

DEVELOPMENT OF ACCIDENT PREDICTION MODELLING IN URBAN CONTEXT

**ASAD PASHA MOHAMMED¹, MIR IQBAL FAHEEM² AND
MOHD. MINHAJUDDIN AQUIL³**

¹PG Scholar, ²Professor & Head & Vice Principal, ³Asst. Prof., Dept of Civil Engineering
Deccan College of Engineering and Technology,
Aghapura, Hyderabad-500001 Telangana, India

Abstract

The aim of the study is to understand and analyze the effects of roadway conditions, traffic and manmade features on road safety and to determine the influence of factors that cause such incidents and determine the methods to control the accidents in future. The major work was associated with an accident that occurs in the city limits. The objective is done through a series of the studies obtained through survey of police reports and government agencies. The study is to develop a Linear Regression Model incorporating the roadway condition, traffic factors for assessment of road accidents occurring on urban roads. The number of accidents is rising up every year due to increasing vehicles population. The location in a roadway where the traffic accident often occurs is called a black spot. The accident data is analyzed using accident frequency and severity index method. The safety deficiencies were detected to minimize accidents and save the road users. The deficiencies along with the measures for further improvement have been presented in this thesis. It is observed that very few works have been carried out on statistical analysis of accidents particularly on two-lane urban roads. For this thesis, four stretches of Hyderabad city has been selected. The accidental data was collected for last nine years, 2005-2014 from the police stations where FIR (first information report) was lodged. There is no definite trend for monthly variation in accidents on a study section but the accidents in month of March and May are generally higher. Accident rate in terms of number of accidents per km-year increases with traffic volume. But the accident rate in terms of number of accident per million-vehicle kilometer-year (MVKY) decreases with increase in traffic volume. Accident rate per MVKY increases during the study year, whereas both injury and fatality rate per MVKY show a declining trend over the study period. The developed model for accident prediction represents that the number of accidents per-km-year increases with AADT and decreases with improvement in road condition. The scope of future research is to cover more of the study area and obtain values that have been indirectly related to accident occurrence and the various diverging factors of the accident needs to be analyzed and the values to be corrected with previous erroneous observations.

Key words: AADT, Accident prediction modeling, Roadway conditions, Traffic.

