Analysis of Traffic Crashes in Oman

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Abstract

The main goal of the research was to analyze Oman’s traffic crash data and use Geographic Information System (GIS) techniques to identify the high severity traffic crashes areas or black spot locations in the Governorate of Muscat. Oman’s traffic crash data for eleven years, from 2000 to 2010 were collected from police reports and statistics. Data on black spots in the Governorate of Muscat for five years from 2006 to 2010 were also collected. The collected data were categorized and analysed and the black spots locations were identified and processed using GIS Environment. GIS-based black spots location maps were also plotted for each of the five Muscat Willayats (Qurayyat, Greater Muttrah, Bawshar, As Seeb, and Al Amerat).

Data revealed that human factors were responsible for 97% of all traffic crashes. By using the GIS technologies, it was concluded that the black spots were mostly located on major roads, junctions, intersections, bridges and roundabouts. Based on literature search of best practices to combat the escalation of traffic crashes, it was recommended to apply certain practical measures to tackling road crash problems in Oman. Such measures include the application of the advisory Intelligent Speed Adaptation (ISA), effective deterrents, and awareness campaigns in combination of strict police enforcement of traffic laws.

The research recommends a complete and an in-depth survey of the worst black spots locations and the remaining black spots obtained in each Willayatt, the survey should include the geometry of the existing junctions, intersections, bridges, and roundabouts along with the traffic control devices installed at these sites in order to develop technical and operational solutions. Traffic safety data should be more detailed and should contain detailed information related to the causes of the crashes, exact location, involvements, and injuries in order to make any future research studies in Oman meaningful and easier to conduct.