

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

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## **Abstract**

Among all traffic collisions, the lane departure crashes are the leading type of serious traffic accidents in Maine, comprising 72% of state-wide traffic fatalities. To reduce this, Maine DOT have been installing 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, the Empirical Bayes (EB) observational before-after study using the Negative Binomial model to develop safety performance functions, will be applied to nine years of crash records in Maine (from 2012 to 2021) to explore the effectiveness of rumble strips in Maine. The evaluation will investigate the impact of both centerline and shoulder rumble strips on reducing the frequency and severity (Fatal, Injury and PDO) of lane departure crashes (e.g.: run-off the road and head-on collisions) for select roadways under different conditions. This study also includes benefit-cost analysis to explore the economic benefits of using rumble strips.

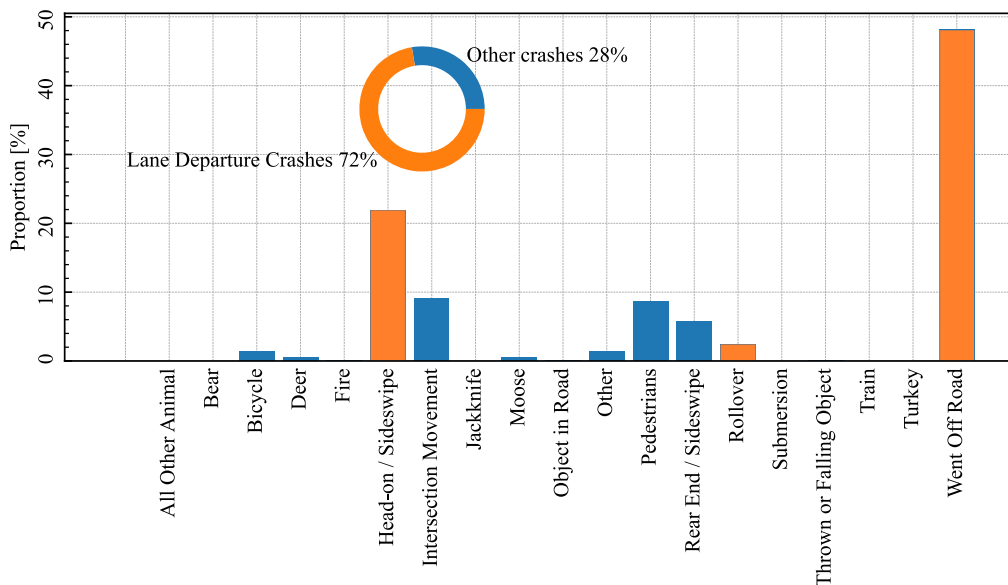


Figure show the proportion by each type of crashes of the total number of crash fatalities in Maine.

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