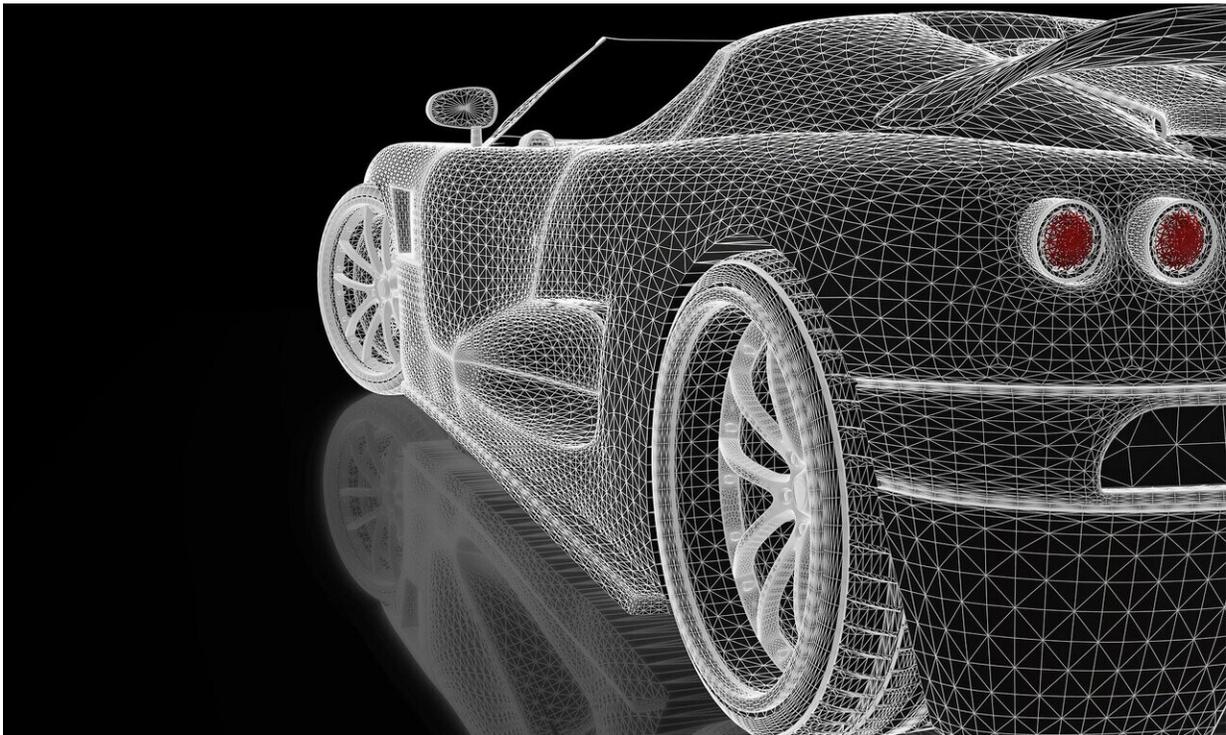


Study finds big benefits in embracing vehicle safety tech

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Alerting drivers to potential threats through "driver-assist" warning systems has been shown to reduce the odds of a crash. Using cameras or radar, each tool detects potentially dangerous anomalies, such as drifting from a lane, and alerts drivers to the threat.

A study by Carnegie Mellon University researchers published in the journal *Accident Analysis and Prevention* lays out the costs and [benefits](#) of three driver-assist technologies: blind-spot monitoring, lane-departure warning and forward collision warning. The researchers find that, if these warning systems were installed on all cars in the US, the resulting reduction in crashes would put a lot of money back into consumers' pockets.

"We don't have to wait for a future with fully [self-driving cars](#) to realize a lot of the benefits of sensing and automation," said Corey Harper, a presidential postdoctoral fellow in Civil and Environmental Engineering, who led the research. "A lot of crashes can be avoided with today's tech."

However, none of these safety systems are widely adopted, nor are they standard on all new vehicles. The researchers found that, if these warning systems were installed on all cars in the United States, the resulting reduction in crashes could create a net benefit of more than \$20 billion annually and prevent 1.6 million crashes a year, including 7,200 fatal crashes. The cost to install all three systems: about \$600 per car.

"Transportation is critical to our [everyday lives](#), and yet for most of us, riding in a car is one of the riskiest activities we do," said Costa Samaras, associate professor of civil and [environmental engineering](#) at Carnegie Mellon University.

Other collaborators on this study include Chris Hendrickson, professor of civil and environmental engineering and Abdullah Khan, an alumnus of the Heinz College of Information Systems and Public Policy.

Harper said how the benefits are distributed would likely influence drivers considering their return on investing in these safety features. Overwhelmingly, the team found that the benefits fall to individuals

rather than the public at large. Reducing the number of crashes provides distributed benefits—less congestion, fewer taxpayer-supported emergency responses—but most of the big savings are private (86 percent), largely coming in the form of avoided injuries, fatalities and damage to vehicles.

"The systems we assessed are cheap and getting cheaper," Samaras said. Now they just need to be installed.

More information: Abdullah Khan et al. Net-societal and net-private benefits of some existing vehicle crash avoidance technologies, *Accident Analysis & Prevention* (2019). [DOI: 10.1016/j.aap.2019.02.003](https://doi.org/10.1016/j.aap.2019.02.003)

Provided by Carnegie Mellon University

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