

Scoring Approach to Identify High-Risk Corridors for Winter Safety Measures in the Iranian Roads Network

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Abstract : From the managerial perspective, it is important to devise an operational plan based on top priorities due to limited resources, diversity of measures and high costs needed to improve safety in infrastructure. Dealing with the high-risk corridors across Iran, this study prioritized the corridors according to statistical data on accidents involving fatalities, injury or damage over three consecutive years. In collaboration with the Iranian Police Department, data were collected and modified. Then, the prioritization criteria were specified based on the expertise opinions and international standards. In this study, the prioritization criteria included accident severity and accident density. Finally, the criteria were standardized and weighted (equal weights) to score each high-risk corridor. The prioritization phase involved the scoring and weighting procedure. The high-risk corridors were divided into twelve groups out of 50. The results of data analysis for a three-year span suggested that the first three groups (150 corridors) along with a quarter of Iranian road network length account for nearly 60% of traffic accidents. In the next step, according to variables including weather conditions particular roads for the purpose of winter safety measures were extracted from the abovementioned categories. According to the results ranking, 9 roads with the overall length of about 1000 Km of high-risk corridors are considered as preferences of safety measures.

Keywords : high-risk corridors, HRCs, road safety rating, road scoring, winter safety measures

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