U-M Leads in Changing Society's Mobility

A new city is being built.

It's a lot like the cities we've all been used to – but not exactly.

There won't be any people in it.

In a first-of-its-kind move, the University of Michigan Board of Regents on Oct. 18 approved plans to proceed with the design of a unique environment for testing connected and automated vehicles.

Occupying 30 acres at the U-M's North Campus Research Complex, the novel test environment will include approximately three lane-miles of roads with intersections, traffic signs and signals, sidewalks, benches, simulated buildings, street lights and obstacles such as construction barriers.

"There have been a host of innovations in this arena in recent years, but one of the major challenges ahead is to ensure that these vehicles can perform safely and reliably in a complex urban setting," said Peter Sweatman, director of the U-M Mobility Transformation Center, which is leading the initiative.

"Testing a workable system of such technologies in a realistic off-road environment is an essential step before a significant number of vehicles can be safely implemented on actual roadways."

The facility, which simulates a dynamic urban environment, is a critical element of a joint project with industry and government to develop and implement an entire system of connected and automated vehicles on the streets of southeastern Michigan by 2021, Sweatman said.

Current plans call for the facility to be completed by fall 2014 at a cost of about $6.5 million.

"Connected and automated vehicles provide a new platform for safety improvements, better traffic movement, emissions reduction, energy conservation and maximized transportation accessibility," Sweatman said.

"The new facility will help the MTC accelerate and integrate innovations that will lead to a commercially viable automated mobility system that will fundamentally transform mobility in our society."

According to Stephen Forrest, U-M vice president for Research, the scope of the challenge goes far beyond technology.

"Developing and implementing a realistic approach to moving both people and freight requires that we integrate scientific, technical, economic, social and policy considerations," he said. "The MTC will convene the required expertise from across campus – as well as from industry and government – to pave the way for the future."

Forrest says the initiative holds great promise for innovation and change.

"The most exciting prospect is the enormous economic and technological opportunity MTC offers to our region and the U.S. by literally reinventing the automobile more than a century after its first introduction on our nation's roadways," he said.

With $25 million in funding from the U.S. Department of Transportation, U-M recently implemented the world's largest on-road vehicle-to-vehicle and vehicle-to-infrastructure model deployment in Ann Arbor, with more than 3,000 users. This project, which includes several industry participants, is providing data to inform future policy decisions by the USDOT.

Other activities under way in the region are also laying the foundation for the new mobility system, Sweatman said.

For example, the Michigan Department of Transportation is installing unique "smart" infrastructure across southeastern Michigan. And the region's industrial powerhouse of automotive R&D is deeply engaged in automating vehicles for use by consumers and businesses.

Funding for the new research facility will be provided by U-M's Office of Research, the College of Engineering, the Transportation Research Institute, the Energy Institute and the Office of the Provost, in partnership with the MDOT, Sweatman said.

Eaton's Stover Named a VP at SAE International

Power management company Eaton announced that Tom Stover, chief technology officer for the company's Vehicle Operations, was appointed to a three-year term as vice president – Commercial Vehicle for SAE International, starting Jan. 7, 2014.

"It's an honor to be a part of SAE's leadership team and help guide the development of the engineers who create value throughout the commercial vehicle industry"

Stover's responsibilities will be to provide leadership and continuity for the engineering organization's commercial vehicle initiatives and for ensuring that industry needs are integrated into SAE's standards, events and educational programs.

Stover became an SAE member in 1992 and has championed several joint programs between Eaton and SAE in recent years, including the long-running Supermileage fuel efficiency competition held at the Vehicle Group's Proving Grounds in Marshall, Mich.