten most critical accident-prone locations were identified in the Southern Expressway from Kottawa to Pinnaduwa section. Accident locations were grouped into nearest 100m distance and the ten most critical locations are 0+100 km, 5+800km, 5+900km, 8+000km, 22+100km, 27+800km, 55+300km, 58+800km, 64+800km, and 65+100km. Main causes of the accidents, as per the accident records, are the driving speed and poor road environment under rainy weather (slippery road condition). Driver fatigue also act as a key factor for some accidents. Accidents happened during night time are twice higher than that of day time. However, this trend was same in each of the section along the road.

Eventhough the highest accident rate of around  $3.00 \times 10^{-6}$ veh km was noted from Kottawa-Kahathuduwa section and Baddegama-Pinnaduwa section, accident rates in each section have reduced from year 2012 to 2013. When comparing Southern Expressway with Colombo-Wellawaya road (A2) road corridor from Moratuwa to Galle in year 2012, Southern Expressway shows higher accident rate ( $2.4 \times 10^{-6}$  per vehicle kilometre travelled) than other corridors ( $1.86 \times 10^{-6}$  per vehicle kilometre travelled). In addition, fatality rate in Southern Expressway has increased from 2012 to 2013, which is considerably a higher value than fatality rates of road accidents in most of the other countries. However fatality rate in southern expressway has a low value than relevant figures in A2 road and whole Sri Lanka.

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## List of Abbreviations

EOMMD	- Expressway Operation Maintenance and Management Division
RDA	- Road Development Authority
LHS	- Left hand Side
RHS	- Right hand Side
GD	- Galle Direction
CD	- Colombo Direction
PRT	- Perception Reaction Time
IRTAD	- International Road Traffic and Accident Databases
VKT	- Vehicle Kilometres Travelled
A2	- Colombo - Galle - Hambanthota - Wellawaya road



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