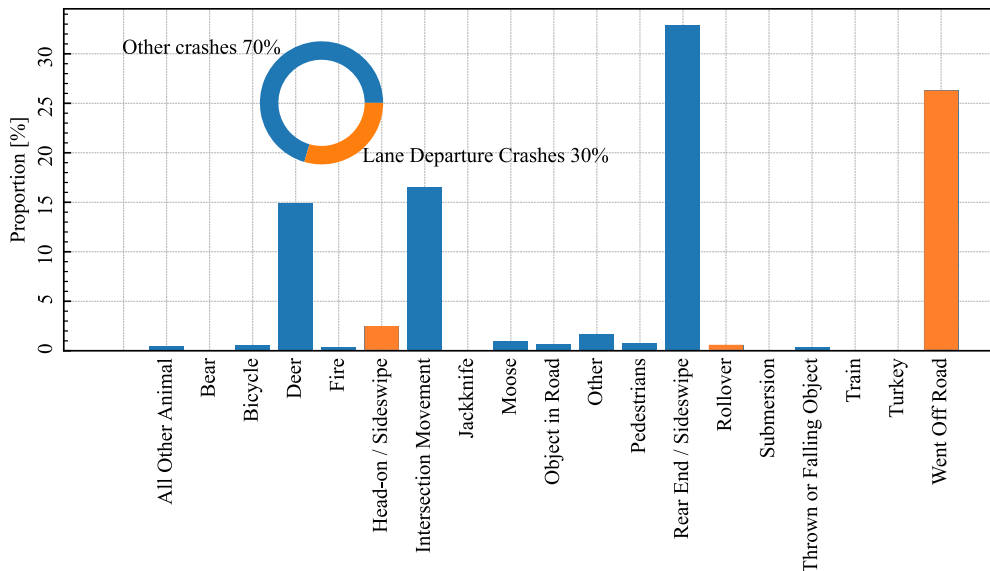


Examining the impact of rumble strip installation in prevention of lane departure crashes in Maine

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Abstract

Among all traffic collisions, lane-departure crashes are the leading type of serious traffic collision in Maine, comprising 72% of state-wide traffic fatalities. To reduce this, Maine DOT has installed shoulder and centerline rumble strips as its major countermeasure to prevent lane departure crashes in Maine. With a total installed length of 1661 miles of rumble strips, there is a need to understand the impact of rumble strips in reducing lane departure crashes in Maine under different conditions. To do so, different observational before-after studies, such as the comparison group, empirical Bayes (EB), and EB comparison group, were applied to explore the effectiveness of rumble strips in Maine. In addition, safety performance functions were developed, using the Negative Binomial model with ten years of crash records in Maine (from 2010 to 2019.) The evaluation will investigate the impact of centerline rumble strips on reducing the frequency and severity (Fatal, Injury, and PDO) of lane departure crashes (e.g., head-on and sideswipe collisions) for select roadways. This study also includes a cost–benefit analysis to explore the economic benefits of using rumble strips.



The figure shows the proportion of each type of crash to the total number of crash fatalities in Maine.

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