ACCIDENT ANALYSIS BEYOND DESCRIPTIVE STATISTICS

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Thesis submitted in partial fulfilment of the requirements for the degree

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DECLARATION

I declare that this is my own work and this thesis 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 believe 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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The above candidate has carried out research for the Master's thesis under my supervision.

Signature of the supervisor: Date:

ABSTRACT

Worldwide, more than 1.2 million people die annually from road accidents and now it is the 8th leading cause of death in the world. In the context of Sri Lanka, road traffic injury is also a leading cause of mortality and morbidity. In year 2014, 35,967 crashes were reported where 6% of them are fatal contributing to 2,440 deaths. Providing effective countermeasures for the identified safety issues and proper policy developments are vital in mitigating the issue of road traffic accidents.

Under this study, a comprehensive analysis of road traffic crashes of the country in terms of descriptive statistics was carried out using 'Sri Lanka Police Accident Database' to find the road safety condition of the country with the objective of providing a basis to encourage concentrated and in depth studies in road safety of the country. Over the decade 2005 – 2014, on an average, 6 people have died every day in Sri Lanka form road traffic crashes. According to the accident details of the last five years, age group 15-29 accounted for 33% of the total casualties in the country and 23% of the total fatalities due to road crashes. Pedestrians accounted for 21% of those who died from 3W related crashes. Promotion of public transport, strict law enforcement on helmet usage, design change of three-wheelers to limit sharp turns and more road safety education are among the suggestions made that can improve the road safety condition.

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However, only with descriptive statistics it is not possible to carry out an in depth review of the causes of accidents. Therefore, statistical methodologies have been improving which have enabled better safety design and policy improvements. In this study, a stepwise binary logistic regression was used for heavy vehicle related crashes to show the importance of accident analysis. Among the identified contributory factors, heavy vehicle crashes occurring during 03:00 – 06:00 hours, occurring at Batticalo, Chilaw and Jaffna DS Divisions and crashes involving intercity busses, semi government heavy vehicles are some of the factors that have a higher chance of becoming a fatal crash.

DEDICATION

To

My Loving Younger Brother

Who Passed Away from a Motorcycle Accident at the Age of 17.

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