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HIGHWAY SAFETY

Research Continues on a Variety of Factors That Contribute to Motor Vehicle Crashes

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Highlights

Highlights of GAO-03-436, a report to congressional requesters

Why GAO Did This Study

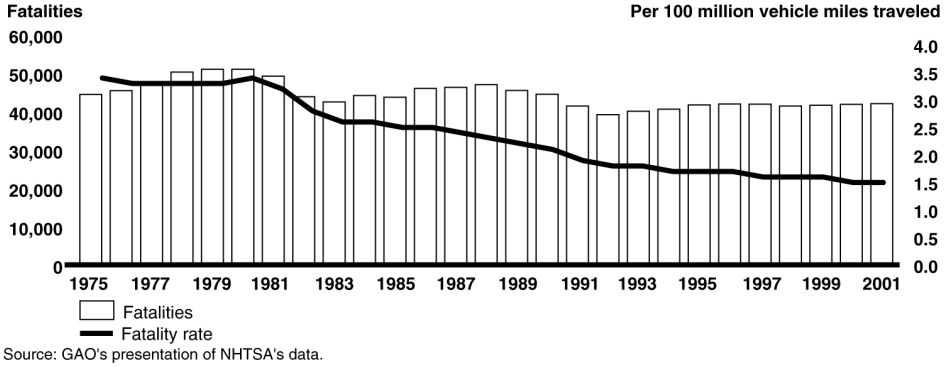
Nearly 6.3 million motor vehicle crashes occurred in the United States in 2001, or one crash every 5 seconds. On average, a person was injured in these crashes every 10 seconds, and someone was killed every 12 minutes. Since the 1970s, progress has been made in reducing the number of fatalities and injuries on our nation's roads. From 1975 through 2001, fatalities decreased from 44,525 to 42,116, while the rate of fatalities per 100 million vehicle miles traveled decreased from 3.35 to 1.51. However, the decline in fatalities has leveled off in recent years. In the 1970s, Indiana University conducted one of the most significant studies to date on the factors that contribute to motor vehicle crashes. This study examined human, environmental, and vehicle factors that contribute to crashes. As requested, this report provides more recent information from data, experts, and studies about the factors that contribute to motor vehicle crashes and information about major ongoing and planned Department of Transportation research into factors that contribute to crashes.

What GAO Found

Many factors combine to produce circumstances that may lead to a motor vehicle crash—there is rarely a single cause of such an event. Three categories of factors contribute to crashes: human factors, roadway environment factors, and vehicle factors. Human factors involve the actions taken by or the condition of the driver of the automobile, including speeding and violating traffic laws, as well as being affected by alcohol or drugs, inattention, decision errors, and age. Roadway environment factors include the design of the roadway, roadside hazards, and roadway conditions. Vehicle factors include any failures that may exist in the automobile or design of the vehicle. Human factors are seen as the most prevalent, according to data, experts, and studies, in contributing to crashes, followed by roadway environment and vehicle factors.

Agencies within the Department of Transportation have research projects underway or planned that address the factors that contribute to crashes. For example, the Federal Motor Carrier Safety Administration and the National Highway Traffic Safety Administration are conducting a study on the causes and contributing factors to large truck crashes. In addition, the National Highway Traffic Safety Administration is conducting a 100-Car Naturalistic Driving Study and the Drive Atlanta Study. The 100-Car Naturalistic Driving Study involves collecting data from vehicles equipped with sensors and cameras to obtain better information on crashes and near misses. The Drive Atlanta Study involves collecting data from 1,100 vehicles equipped with data recorders to develop information about how excessive speed contributes to crashes. In addition, the Transportation Research Board has proposed a broad, 6-year, $180 million research program focused on making significant improvements in highway safety. This study, among other things, would involve installing sensors and other data collection devices on over 5,000 vehicles.

Fatality Statistics, 1975–2001



Source: GAO's presentation of NHTSA's data.

www.gao.gov/cgi-bin/getrpt?GAO-03-436

To view the full report, including the scope and methodology, click on the link above. For more information, contact Peter Guerrero, (202) 512-2834, guerrerog@gao.gov.