



Risk Assessment for Road Accidents due to Adverse Weather Conditions on Southern Expressway in Sri Lanka

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Abstract

Though 119 accidents had occurred on Colombo- Katunayake Expressway with a rate of 12 accidents per month and only one death occurred during the period of ten months. 16 people had died on Southern Expressway within the period of thirty three months with a total of 1,190 accidents and a rate of 36 accidents per month, raising concerns about the safety of travelling on Southern Expressway. The objective of this study was to conduct an analysis to estimate the degree to which road accidents were due to adverse weather conditions. The study was confined to the segment between Kottawa and Pinnaduwa exits. The secondary data collection was done on two aspects. The accident analysis was based on unpublished data for the period between January 2012 and May 2014. The data on weather conditions were obtained from the Department of Meteorology. Published thematic maps for both aspects were taken into the analysis. The average annual rainfall in the area is higher than other parts of the country, an indication about the intensity of raining. The monthly rainfall figures indicate the peak rainfall period is associated with South-West monsoon and second inter monsoon, an indication for the necessity of extra precautions. The average annual number of rainy days is 150 or above, indicating over 40% of the days in a year is expected to be rainy days. Three aspects of accidents were identified: road surface condition, speed of the vehicles and type of the vehicles. The accidents data indicate about 85% of accidents were involved with wet and slippery road conditions. Over 60% of the accidents occurred when the vehicle speed was between 80 to 100 km per hour and cars were involved in over 70% of the accidents. The study reveals that adverse weather leads to some accidents directly or indirectly. Increasing trends in extreme rainfall events may also accelerate adverse weather related accidents. Future studies should investigate the behavior of road in relation to weather and its interaction with different weather conditions. The authorities should collect information on accidents to compare the data with rainfall patterns for the identification of links between them.

Keywords: *road accidents, road accident fatalities, road safety, road traffic injuries, Southern Expressway.*