

Study Says Crash Tests Predict Driver Fatality Risk in Cars, But Not in Trucks

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Frontal crash tests in laboratories are strong predictors of passenger cars' safety on the road, though they fail to accurately project driver fatality risks for trucks, according to a recent Virginia Commonwealth University study.

The study examined the frontal crash test ratings that vehicles received from the National Highway Traffic Safety Administration, NHTSA, and compared them to fatality rates in the vehicles. It also compared a smaller sample of test ratings given by the privately funded Insurance Institute for Highway Safety, IIHS, which uses a 40-percent frontal offset crash test, with the vehicles' fatality rates.

The results indicate that the crash tests held by NHTSA and the IIHS are successful in predicting real-world crash outcomes for passenger cars -- the ratings NHTSA and IIHS bestowed on passenger cars generally matched the cars' safety record on the road. However, the ratings for trucks did not match real-world outcomes. For example, in the case of both NHTSA and IIHS, trucks that received the worst possible crash-test rating had on average lower driver fatality rates than trucks that received the best possible crash-test rating.

"If you're thinking about buying a passenger car, then the crash test scores can be useful to you," said study co-author David Harless, professor of economics in the VCU School of Business. "But if you are thinking of buying a truck, we have no evidence that the tests are meaningful in terms of real-world performance in serious crashes."

The study was published in the September issue of *Accident Analysis & Prevention*.

Harless and co-author George Hoffer, professor of economics at VCU, limited their research to instances of multiple crash tests in a given vehicle line, controlling for the differences in driver behavior in different lines of vehicles. The study examined the testing of vehicles in the 1987-2001 model years. IIHS had fewer vehicle lines to review, because it did not begin its testing program until 1995. The study authors urged caution concerning their findings regarding the IIHS tests, particularly for trucks, because of the small sample of vehicle lines they were able to include in their research.

Hoffer said questions have persisted over the years about the value of NHTSA's frontal crash test ratings because of the difficulty of simulating a real-world crash in a laboratory. A tiny percentage of automobile accidents mirror the circumstances of a direct head-to-head collision between vehicles of similar size – the scenario NHTSA creates in its lab tests.

However, Hoffer said, "it turns out that the government does as good a job as the private sector does at predicting the relative death rate for passenger cars. The tests can be seen as complimentary of each other, though they are quite different."

Source: Virginia Commonwealth University

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