Tawee Uthaisattawat 2007: GIS Applications for Identifying Hazardous Locations on Expressway. Master of Engineering (Civil Engineering), Major Field: Civil Engineering, Department of Civil Engineering. Thesis Advisor: Associate Professor Pongsak Suriyavanagul, Ph.D. 120 pages.

This research aimed to study and develop an analysis tool searching for identifying hazardous location on the expressway; Chalerm Maha Nakorn Expressway (The First Stage Expressway System), Si Rat Expressway (The Second Stage Expressway System), Chalong Rat Expressway (Ramindra - At Narong Expressway).This used ArcView Program version 3.2a with ArcView Avenue function. ArcView Avenue function supports to apply the geographic information system and accident management. This research considered all conditions which effect to the accident occur such as the normal and raining condition or daytime and nighttime etc. This research also compare the accident rate among all points where are the different geometric design to forecast the trend of accident rate. This research indicated that the most accidents on all expressway occur at ramp junction, interchange, gradient and the accident rate trend to higher in the bad visibility such as raining and nighttime. Moreover, the developed enables analysis easier, faster and more reliable.

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