Honda takes a pilot route with cars virtually seeing through, around buildings

7 October 2018, by Nancy Owano

Honda “Smart Intersection” technology for vehicle-to-everything (V2X) communication is designed to reduce traffic collisions at roadway intersections. Credit: Honda

Remember when a car was confined to a machine to take you places? Added capabilities in 2018 are dizzying and they will only get more interesting, not less.

Honda has demonstrated technology that enables cars to see through and around buildings. Just as capabilities are growing, after all, so are highest goals. Talk is in the air of a zero-collision society. Sounds ambitious but automobile technologists are trying to move in a direction of making a very positive impact on safety.

The Honda lingo is "smart intersection" technology, meaning help to make sure cars avoid collisions by helping connected vehicles recognize that there are approaching vehicles or pedestrians hidden behind buildings or other obstructions.

Honda is in a Ohio pilot project, said Sven Gustafson, *Autoblog*. Honda's partner is the City of Marysville, Ohio, and it is giving viewers a look at a real-world environment, so one can see how smart intersection works.

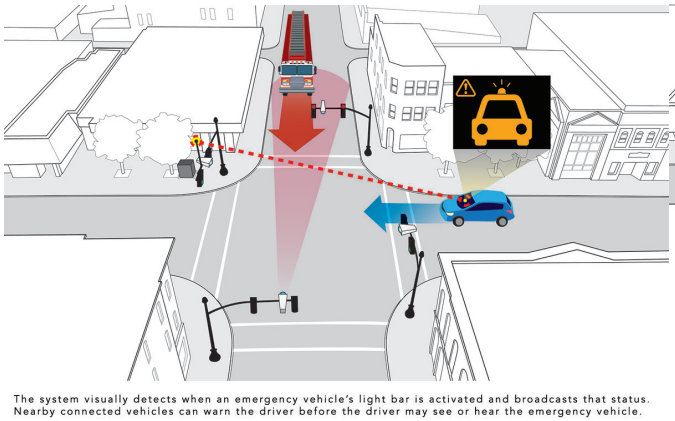
The vision is to minimize collisions at traffic intersections. "Roughly 20 percent of the nearly 35,000 traffic deaths that occur each year in the U.S. occur at intersections," Honda said earlier this month. And in more detail, "Intersection collisions account for roughly 40 percent of all collisions along with those 20 percent of the nearly 35,000 traffic-related deaths in the U.S. each year."

Problem is, sensors can only go so far in these scenarios. Honda said the pilot project "seeks to address the limitations of on-board vehicle sensors in addressing traffic collisions at roadway intersections."

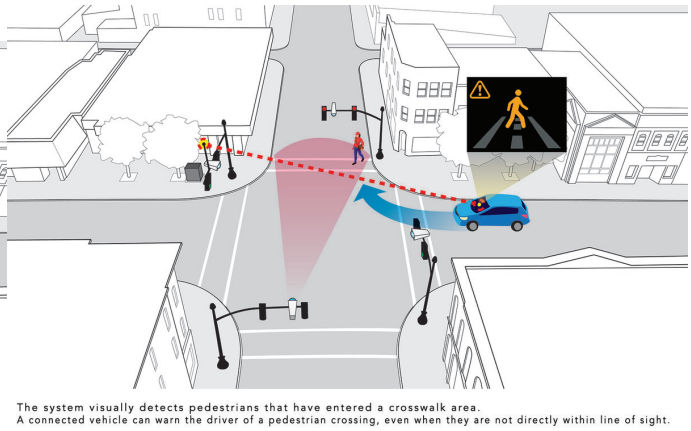
Automobile quoted a Honda engineer. "The key part of this technology is that it's able to sense things that you can't see," said Jim Keller, Honda Research & Development Americas chief engineer. "It's able to do things our eyes can't do, our ears can't do, so this technology moves us beyond where any onboard sensor is today."

As the cameras have a wide field of view – 300 ft. – they basically enable vision through buildings, said Sue Bai in *WardsAuto*. Bai is connected and automated vehicle leader and the Smart City pilot deployment leader at Honda R&D Americas. A driver today "essentially is driving blind when approaching built-up urban intersections," she told *WardsAuto*.

How the technology works: The automaker has proprietary object-recognition software, said Gustafson. It also involves cameras and other telematics equipment mounted on traffic signal poles. To understand how this would play out realtime, here is Gustafson's account of what happened during testing in Ohio:



Credit: Honda



Credit: Honda

Honda had 4 cameras above traffic lights at each corner of a downtown intersection. These could capture a view of traffic and pedestrians going out 300 feet in each direction.

The software created a 360-degree image of the intersection and any moving object—an oncoming ambulance or cyclist or pedestrian about to cross the street, for example.

It notified surrounding vehicles via a dedicated short-range communication signal. This was sent to a connected vehicle's onboard computer, which can generate a visible alert on the heads-up display, said Gustafson, and audible warning to the driver.

The intersection being used has tall buildings on each of the four corners, up to five floors, and relatively heavy pedestrian traffic, reported *Motor Trend*. All this made it a "perfect site" for the test, said Sue Bai, in *Motor Trend*.

Just as "smart intersection tech" will be a frequently used term, get familiar with the words "vehicle-to-everything (V2X) communication." V2X is at work in this project too.

What's next?

"Honda has committed to evaluate 200 connected vehicles between the 33 Smart Mobility project and Smart Columbus, a U.S. Department of Transportation-funded mobility project," said *Autoblog*.

Motor Trend had further details: "In the eight months since the cameras were installed, they have been used to warn about 200 Honda employees from the assembly plant nearby who have had special aftermarket head-up displays added to their dashboards. Honda is downloading data from the aftermarket HUDs, and is logging its employees' experiences with the V2X technology."

More information:
hondanews.com/releases/honda-d … and-around-buildings

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