

## What's New in Mobility in Michigan

Government and business leaders are responding to the urgent need to adapt to the mobility revolution with initiatives and pilot programs.

**M**ichigan's established and startup businesses are disrupting the world through development of advanced mobility solutions. The automotive supply chain, for instance, is evolving low-level vehicles to include connected and automated options to improve road safety.

State and local governments are installing smart infrastructure to improve the lives of communities and individuals alike.

And tech companies are creating collaborative robots and other internet-of-things technologies that make businesses run more efficiently.

Here's a glimpse at the numerous mobility-related projects launched in Michigan in the past year, along with many others underway.

### Truck Platooning

The U.S. Army Tank Automotive Research, Development, and Engineering Center (TARDEC) demonstrated platooning technology during a drive across the Blue Water Bridge from Port Huron to Sarnia last fall. The convoy of four vehicles included two tractors equipped with autonomous technology that drives the vehicle along a pre-programmed path and includes driver-warning features.

Part of the test included autonomous steering and leader-follower platooning where the lead vehicle communicates and with follower vehicles so they follow each other closely and brake, accelerate and steer according to the lead vehicle's instructions.

"I was in that vehicle. It was quite amazing to watch this 60,000-pound truck steer itself and to watch the steering wheel controls," said Kirk Steudle, director of the Michigan Department of Transportation. "Where the consumer should be interested is (platooning) is an efficiency in the trucking system of about 10 to 12 percent, which means the cost of shipping goes down 10 to 12 percent."

### Getting Ahead of Safety Concerns

The Michigan Department of Transportation announced in 2014 it would deploy dedicated short-range communication (DSRC) technology in intersections along 125 miles of roadways in an effort to boost



safety. The state has 155 roadside units up in Southeast Michigan, Ann Arbor and Lansing. "By the end of this year, we will be at 350 miles," said Steudle, adding, "by the end of next year, we'll have 550 miles."

### Understanding Mobility as a Service

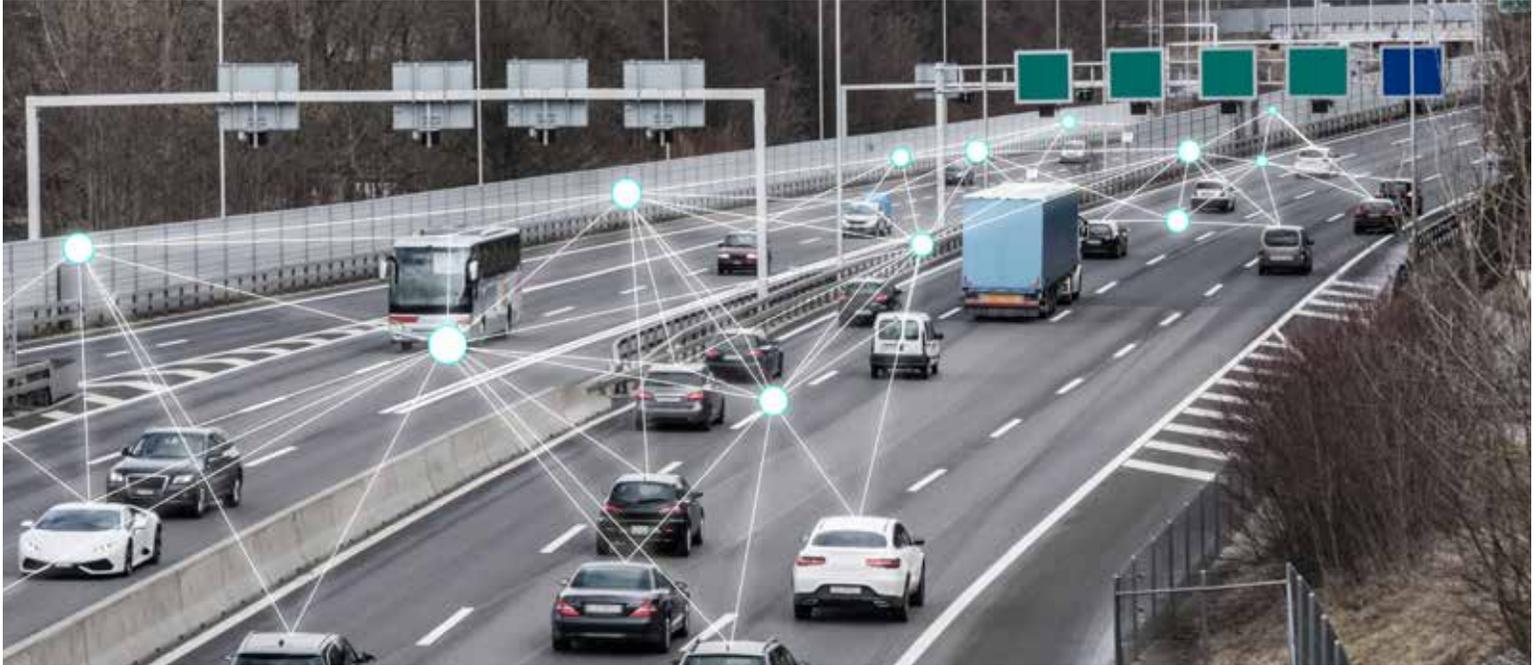
In Detroit, the Detroit Economic Growth Association put out a request for proposals last year for two mobility pilot transportation services "to understand barriers to bus riders using a ride-hailing service" and "to better understand the impact that mobility plays in participants of a (workforce) training program."

### Helping Maps Adapt

The Council on Future Mobility, a 21-person body designed to focus on issues related to insurance, cybersecurity and other projects, is tackling high-definition map upgrades. Because accurate maps are necessary for AVs to operate safely, the Council organized a public-private partnership that allows public vehicles equipped with privately developed sensors to gather road data for R&D. According to the Council's 2018 annual report, Michigan would be the only state with such a map database.

### Connected Work Zones

MDOT plans to launch a \$1 billion project to turn part of I-75 — from Hazel Park to Pontiac — into one of the first "connected work zones" to test V2I communication. Three miles of the freeway will have all-weather



lane markings, retroreflective signs with smart sign technology and Dedicated Short-Range Communication Devices.

## Cross-border drive

In July 2017, Continental AG and Magna International Inc. test drove automated vehicles for 300 miles with two border crossings — one at the Detroit-Windsor Tunnel into Canada, where the cars would not have access to GPS, and then they returned on Blue Water Bridge from Sarnia back into Michigan, where the technology communicated with the area infrastructure.

## What The Big 3 are Doing

### FCA U.S. LLC

- In August announced it would partner with BMW Group and Mobileye, an Intel Corp. company, to develop an AV platform scalable for Level 3 to Level 4/5 driving that automakers around the world can use and still maintain their own brand identities.

### Ford Motor Co.

- Announced earlier this year it would phase out sales of sedans in North America and accelerate the development and deployment of autonomous vehicles (AVs).
- Announced plans to deploy a new vehicle-as-a-service platform later in 2018.
- Plans to work with Qualcomm to bring cellular vehicle-to-everything technology to all Ford vehicles.
- Said it would partner with delivery service Postmates to test autonomous driving technology for deliveries.

### General Motors Co.

- Announced in 2017 it would equip vehicle-to-vehicle (v2v) communications in the Cadillac CTS.
- Announced a partnership with Amazon in April that would allow the online retail giant to deliver packages to the trunks of newer GM vehicles.

- Said it plans to begin manufacturing the Cruze AV for deployment next year. The company hopes not to include steering wheels or pedals in the vehicle.

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