The main objective of this project is to conduct a bridge-rail safety analysis for bridges in Alabama. NCHRP 350 has provided the specifications for the safety performance evaluation of guardrails since 1993, but given that vehicles has increased in size and light truck bumper heights have risen since then, specification updates are useful. From January 1, 2011, the AASHTO Manual for Assessing Safety Hardware (MASH) is the new state of the practice for the crash testing of safety hardware for use on the national highway system. However, there is no requirement to replace hardware that was accepted under the old standards. Existing bridge rails that do not meet current safety standards are candidates for retrofit techniques as a potentially cost-effective measure to bring the bridge rail up to standard. This project will identify whether non-conforming rails are over-represented with regard to numbers and severity of crashes as compared to conforming rails; develop crash modification factors for retrofitted rails, such as concrete and thrie beam; identify the best crash-prediction method for applicable bridge-rail sites; and investigate the effects of various countermeasures, such as markings, narrow bridge signs, and object markers on safety.

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