

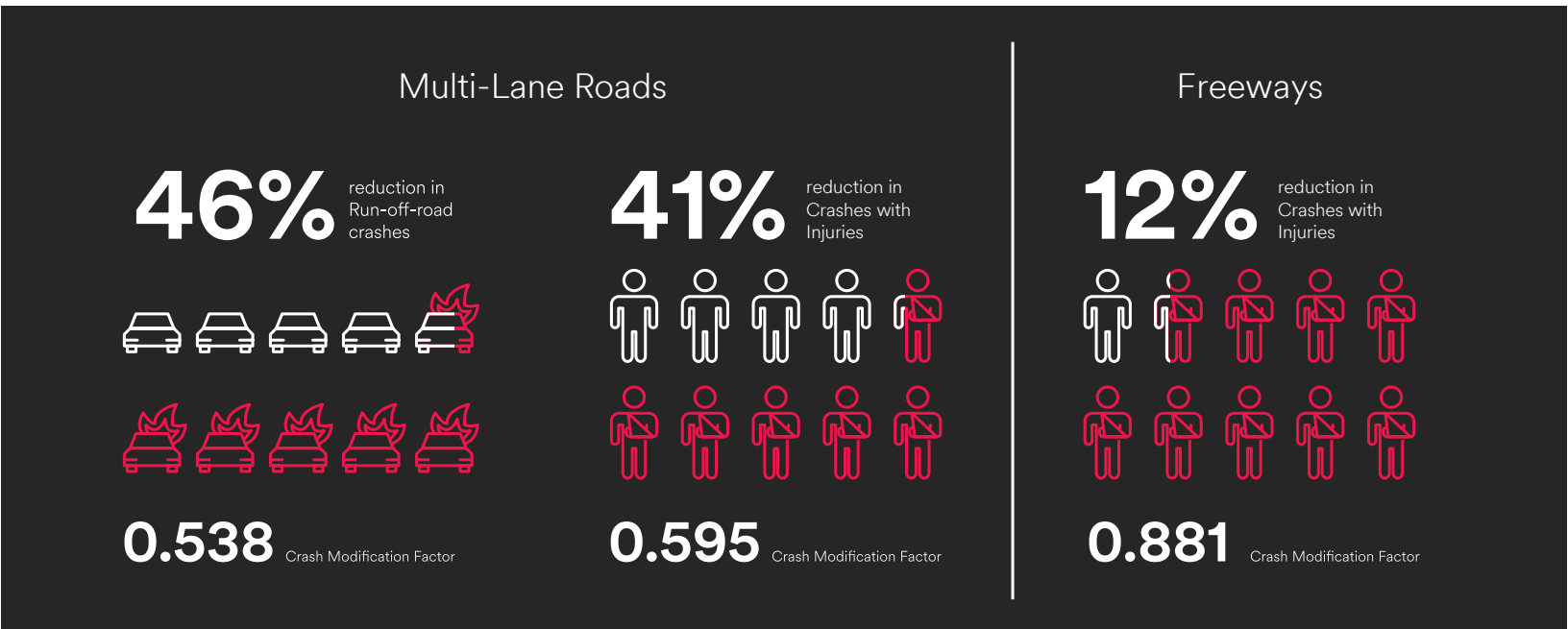
Safety Evaluation of Wet-Reflective Pavement Markings: FHWA-HRT-15-083

Study Summary

As part of ongoing efforts to improve highway safety using cost-effective countermeasures, the Federal Highway Administration (FHWA) organized a study in 2015 to explore the safety benefits of wet retroreflective pavement markings in Minnesota, North Carolina and Wisconsin. Each state provided two-lane roadway and freeway locations where wet reflective markings were applied on the center line, edge line, or lane line. FHWA then used the empirical Bayes (EB) methodology for a rigorous observational before-after study to examine the ability of wet retroreflective pavement markings to reduce various crash types. FHWA used the results from the before-after analysis to recommend crash modification factors for various crash types. The study also analyzed pavement marking installation costs and crash savings to determine a benefit/cost ratio.

Key findings

- ▶ For all three states combined, the results of the study indicated that wet retroreflective pavement markings reduced the number of total crashes, injury-crashes, run-off-road crashes, wet-road crashes, nighttime crashes, and nighttime wet-road crashes. The reduction of injury crashes and wet-road crashes was statistically significant (95% confidence level).
- ▶ After analyzing the data, the researchers determined that the benefit cost ratio for multi-lane roads is 5.44 and for freeways is 1.45.



Source: US DOT Federal Highway Administration. Safety Evaluation of Wet-Reflective Pavement Markings. Dec. 2015, FHWA-HRT-15-08



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