

## Development of a System for Rating of Hazardous Locations along National Highways

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In highway safety plan; identification of hazardous locations on highways is one of the most important factors. In this study the geometric of road is considered to identify the hazardous locations with the concern of design standards of Road Development Authority, Sri Lanka.

Availability of accident data is a significant requirement for identifying hazardous location of roads. However, for roads with poor accident data sets or no accident records, a method is needed to find and rank road segments with respect to road geometry independent of the accident records. In this study, initially hazardous locations or section of roads were identified based on **Geometric Design Standards of Roads** published by Road Development Authority on 1998. Then major parameters of road geometry such as horizontal alignment, vertical profile and road side activities and combination of these; are considered as main influence elements and identified the venerable factors of the each element. After that the relative contribution of the elements to the safety of critical location or road sections was determined by using the Analytical Hierarchy Process (AHP) with a system of scores which were suggested by an expert panel. Subject to a consistency test of the expert responses, AHP determines the weight of the elements. On which the horizontal radius is identified as most critical parameter of the geometry element, to induce accident prone hazardous location followed by long straight section or series of curves with small straight section with influence of the site condition.

**Key Words:** Hazardous road location, Geometry elements of hazardous on road and Road Safety

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