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Autonomous Vehicles Predicted to Change Car Ownership, Insurance Industry

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Special to the Legal

Pittsburgh is at the epicenter of autonomous vehicle research and testing. Pittsburgh Uber riders are currently being serviced by a fleet of autonomous Volvo vehicles developed in conjunction with Uber's Advanced Technology Center in Pittsburgh. Ford Motor Co. committed to investing \$1 billion over five years in Argo AI, a Pittsburgh-based artificial intelligence startup created by Carnegie Mellon University alumni and staff that combines computer science, robotics and artificial intelligence for fully autonomous vehicles that Ford plans to introduce in 2021. Recently, General Motors bought Cruise Automation for \$1 billion and is preparing its Cadillac line for even greater automation.

We are entering a period of momentous change in vehicular travel and use, of comparable magnitude to the introduction of the mass production of automobiles over a century ago. In the fall of 1908, Ford began producing the Model T, the first mass produced self-powered vehicle affordable to the average American. This rapid increase in the ownership and use of automobiles not only grew the automobile industry, it spawned another major industry: automobile insurance. As the ownership and use of autonomous vehicles rapidly expands over the next decades, major changes are in store for the



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insurance industry. As we have experienced since the introduction of the Model-T, automobile accidents are caused by human error, product defects, natural conditions and road conditions. However, data is showing that the use of semi-autonomous, autonomous vehicles and ride sharing reduces the number of accidents caused by human error. In 2010, the Insurance Institute for Highway Safety (IIHS) estimated that a third of crashes and fatalities could be eliminated if all vehicles had the types of safety features

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currently available on some passenger vehicles, such as automatic braking systems, blind spot detection and forward collision and lane departure systems. We understand that some insurers offer a drop in premium rates or substantial discounts to encourage people to buy or use cars equipped with these functions.

The National Highway Transportation Safety Administration (NHTSA) has already created a rating basis for automated functions of vehicles:

Level 0: The human driver is in complete control of the operation of the vehicle;

Level 1: One function of the vehicle is automated;

Level 2: More than one function is automated at the same time, but the driver remains constantly attentive;

Level 3: Driving functions are sufficiently automated so that the driver can safely engage in other activities; and

Level 4: The car can drive alone without a human driver.

Currently many manufacturers are selling vehicles that reach Level 2. The technology is available to reach Level 3 to some extent, although those functions have not been approved by government-regulating bodies. Soon (and currently in Pittsburgh and two other U.S. cities—with engineers sitting behind the wheel), Level 4 fully autonomous vehicles will share the road with driver-operated vehicles and semi-autonomous vehicles. Predictions are that fully autonomous vehicles will further reduce accidents. Once we have transitioned into an era of fully autonomous vehicles, where vehicles communicate with each other and with intersection and construction controls, driver-caused accidents will be substantially eliminated. Distracted drivers, drunk drivers and raging drivers will be a thing of the past.

On July 19, a bill titled, The Highly Automated Testing and Deployment Act of 2017, was introduced. The purpose of the bill is for the federal government to regulate testing and assure appropriate cybersecurity as the vehicles are being deployed on our streets. Unlike most proposed legislation, this proposed bill received bipartisan support.

As well, experts predict significant changes in automobile ownership and use over the next decade or two that will likely reduce the number of accidents. This research by experts suggests that within the next couple of decades, individual ownership of cars will be the exception and ride sharing will be the norm, and that the ride sharing companies will adopt autonomous vehicles that are primarily electric. Research indicates that ride sharing makes economic sense as it substantially reduces individual transportation costs because there will be no more need to lease or pay for a car, buy automobile insurance, lease parking spaces, or incur maintenance and fuel costs. Instead, individuals schedule rides and contract with fleet owners for their transportation needs. Instead of owning a car that is operated only a small percentage of the time, an individual will only pay for the time or mileage when

in transit. Vehicle fleets owned by ride share operators will be in constant operation. Once traditional car ownership is eliminated, will there be a need for individual automobile insurance?

As accidents caused by human driver error are reduced, government regulations and the insurance industry will have to create new methods to protect passengers and others who suffer personal injury or property damage caused by an autonomous vehicle. Accidents will still occur and may be caused by software problems, component problems, cybersecurity breaches or other technical malfunctions in the vehicle and operating systems. As government infrastructure develops communication with autonomous vehicles, this involvement will be subject to scrutiny in the event of an accident. Laws will have to evolve an appropriate risk shifting mechanism. The NHTSA provides that for regulatory purposes, autonomous vehicle software is determined to be the “driver,” essentially holding manufacturers responsible for driver-related accidents. In addition, various state legislatures are exploring regulations for testing and using autonomous vehicles and are creating entities to make recommendations. A continuously updated listing of state legislature actions can be found here.

Additionally, certain manufacturers of autonomous vehicles have announced they will accept responsibility for accidents under products liability principles. Volvo, Google and Mercedes Benz have already pledged to accept liability if their autonomous vehicles cause an accident. As well, Tesla is looking to bundle insurance and maintenance with its vehicle sales. It is likely that the insurance industry will be working with manufacturers and fleet owners to create different types of insurance products that will be built into the cost of use of the autonomous vehicles. Another option may be a combination of the legislation and insurance products to create funds, similar to environmental super funds, risk pools or workplace compensation to address liability of autonomous vehicles for injury or damage.

While experts predict that autonomous vehicles will reduce the number of accidents, some also speculate that the costs of determining what was at fault and who should be held responsible will rise dramatically, equaling the cost of a complex product liability case. For example, in 2014, the Brookings Institute issued a paper suggesting that current tort and contract law related to products liability is robust enough to encompass the issues raised where semi-autonomous vehicles are involved in accidents. The Insurance Information Institute provides statistics on the high costs of products liability lawsuits for the years 2006 through 2015 here.

During the transition period, manufacturers of semi-autonomous vehicles typically incorporate written and interactive warnings concerning driver responsibility. Certain manufacturers of vehicles that enable autonomous driving for short periods of time attempt to keep the risk on drivers by automatic alerts for drivers to touch the steering wheel at regular intervals or in certain traffic/road conditions and record the drivers’ responses to the alerts. Accidents have shown that these are imperfect, as when Tesla’s system failed to identify a white truck against the bright skyline, and continue to require a full investigation for cause and liability.

In conclusion, experts agree that with autonomous vehicles and greater use of ride sharing services, the insurance industry must adapt. Not for much longer will individual automobile liability insurance be ubiquitous and a stable source of premium revenue. Manufacturer liability, including cybersecurity liability for the software and connected devices in vehicles and between vehicles and infrastructure, will increase as individual liability will decrease. The insurance industry will have to adapt its products accordingly. ●