

Identification of Accident Causing Factors through Detail Analysis of Road Accident Records in Sri Lanka

Nandana H.H.K.S¹ and W.K Mamppearachchi²

¹Engineer, Metallurgical Corporation of China Ltd., No.10, Barnes Place, Colombo07
kamalsirinandana@yahoo.com

²Senior Lecturer, Department of Civil Engineering, University of Moratuwa, Sri Lanka
wasantha@uom.lk

Road traffic accidents in a country are inevitable and these accidents can be caused due to several different factors. They can vary from place to place and time to time and are in no particular order: excessive speed, inattention, fatigue, alcohol/drugs, behavior, vehicle defects, weather, road environment, road design etc.

The study involved review of police accident records in police divisions (detail report prepared by the police officer including accident sketch) to identify the contributing factors that led directly to the accident, through detail analysis of road accidents. Accident records (More than 200 accident records) were obtained from various police divisions of the country particularly in 2013 and 2014 for a selected week. The collection and use of accurate and comprehensive data related to road accident is very important to road safety management. Detail analyses of accidents were conducted by thorough examination of all elements contributing to the accident, resulting in a well-founded explanation of the series of events which occurred based upon the factual data. Its objectives were to determine; what happened? Where the accident occurred? When the accident occurred? Why the accident occurred? and who was involved?. Analysis was based on two distinct phases found as precipitating factor (14 numbers) and contributing factor (54 numbers).

No method of collecting contributory factor data will be perfect. Precipitating and contributory factors were identified is based on the report of police officers collecting data at the scene using their best judgment from evidence gathered after the accident. However, certain information is not reported in the summary sheet prepared for accident reporting. Inevitably some factors may be harder to determine and it is difficult to attribute a single precipitating factor to one participant in the accident.

Human factors are supposed to be the leading contributory factor in any accident analysis and road and environmental factor were found to have a potential effect on road crashes whilst vehicle factor makes the lowest impact (less than 5%) compared to the human factor (nearly 90%) and road and environmental factors (more than 5%). The visibility, geometry,

lane markings, surface condition and street lighting facilities, weather, have a potential influence on the drivers and react in a dynamic driving condition. The interaction of the road and environment is quite complex with driving behavior and performance.

Key words: Traffic accident; contributing factor; precipitating factor