

Why GAO Did This Study

In 2010, motor vehicle crashes in the United States cost almost 33,000 lives, injured 2.2 million people, and resulted in almost \$900 billion in economic costs. As part of its mission to reduce these losses, NHTSA collects and analyzes data on motor vehicle crashes. One NHTSA program that collects crash data is NASS-CDS—a nationally representative sample of police-reported motor-vehicle traffic crashes; however, the NASS-CDS sample was designed in 1988, and subsequent shifts in the population and a declining sample size have necessitated an update of this sample. In 2012, NHTSA started taking steps to redesign NASS-CDS.

Congress mandated GAO to review NHTSA's progress in redesigning NASS-CDS. This report assesses the (1) process NHTSA used to redesign NASS-CDS and (2) the potential for this redesign to improve the NASS-CDS sample. To conduct this review, GAO reviewed relevant information regarding the NASS-CDS redesign and interviewed officials from NHTSA and Westat, the contractor selected to assist NHTSA in redesigning NASS-CDS. Based on comments the public submitted to NHTSA in response to a notice in the *Federal Register*, GAO also interviewed 21 users of this data and other interested parties regarding the improvements they would like made to NASS-CDS. The Department of Transportation reviewed a draft of this report and provided technical comments, which were incorporated as appropriate.

View [GAO-15-334](#). For more information, contact Susan Fleming at (202) 512-2834 or flemings@gao.gov.

AUTO SAFETY

Status of NHTSA's Redesign of Its Crashworthiness Data System

What GAO Found

The National Highway Traffic Safety Administration (NHTSA) followed a reasonable process for redesigning the National Automotive Sampling System Crashworthiness Data System (NASS-CDS), which is a nationally representative sample of police-reported motor-vehicle traffic crashes. The Office of Management and Budget (OMB) has standards and guidelines that specify the professional principles and practices that agencies should follow and the level of quality and effort expected when redesigning an existing survey, such as NASS-CDS. NHTSA followed a process consistent with applicable OMB standards and guidelines. For example, NHTSA consulted with NASS-CDS users to identify their requirements and expectations in redesigning NASS-CDS and tasked the contractor, Westat, with developing proposals for a new sample design to meet users' data needs in an effective and efficient manner. As of January 2015, NHTSA planned to replace NASS-CDS with a new sample, called the Crash Investigation Sampling System (CISS). However, NHTSA did not meet a congressional deadline to report on the benefits of increasing the size of the NASS-CDS sample. Specifically, the Moving Ahead for Progress in the 21st Century Act required NHTSA to report, by October 1, 2013, on whether there would be a benefit to increasing the size of the NASS sample as well as to report on the resources necessary to implement NHTSA's recommended sample size, among other things. NHTSA issued its required report in January 2015 as GAO was completing its review. In its report, NHTSA noted that increasing the size of the NASS-CDS sample would help meet the evolving needs of NASS users, but stated there was no precise answer to what an optimal sample size for NASS-CDS would be.

NHTSA expects the new sample it plans to implement as part of this redesign to generate greater statistical precision for key crash-type and injury-severity estimates than that of NASS-CDS using a similarly sized sample. One way NHTSA was able to generate more precise estimates was by selecting new sites at which to collect data. These sites, or "primary sampling units," better represent the current population and distribution of motor vehicle crashes nationwide, representation that allows NHTSA and others to generate more precise estimates using the data. NHTSA also expects CISS to sample more crashes involving serious injuries and newer vehicles than NASS-CDS currently allows, as users had requested. NHTSA conducted about 4,700 NASS-CDS investigations annually between 1988 and 2013, and while there is no clear optimal sample size, a larger sample size could allow NHTSA to generate estimates that are even more precise or generate estimates for types of crashes that occur infrequently, estimates that could contribute to research that can affect vehicle safety. However, NHTSA's ability to increase the new CISS sample size is limited by its current and expected budget. Additional planned improvements to NASS-CDS include new technologies that allow for safer and more accurate measurements of accident scenes and vehicles involved in crashes. While NHTSA expects these new technologies to also result in some time savings, NHTSA does not expect them to allow for more investigations due to the time-intensive nature of the CISS data-collection effort.