

GAO Highlights

Highlights of [GAO-23-105595](#), a report to congressional committees

Why GAO Did This Study

According to NHTSA, about 43,000 people died in vehicle crashes in 2021. Dummies provide information that helps improve the safety of vehicles through federal safety standards and safety ratings. However, the dummies used in NHTSA's crash tests may not adequately represent all demographic groups, including females and older individuals.

The Infrastructure Investment and Jobs Act included a provision for GAO to review the dummies used in NHTSA's vehicle safety crash tests. This report examines: (1) differences in risk of injury or death in crashes among certain demographic groups; (2) the extent to which the information dummies provide in crash tests helps mitigate those risks; and (3) steps NHTSA has taken to address any limitations in the information provided by dummies.

GAO reviewed relevant statutes, regulations, studies, and publications; interviewed NHTSA officials and a range of industry stakeholders, including researchers, auto manufacturers, and safety organizations; and evaluated NHTSA's risk management efforts.

What GAO Recommends

GAO recommends that NHTSA develop a plan to address limitations in the information provided by dummies. The plan should detail how efforts will respond to risks and set milestones.

NHTSA agreed with our recommendation.

View [GAO-23-105595](#). For more information, contact Elizabeth Repko at (202) 512-2834 or repkoe@gao.gov.

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VEHICLE SAFETY

DOT Should Take Additional Actions to Improve the Information Obtained from Crash Test Dummies

What GAO Found

According to the National Highway Traffic Safety Administration (NHTSA), vehicles have become safer for occupants over time, in part by providing better protection in crashes. However, certain demographic groups continue to face greater risks of injury or death in crashes. Specifically, research indicates that in crashes with similar conditions, females are at greater risk of death and of certain injury types, such as to the lower legs, than males. In addition, vehicle occupants who are older are at greater risk than those who are younger, and occupants with a higher body mass index face some greater risks than those with a lower index.

Crash tests using crash test dummies provide information to improve vehicle safety, determine compliance with NHTSA's vehicle safety standards, and inform consumer safety ratings. However, some characteristics of dummies currently used for NHTSA's crash tests may limit the extent to which the information the dummies provide helps mitigate greater risks faced by certain demographic groups. For example, currently used dummies represent a limited range of body sizes, do not reflect some physiological differences between males and females, and do not have sensors to collect data in the lower legs. Limited ways in which dummies are used in crash tests—such as where the dummy sits and the speed of the crash—also may reduce the effectiveness of the information dummies provide in mitigating risks to certain demographic groups.

How Dummies Provide Information in Crash Tests to Estimate Crash Risks



Source: GAO presentation of information from the National Highway Traffic Safety Administration. | [GAO-23-105595](#)

NHTSA has taken steps to address limitations in the information dummies provide in crash tests, but gaps remain. NHTSA has supported research into risks faced by demographic groups and has worked to develop technologically advanced dummies, among other efforts. However, these efforts have not fully responded to risks or consistently met milestones. For instance, NHTSA identified greater risks faced by females and older individuals at least two decades ago but has not completed actions to address those risks. NHTSA officials cited several factors for these gaps, including research and other challenges. While these factors contribute, NHTSA does not have a comprehensive plan to address existing risks and limitations in the information dummies provide. Without such a plan, NHTSA may miss opportunities to reduce inequities in crash outcomes among certain demographic groups.