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Entitled

*ASSESSMENT OF THE ROADSIDE DESIGN AND SAFETY STATUS IN THE EMIRATE OF ABU
DHABI*

by

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Abstract

Single-vehicle, run-off-road (SVROR) crashes account for a significant portion of all road-related injuries and fatalities worldwide. However, no previous study has neither examined to what extent roadside design guidelines have been applied, nor (and most importantly) investigated whether having a compliant roadside design has a positive impact on reducing the likelihood of fatal injuries. Thus, the objectives of this research are i) to examine the level of roadside design compliance within the studied area based on the selected benchmark and ii) to investigate whether roadside design compliance has a positive impact on reducing the likelihood of fatal injuries in SVROR crashes. Multivariate logistic regression models were used to analyze data from 1,070 SVROR injury crashes. The study shows that i) only 32 percent of the studied locations contained compliant design, ii) the presence of rigid, unshielded obstacles within the minimum recommended clear-zone distance was found to be the most often cause of non-compliance, iii) hazard lateral offset and traveling-lane-to-hazard offset larger than 12 meters were found to significantly reduce the risk of fatal injuries as compared to distances up to 12 meters, and iv) hazard shielding proved to significantly lower fatality risk. Safety recommendations based on the present study findings are provided.

Keywords: Roadside design, Run-off-road crash, Compliance, Fatal injury, Logistic regression, Emirate of Abu Dhabi.