

Driverless Vehicles, Alternative Fuels and the Need to be Ready

Driverless cars are coming and alternative fuels are coming even sooner, but we can't forget to invest in the road infrastructure needed to support them.

That was a message from experts Thursday during the Greater Lehigh Valley Chamber of Commerce Transportation Summit, titled "The Future of Transportation." Before more than 150 people at the Mack Trucks Customer Center, planning, transportation and industry experts said new technologies will bring drastic changes to how we get around, but maintaining the existing road network will be key in making it all happen.

"The technology really does rely on our infrastructure remaining in good condition," said Roger Cohen, Senior Advisor to Pennsylvania Transportation Secretary Leslie Richards. "[Automated vehicle] sensors don't do well with potholes or faded road striping."

Much of the two-hour summit's discussion was dominated by the drive toward automated vehicles. Driverless vehicles have already arrived, as evidenced by the automated Tesla Model S parked in the rear of the banquet room at Mack Trucks. And experts agreed that they'll probably begin arriving in long haul trucking fleets before they hit the mass market.

However, while today's cars already have elements of automation – self-parking and automatic braking for example – some experts believe it will be at least a decade before fully automated cars hit the mass market, and maybe two decades before they're commonplace in your neighborhood. The technology will need to advance and be exhaustively tested before consumers will buy-in, said summit panelist Houssam Abbas, a post doctorate fellow at the University of Pennsylvania, who is developing a system to test the reliability of vehicle automation.

"Safety is the piece that we absolutely have to get right," Abbas said. "Statistically speaking, it is going to take billions of miles of testing before we determine whether they are as safe, or safer than humans. We are not where we need to be yet, but we are driving in that direction."

The impact of what will happen remains in question. One myth, said Lehigh Valley Executive Director Becky Bradley, is that the vehicle automation will reduce the number of vehicles on the road.

"[Automated vehicles] will provide us with many opportunities and challenges. They will provide more opportunities for disabled people and children," said Bradley, who sat on the panel discussing future impacts. "I believe there will be more vehicles. We'll need to prepare for that."

Another myth, said LANTA Executive Director Owen O'Neil, is that automated vehicles will eliminate the need for public transit.

“We don’t have public transit because there are buses,” O’Neil said. “We have it to provide an affordable way to move around. That will continue to be the case.”

Alternative fuels such as compressed natural gas, electricity and hydrogen fuel cells will arrive to the mass market before automated cars, the experts agreed. They’re already being used in corporate and public entity fleets. Nick Mittica, Air Products Commercial Manager, said the company will likely roll out a fleet of vehicles powered by hydrogen fuel cells in the next five years, and PPL Transportation Fleet Manager John Adkisson said PPL’s vehicles are already electric-powered.

The technology is there, but getting it to the mass market may take a public-private partnership to overcome a chicken and egg dilemma, Adkisson said.

“Business won’t install chargers unless they know enough people will use it,” said Adkisson. “The anxiety for people thinking about buying into alternative fuels is ‘where am I going to fuel this vehicle’.”

Answering that question will be among the many tasks when the LVPC drafts a new comprehensive plan for the region over the next year, Bradley said.

“We really are at a series of tipping points, and we will need to leverage every technology asset to prepare for what’s coming,” Bradley said. “We have an obligation to sustain our quality of life.”

When all this new technology comes, whether it be just over the horizon in the case of alternative fuels or further down the road for automated vehicles, the Lehigh Valley figures to play a key role. That comes in part because of its position as one of the nation’s fastest growing regions for freight. A LVPC analysis projects that freight traffic, fueled by online shopping and the demand for two-day deliver, will double by 2040.

“The Lehigh Valley is going to be one of the places where the future of transportation unfolds,” Cohen said. “As one of the fastest growing freight movement corridors, it’s going to need to rely on technology to handle the increase.”