Officials say vehicle-to-vehicle communications could reduce crashes
By Brian Fung, The Washington Post

WASHINGTON — For years, transportation wonks have been waiting for automated technologies that will make cars safer and easier to use, cutting down on traffic jams and lowering the risk of deadly crashes. Now we're one step closer to that future: The National Highway Traffic Safety Administration has unveiled a plan to require vehicle-to-vehicle communications technologies in all new passenger cars. Adopting these technologies, the agency says, could prevent nearly 600,000 car crashes every year once the rollout is complete.

Vehicle-to-vehicle communications allow cars to talk to one another, relaying information like speed, position and trajectory. This means that when you're approaching an intersection and there's oncoming traffic, vehicle-to-vehicle (V2V) technologies could judge when it's safe to turn left.

Most drivers probably feel like they don't need this type of help. In the vast majority of cases, turning left might seem like a non-problem. But consider the outlier cases where warnings against turning left too soon would be immensely helpful. Unsafe left turns account for more than seven percent of all car collisions.

That's just one of a number of scenarios that NHTSA is floating in a massive, 300-page report out this week accompanying its plan.

"Adoption of crash avoidance technologies, like electronic stability control, has helped vehicles react to crash-imminent situations," wrote NHTSA, "but has not yet been able to help the driver react ahead of time."

V2V technologies promise to help keep drivers in the loop. Testing is already well underway; in addition to what engineers are calling left-turn assist, or LTA, highway regulators are also confident about a handful of other warning technologies. For instance, regulators may require that your car tell you when someone else is braking hard up ahead. You may not be able to see that person, but thanks to your car's wireless communications with others, you'll be able to avoid a multi-car fender bender. Other potential features are designed to help keep cars from entering occupied lanes, or to prevent unsafe passing.

Some of these technologies have limitations. In the case of the left-turn assist, even the most sophisticated computer isn't capable of predicting when a driver wants to turn without the aid of a turn signal. Studies show around a quarter of drivers don't use turn signals at all. But this problem could be addressed by another emerging field known as vehicle-to-infrastructure, or V2I, communications. Sensors embedded in left turn lanes or in the traffic signal could help coordinate things further.

Formal V2V rules won't be released until 2016 at the earliest, when the agency is expected to publish a set of concrete proposals. But by talking about what is and isn't possible a few years ahead of time, NHTSA is effectively telling researchers and other regulators that they've got a lot of work ahead of them.