

Car-to-car talk: Hey, look out for that collision! (Update 3)

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This May 22, 2012 file photo shows a side mirror warning signal in a Ford Taurus at an automobile testing area in Oxon Hill, Md. Federal officials are planning to announce Monday whether automakers should be required to equip new cars and light trucks with technology that enables vehicles to communicate with each other to prevent collisions. Such vehicle-to-vehicle communication could eventually transform traffic safety. (AP Photo/Susan Walsh, File)

A car might see a deadly crash coming even if its driver doesn't, the U.S. government says, indicating it will require automakers to equip new vehicles with technology that lets cars warn each other if they're plunging toward peril.

The action, still some years off, has "game-changing potential" to cut collisions, deaths and injuries, federal transportation officials said at a news conference Monday.

A radio signal would continually transmit a vehicle's position, heading, speed and other information. Cars and light trucks would receive the same information back from other cars, and a vehicle's computer would alert its driver to an impending collision. Alerts could be a flashing

message, an audible warning, or a driver's seat that rumbles. Some systems might even automatically brake to avoid an accident if manufacturers choose to include that option.

Your car would "see" when another car or truck equipped with the same technology was about to run a red light, even if that vehicle was hidden around a corner. Your car would also know when a car several vehicles ahead in a line of traffic had made a sudden stop and alert you even before you saw brake lights. The technology works up to about 300 yards.

If communities choose to invest in the technology, roadways and traffic lights could start talking to cars, too, sending warnings of traffic congestion or road hazards ahead in time for drivers to take a detour.

The technology is separate from automated safety features using sensors and radar that are already being built into some high-end vehicles today and which are seen as the basis for future self-driving cars. But government and industry officials see the two technologies as compatible. If continuous conversations between cars make driving safer, then self-driving cars will become safer as well.

The National Highway Traffic Safety Administration, which has been working with automakers on the technology for the past decade, estimates vehicle-to-vehicle communications could prevent up to 80 percent of accidents that don't involve drunken drivers or mechanical failure.

Crashes involving a driver with a blood alcohol content of .08 or higher accounted for nearly a third of the 33,500 traffic fatalities in the U.S. in 2012, according to the safety agency.

The technology represents the start of a new era in automotive safety in which the focus is "to prevent crashes in the first place," as compared with

previous efforts to ensure accidents are survivable, said David Friedman, the head of the agency.

No orders to automakers are imminent, officials said.

After an agency report, the public and carmakers will have 90 days to comment, then regulators will begin drafting a proposal, and that process could take months to years. But Transportation Secretary Anthony Foxx said it is his intention to issue the proposal before President Barack Obama leaves office.

"It will change driving as we know it over time," said Scott Belcher, president and chief executive of the Intelligent Transportation Society of America. "Automobile makers will rethink how they design and construct cars because they will no longer be constructing cars to survive a crash, but building them to avoid a crash."

Government officials declined to give an estimate for how much the technology would increase the price of a new car, but the transportation society estimates it would cost about \$100 to \$200 per vehicle.

Automakers are enthusiastic about vehicle-to-vehicle technology but feel there are important technical, security and privacy questions that need to be worked out first, said Gloria Bergquist, vice president of the Alliance of Automobile Manufacturers.

The technology "may well play a larger role in future road safety, but many pieces of a large puzzle still need to fit together," she said.

The technology the government is contemplating contains several layers of security and privacy protection to ensure the information exchanged between vehicles doesn't identify them but merely contains basic safety data, officials said.

The safety benefits can't be achieved until there is a critical mass of cars and trucks on the road using the technology. It takes many years to turn over the nation's entire vehicle fleet, but the technology could start preventing accidents before that.

Safety benefits can be seen with as few as 7 percent to 10 percent of vehicles in a given area similarly equipped, said Paul Feenstra, a spokesman for the transportation society, an umbrella organization for the research and development of new transportation technologies.

There may be another way to speed things up, according to a presentation last year by the communications technology company Qualcomm. About 45 percent of Americans use smartphones, and that share is growing. If smartphones, which already have GPS, came equipped with a radio chip they could be used to retrofit vehicles already on the road so they could talk to each other. That would help make it possible to achieve a 50 percent market penetration in less than five years, Qualcomm estimated.

Using cellphones could also extend the safety benefits of connected-car technology to pedestrians, bicyclists and motorcyclists, Belcher said. A driver could be alerted to a possible collision with a pedestrian carrying a smartphone sending out information, even if it was too dark to see the person. More than 4,700 pedestrians were killed by vehicles and 76,000 injured in 2012.

But there are significant technical and standardization hurdles to using cellphones to support connected-car technology. Cellphone battery life, for example, a need for antennas, questions about radio frequencies and concern that cellphone GPS functions might not be as precise as those in a vehicle manufactured with special technology.

More information: National Highway Traffic Safety Administration
—icsw.nhtsa.gov/safecar/ConnectedVehicles/

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