Traffic Safety and Risk Assessment Model by Analysis of Questionnaire Survey: A Case Study of S. G. Highway, Ahmedabad, India

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Abstract : Road Safety is a multi-sectoral and multi-dimensional issue. An effective model can assess the risk associated with highway safety. A questionnaire survey is very essential to identify the events or activities which are causing unsafe condition for traffic on an urban highway. A questionnaire of standard questions including vehicular, human and infrastructure characteristics can be made. Responses from the age wise group of road users can be taken on field. Each question or an event holds a specific risk weightage, which contributes in creating an inappropriate and unsafe flow of traffic. The probability of occurrence of an event can be calculated from the data collected from the road users. Finally, the risk score can be calculated by considering the risk factor and the probability of occurrence of individual event and addition of all risk score for the individual event will give the total risk score of a particular road. Standards for risk score can be made and total risk score can be compared with the standards. Thus road can be categorized based on risk associated and traffic safety on it. With this model, one can assess the need for traffic safety improvement on a given road, and qualitative data can be analysed.

Keywords : probability of occurrence, questionnaire, risk factor, risk score

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