

GAO Highlights

Highlights of [GAO-16-575](#), a report to congressional requesters

Why GAO Did This Study

In 2014, 54 percent of traffic fatalities in the United States occurred as a result of a vehicle's leaving the roadway, according to U.S. Department of Transportation's (DOT) data. Roadside safety hardware, such as guardrails, is meant to reduce the risk of a serious crash when leaving the roadway. But in the last several years, a number of serious injuries and deaths resulted from crashes into roadside safety hardware. GAO was asked to review FHWA's oversight framework for roadside safety hardware.

This report assesses: (1) how FHWA performs oversight of state policies and practices related to roadside safety hardware; (2) the laboratory crash-testing process and FHWA's oversight of this process; and (3) the extent to which information is available on roadside safety hardware's performance once installed. GAO reviewed federal and state policies, surveyed state DOTs and received 44 responses, and reviewed documentation from nine U.S. crash test labs.

What GAO Recommends

GAO is making recommendations, including that DOT monitor and periodically report on the transition to the *MASH* crash test standards; develop a process for third party verification of crash test results; and support additional research on roadside safety hardware's in-service performance. DOT concurred with the recommendations and provided technical comments, which were incorporated in the report, as appropriate.

View [GAO-16-575](#). For more information, contact Susan Fleming at (202) 512-2834 or flemings@gao.gov.

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HIGHWAY SAFETY

More Robust DOT Oversight of Guardrails and Other Roadside Hardware Could Further Enhance Safety

What GAO Found

The Federal Highway Administration (FHWA) oversees and promotes states' installation of crash-tested roadside safety hardware through guidance and policy directives to states and by issuing letters to roadside safety hardware developers that provide states with information on roadside safety hardware that has been crash tested. States that responded to our survey generally stated they require crash testing. However, some inconsistencies across state practices exist, and states' movement to require installation of devices successfully tested to updated, improved crash test standards—in the *Manual for Assessing Safety Hardware (MASH)*—has been slow. FHWA, in partnership with the American Association of State Highway and Transportation Officials (AASHTO), recently established transition dates to the *MASH* standards for states, but some challenges exist in developing and approving a sufficient quantity of roadside safety hardware tested to *MASH* standards. FHWA currently does not have a monitoring plan to report on progress to meeting the established dates; monitoring and reporting would allow FHWA to keep decision makers aware of progress and position FHWA to take corrective actions as needed.

In general, laboratory crash testing appears to be well documented and thorough; however, FHWA's oversight of the process does not address potential threats to independence. GAO found that six of the nine accredited U.S. crash test laboratories evaluate products that were developed by employees of the parent organization—a potential threat to lab independence. FHWA reviews crash tests' results and related documentation, if they are submitted for review, but FHWA relies heavily on the labs to make a pass/fail determination. We found that some other federal agencies in oversight of similar labs' testing settings require third party verification of test results or independent entities to make pass/fail determinations. FHWA does not have a process for formally verifying the testing outcomes and making its own or providing for an independent pass/fail determination. Developing a process for third party verification of roadside safety hardware's lab test results could provide greater assurance that potential threats to independence are fully addressed.

Little is known about the in-service performance of roadside safety hardware because few evaluations of this performance have been done. FHWA and AASHTO recommend that states and others perform in-service performance evaluations (ISPE) of installed roadside safety hardware because crash testing cannot fully capture real-world crash conditions. However, few ISPEs have been done, in part, because of a lack of inventory and crash data. In the summer of 2015 in four states, FHWA began a pilot study that could provide useful information, but according to FHWA officials, the purpose of this phase of the pilot is to determine best practices on data collection rather than assess performance of roadside safety hardware. FHWA officials told us they currently have no plans to include performance findings as part of future phases of this study or in their broader research portfolio. Continuing this study or planning to make ISPEs part of future research could add to the limited ISPE body of knowledge.