

Method to identify Potential Safety Deficiencies at Identified Accident Black Spots

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Accidents Black spots are the locations or road sections where accidents are common. Highway engineers and Traffic police generally know of the tendency for road accidents to cluster together at certain locations, commonly termed “accident black spots”. It is possible to identify these black spots of the road network, so that appropriate remedial measures can be undertaken to reduce the likelihood and severity of accidents at those locations. Although the improvement of accident black spots is a very important area requiring attention it has so far received little priority in Sri Lanka.

Traffic accidents are a serious issue in Sri Lanka around 2,000 people are killed in traffic accidents every year. As a result of ever increasing number of vehicles and insufficient safety precautions the traffic accidents in Sri Lanka shows an ever increasing trend and the alarming numbers of fatalities.

The objective of this paper is to provide a clear guidance on how to enhance the road safety at identified accident black spots by identifying potential safety deficiencies in Sri Lankan road network. At present, Sri Lanka Police Department keep records of traffic accidents, but this information does not carry adequate information on accident prone locations or information is not properly transferred to road authorities who design and install road safety facilities. It is not clear who is the primary agency to formulate road safety policy and strategy and design and implement road safety measures.

Paper identifies five major issues and their sub issues which caused to accidents in Sri Lankan road network. The five issues are i) Road markings, ii) Signing and lighting, iii) Layout geometric details and road surface, iv) Pedestrians and related facilities, v) Overtaking opportunities and land use either side of the road. Significance of these issues can be change depending on the location and the environment. Method has been proposed to priorities these major issue, as most of our organizations are not in a position to rectify all identified problems, due to restricted/lack of funds. Furthermore, under each issue it is

Session 1b

identified sub factors which can enhance the accident situation. The above major issues and sub issues are gathered in a questionnaire format.

Major contributing factor can be identified using the said questionnaire for a particular problematic location. As mention above the questionnaire has been based on five different issues with their individual sub components which has been identified as the important safety factors in Sri Lankan Road Network. The questionnaire needs to be answered by different people at the conflict location (Safety Audit). It is advisable to do this Safety Audit by the persons who have some knowledge regarding the road conditions and road situations.

The next step is to allocate weights to individual issues. Depending on the location and the importance of the individual issues weights can be defined. As the aim is to improve road safety at identified black spot another third person who has experience in road safety improvement has to decide the weights considering the relative importance of the five issues in that particular accident black spot. Defined weights could be justified using the analytical hierarchy process. The basic idea of the approach is to convert subjective assessments of relative importance to a set of overall scores or weights. Then by normalizing the issues most critical issue for the particular location could be identified out of five issues. Subsequently most appropriate traffic safety measures could be implemented successfully. The proposed method will enhance the road safety at identified accident black spots with less cost but effective safety measures resulting more economic benefits to the society.

Key words: Road Safety, Accident Black Spot