World Academy of Science, Engineering and Technology
International Journal of Transport and Vehicle Engineering
Vol:11, No:10, 2017

Effectiveness of Variable Speed Limit Signs in Reducing Crash Rates on Roadway Construction Work Zones in Alaska

Authors : Osama Abaza, Tanay Datta Chowdhury

Abstract : As a driver's speed increases, so do the probability of an incident and likelihood of injury. The presence of equipment, personnel, and a changing landscape in construction zones create greater potential for incident. This is especially concerning in Alaska, where summer construction activity, coinciding with the peak annual traffic volumes, cannot be avoided. In order to reduce vehicular speeding in work zones, and therefore the probability of crash and incident occurrence, variable speed limit (VSL) systems can be implemented in the form of radar speed display trailers since the radar speed display trailers were shown to be effective at reducing vehicular speed in construction zones. Allocation of VSL not only help reduce the 85th percentile speed but also it will predominantly reduce mean speed as well. Total of 2147 incidents along with 385 crashes occurred only in one month around the construction zone in the Alaska which seriously requires proper attention. This research provided a thorough crash analysis to better understand the cause and provide proper countermeasures. Crashes were predominantly recoded as vehicle- object collision and sideswipe type and thus significant amount of crashes fall in the group of no injury to minor injury type in the severity class. But still, 35 major crashes with 7 fatal ones in a one month period require immediate action like the implementation of the VSL system as it proved to be a speed reducer in the construction zone on Alaskan roadways.

Keywords : speed, construction zone, crash, severity
Conference Title : ICTGT 2017 : International Conference on Traffic Guidance and Transportation
Conference Location : New York, United States
Conference Dates : October 05-06, 2017