Data Show Autonomous Cars May Drive More Safely than Human Drivers

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IDTechEx, which provides market research on emerging technology, analyzed California Department of Motor Vehicles (DMV) autonomous vehicle collision reports. Per California regulation, every company testing autonomous vehicles in California must notify the state’s DMV of any collision. IDTechEx reviewed those reports, which cover about a two-and-a-half-year period. James Jeffs, IDTechEx’s technology analyst, said that “it is not looking good for human drivers.”

Of 187 reports filed between 2019 and July 2021, 104 of the incidents were caused while in manual mode (i.e., the autonomous system was overridden by the human and the human was driving the vehicle themselves). Of the remaining 87 incidents, 83 accidents occurred while the autonomous vehicle was in fully autonomous mode, but only 2 of those collisions were caused by poor performance of the autonomous system itself (the other 81 incidents were caused by human error, either in another vehicle or a disobedient pedestrian). This means that 99 percent of the autonomous vehicle accidents during this period in California were caused by human error.

The majority of these incidents were rear-end collision accidents while in traffic or stopped. However, if both vehicles were operating autonomously, perhaps the accident would not have occurred; autonomous vehicles do not take unnecessary risks (e.g., overtakes another vehicle or runs stop signs), they devote 100 percent of their attention to driving, and they do not flee from law enforcement. Therefore, human error actually makes it more difficult for autonomous vehicles to safely operate. Research and development activities in the autonomous vehicle space are ongoing; autonomous vehicles are not yet 100 percent reliable—and, likely, never will be.

While autonomous vehicles may be imperfect, they do have 360-degree perception, can communicate with each other in advance, and will not make senseless operational errors. As the technology gets better, and more autonomous vehicles hit the roads, humans may be taking a back seat to these operator-less vessels.

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