

To avoid collisions, self-driving cars must communicate

March 12 2015

Did you know some 33,000 people die and 2.3 million are injured in vehicle crashes in the U.S. each year?¹ Researchers at Intel Labs are paving the road to a crash-free future with cars that communicate with each other.

While you can't purchase a [self-driving car](#) just yet, that day is fast approaching. Cars that park themselves are already on the market, and fully [autonomous vehicles](#) are being tested on highways and city streets. But that's only the beginning. Researchers at Intel are reinventing the wheel with cars that can see each other, talk among themselves, and make decisions collectively. The goal? Crash-free driving.

Jennifer Healey, Intel Labs research scientist, studies the future of transportation. Her group has equipped test vehicles with cameras and dedicated short-range communications radio (DSRC) that she says functions "like a walkie-talkie between cars." Using a combination of triangulated GPS and camera data, the equipment gives cars the ability to closely track each other's positions and velocities.

Healey envisions the day when cars will also share information such as the routes they intend to take and how fast they can brake or accelerate. By sharing this powerful data, Healey says, cars could move down the road in concert, staying safe distances from each other and using [predictive models](#) to calculate the safest, least congested routes. Vehicles might also be able to react cooperatively to unexpected road hazards. If a tree fell across the [road](#), for example, each car would know whether to

stop or to veer safely out of the way, depending upon vehicle position, speed, and performance capabilities.

"It's my belief that once these sensing systems get to a certain level, we won't have to design cars to crash," says Healey. "We can create a transportation system that knows where we need to go, one that's connected and cooperative, easing the burden of driving and making it safer and more efficient. This has the potential to completely transform transportation."

Provided by Intel

Citation: To avoid collisions, self-driving cars must communicate (2015, March 12) retrieved 25 April 2024 from <https://phys.org/news/2015-03-collisions-self-driving-cars.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--