

An Approach to Apply Kernel Density Estimation Tool for Crash Prone Location Identification

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Abstract : In this study, the kernel density estimation tool has been used to identify most crash prone locations in a national highway of Bangladesh. Like other developing countries, in Bangladesh road traffic crashes (RTC) have now become a great social alarm and the situation is deteriorating day by day. Today's black spot identification process is not based on modern technical tools and most of the cases provide wrong output. In this situation, characteristic analysis and black spot identification by spatial analysis would be an effective and low cost approach in ensuring road safety. The methodology of this study incorporates a framework on the basis of spatial-temporal study to identify most RTC occurrence locations. In this study, a very important and economic corridor like Dhaka to Sylhet highway has been chosen to apply the method. This research proposes that KDE method for identification of Hazardous Road Location (HRL) could be used for all other National highways in Bangladesh and also for other developing countries. Some recommendations have been suggested for policy maker to reduce RTC in Dhaka-Sylhet especially in black spots.

Keywords : hazardous road location (HRL), crash, GIS, kernel density

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