

Electric Vehicles: Growing Michigan's Economy with Advanced Technology

Detroit has long been the capital of the automobile industry, a beacon of manufacturing, and a stronghold for skilled blue-collar Americans. Throughout the past decade, the city and its workers have been pushed to their limits, often wondering if there truly is a light at the end of the tunnel.

A push for innovation in technology, coupled with interest from investors and politicians, creates a huge potential for the city of Detroit and its automotive backbone. We know our current methods of transportation are damaging to the environment, and consumers are interested in finding solutions to these problems. Automotive innovation provides the solution we are looking for.

Autonomous and electric vehicles, (AV) and (EV) respectively, are on everyone's radar right now. Companies involved in the creative processes are being bought out at top dollar. For example, Cruise Automation, a company producing aftermarket "kits" that convert existing traditional vehicles into autonomous vehicles, was purchased by GM for somewhere in the neighborhood of \$1 billion.

What makes these companies exciting though, beyond the tech, is their unique approach to the main goal: creating smarter solutions for a sustainable future. However, through all of the excitement, we must push for free and fair policy discussion on the issue. There should be no favoritism in the market, and the government must not pick winners and losers.

As recent as last fall, legislation was being introduced at the federal level regarding how to regulate, manufacture, and ultimately govern these futuristic products. Legislation titled AV START ACT (S. 1885) was introduced to Congress by U.S. Senator John Thune (R – SD) and was referred to the Committee on Commerce, Science and Transportation (a committee which Sen. Thune chairs). This legislation contains several guidelines which would aid the production and manufacturing aspects of autonomous vehicles. On November 8, 2017 the United States Commerce Secretary, Wilbur L. Ross, endorsed the bill and even asked for its speedy adoption.

Much of the attraction to this new age transportation method is in regard to the technology, but what is going to be under the hood? The AVs coming from the "Big Three" could include a spectrum of power trains: gasoline-electric hybrids, plug-in hybrids, full electric, hydrogen fuel-cell electric, turbine-electric hybrids, and more. However, companies are purposely being vague, in order to keep their trade secrets.

Many consumers worry that they won't possess the same freedoms if they switch to electric. However, according to a 2017 survey conducted by CARMAX.com, 47% of electric vehicle owners say they can make it over 100 miles in their EV before needing to re-charge. This may seem like a big issue to you, but 90% of participants have said that they rarely, if ever, worry about running out of juice. That being said, there are still things that need to be worked on. Mark Fields, CEO of Ford Motor Company, said that Ford plans to use their \$4.5 billion electric initiative to release 13 new EV/AV's by 2020. Piggybacking off what Fields said, Raj Nair, Product Development Chief at Ford Motor Company said, "Areas of interest for us include: battery temperature, rolling resistance, and the autonomy of acceleration."

Detroit has long been seen as a force to be reckoned with. Growing up in Monroe County, just south of Wayne County, I have witnessed first-hand the hardships that the city and its citizens have experienced. Nevertheless, the strength of the Michigander prevails. And considering the rise of the technology industry, the influx of thousands of young professionals choosing Detroit over traditional opportunistic locations, such as New York or Los Angeles, there is no denying the sense of excitement and prosperity for the city. It is my hope to live as a young professional in a world where Detroit, Michigan is a leader of innovation across multiple industries.

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