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## Driverless car ppt report

As of earlier this month, some Uber customers in Pittsburgh have been treated to a preview of what many expect to be the future of ridesharing. Fourteen self-driving Ford Fusions began carrying riders within a 12-square-mile section of the city center. During what is characterized as an indefinite testing period, the cars are not truly driverless. In fact, there are two Uber employees in each car, one to take manual control when necessary, another to observe and take notes. But it's a big step towards a truly driverless taxi service. (The term rideshare begins to seem inappropriate here, as the high-tech driverless vehicles would presumably be owned by Uber, rather than the neighbor or boy down the block.) Here's a selection of comments and observations from journalists who were among the first to test the semi-driverless cars: The ride feels pretty much like a ride in any other car - with an extremely careful driver. We might go one or two miles an hour over the speed limit. Turns especially feel painfully slow ... Uber is like the Wright brothers testing the world's first aircraft on the coast of North Carolina. Pretty cool. But not very practical yet. (NpR) When the car navigates four-way stops and traffic-controlled intersections, the ride is mostly smooth, with scattered moments of aggressive acceleration or braking. The engineer at the wheel takes over control in a few minutes. Once, he's not happy with how long the car waits before he brakes on a pedestrian. Another time, he manually steers around a double parked truck, knowing that the system will just stop and wait for it to move. (Wired) In fact, my time as a passenger in the self-driving Uber as it drove around downtown Pittsburgh was blessed eventless... i never felt like the car did any unsafe maneuvers. It obeyed the speed limit, leaving plenty of space between it and the car in front of it, switched slowly and steadily and generally behaved like an excellent citizen in the vehicular community... All in all, it was a pretty boring ride - except for the fact that a fucking computer drove me around in downtown Pittsburgh. (Engadget) Overall, driving in Uber's self-driving car was equal parts exciting and mundane. I was surprised by the skill level at which the car drove itself, but also by how many times it fell out of autonomous mode unexpectedly ... There were some hair-raising moments, like when an oncoming tractor-trailer suddenly swerved into my lane, or when a woman in a blue-and-white striped shirt stuck out into the street in front of me. These were the kind of routine but unpredictable situations drivers face every day, but this time it was a computer that made the fractional other decisions. (Randen) During a trip of about an hour, Reuters observed the Uber car safely - and mostly smoothly - stopping at a red light and accelerating at the green light, traveling across a bridge, moving around in a mail truck and slowly for a open a car door on a busy street. All without a person touching the controls. But the Uber driver and engineer in the front two had realized by a few kilometers. (Reuters) - The New York Times During a demonstration trip for The Wall Street Journal, our robo-taxi obeyed speed limits, stayed in its lane and never shot through yellow lights. It struggled with some obstacles and once jarringly hit the brakes. (Wall Street Journal) Uber and other advocates for a driverless future make a compelling case for the technology's ability to improve safety and congestion, among other things. The company's CEO Travis Kalanick notes that 90 percent of the 1 million annual traffic deaths are due to human error, promising This is a tragedy that self-driving technology can help solve. Based on early results from Uber's Pittsburgh experiment, it won't be long before the rosy claims are put to the test. Reader Reality Check Are you ready for driverless rides? More from SmarterTravel: After 20 years in the travel industry, and 15 years of writing about it, Tim Winship knows a thing or two about travel. Follow him on Twitter @twinship. We handpick everything we recommend and select items through testing and reviews. Some products are sent to us for free without the incentive to offer a favorable review. We offer our objective opinions and do not accept compensation for reviewing products. All items are in stock and prices are accurate at the time of publication. If you buy something through our links, we can earn a commission. Thanks to the blogosphere hype machine, most people connect automated, driverless cars with the cute, self-driving Google car. Google's technology is charming, proposing an idyllic morning commute where we are all the driver to work by robots. But the future of driverless vehicles is much more mundane. [ 20 cars that drive themselves ] [ 12 Cool future transport concepts ] Trucks. The future of driverless driving is all about trucks. So forget the sensor-equipped Volkswagen Passat and get ready for a 40-ton Peterbilt 18-wheeler. In the wake of new guidelines for the U.S. Department of Transportation for testing automated vehicles, experts like Amit Azguner, a professor at Ohio State University's Center for Automotive Research, predict that the first wave of operational autonomous vehicles will be devoted to long-range deliveries. This is about moving cargo, not people. The trucking industry is very interested in going from single trucks to convoys of trucks. A human driver with maybe three other trucks behind him, Azguner told TechHive. The three wouldn't necessarily have a driver in them. Finally, you can imagine removing the first driver as well. The technology, which is being developed (and in some cases, deployed) for use right now, consists of a lead truck driven by a human driver followed in close formation by a small fleet of driverless vehicles bound by a variety of sensors. Big in In late May, the U.S. Department of Transportation opened the door to road testing of self-driving trucks by publishing guidelines for the three states that currently allow driverless vehicles: California, Nevada and Florida. This policy opens the door to driverless tests of all kinds. Abroad, experiments with driverless truck convoys - also known as troops - have been underway for years. For example, the E.U.-sponsored Safe Road Trains for the Environment (or SARTRE) program ran from 2009 to 2012, and employed a mix of radar, fixed lasers, and cameras to create a trove of highway vehicles with a lead vehicle - usually a truck - with a number of cars driving behind in close formation. The following vehicles operated completely under the control of the lead car, allowing the drivers in the rear cars to sit back and enjoy the ride, completely hands-free. SARTRE was made specifically with both trucks and cars in mind, but one of the main architects sees greater opportunity in automated trucking. [Long-distance trucking] is the most realistic starting point for commercial use of the technology. Long-haul vehicles have the most to gain, both in terms of safety and economic benefits, says Mike Baker, chief engineer at Ricardo UK Ltd, the main firm of SARTRE. The fuel savings that trucks have in a troop have a significant impact on the operator's operating profit, not to mention the environmental impact of reduced CO2 and emissions. Large in JapanA similar Japanese caravan program researches methods of using computers in choreographing a fleet of driverless trucks in the immediate vicinity. Similar to the way competitive cyclists drive in close formation to create a slipstream of lower air resistance, tailgating trucks would work together to reduce fuel consumption. Although the Japanese study is still ongoing and has not yet shown significant reductions in fuel consumption, Baker says SARTRE has already produced reliable fuel savings. As gas prices continue to fluctuate on a large scale, it is a major concern for any business that relies on over-the-road vehicles to function. However, the more immediate economic possibility of connected caravans will be found in supplementing (or completely replacing) human workers - along with all the associated irritations such as offering decent wages, providing health care benefits, and making sure drivers get enough sleep. Highway to automationTrucking in urban or suburban areas is riddled with variables. While self-driving cars have demonstrated the ability to operate among all the stoplights and changing traffic patterns our roads can throw at them, they have not yet proven their ability to operate among erratic, emotional and occasionally undisciplined human drivers. The same goes for driverless convoys, which probably have to pick up a human operator before exiting the relatively simple highway system and enter crowded urban centers. In the future, cars will drive through all sorts of environments, but there are quite ways off, says Dan Flores, General Motors' advanced technology spokesman. We [develop semi-autonomous technology] only with highways in mind because you have the ability to stay in one lane for a long time. There's a lot more predictability there. In the coming years, automakers will continue to introduce incremental, semi-automated technology designed for situations that do not require interaction with too many other drivers (examples include already automated parallel parking systems and cruise control). Flores told TechHive that before the end of the decade, GM hopes to launch a technology called Super Cruise that will marry adaptive cruise and lane controls, and will allow any vehicle to navigate safely across long highway stretches. Highways are the ideal setting for all types of automated vehicles, while driving among people in stop-and-go urban traffic is another story entirely. People are willfully disobedient to the rules at times. The mix of automated vehicles and humans brings in all sorts of problems in terms of predicting what humans will do - going through red lights, not stopping at the stop sign, and so on, Azguner says. [Connected convoys on a highway] are [one] of the safest scenarios you can think of with autonomous cars driving alongside many human drivers. Aside from all security issues related to automated cars in crowded urban centers, the military technology that Google uses remains prohibitively expensive. And even if it were to cost less over time, a number of legal issues have not yet been sorted out. For example, who pays if a self-automatic car causes an accident - the hardware manufacturer, the driver's insurance company or the driver himself? Trucking is a dirty jobOn the surface, driverless trucks can seem to beA just another way for technology to rob people of jobs. But it turns out that trucking can be one of the dirty jobs handled best by a machine. There is a curious and serious shortage of truck drivers in the United States. According to the American Trucking Association, 2012 saw a 98 percent turnover for long-distance truck drivers, and despite the nation's stubbornly high unemployment rate, the industry is still short of qualified drivers by more than 25,000. It is not seen as a desirable lifestyle for many obvious reasons. Go home on Monday, don't come home until Saturday - it's not fun, says Richard Wallace, director of transportation systems analysis for the Center for Automotive Research (not related to OSU's C.A.R. program). If we could use advanced technology so that one driver could handle a troupe of trucks with some automation, there's a lot we can do to increase quality of life in that industry and increase safety, Wallace said. While the loneliness of the highway may be waning desirable career choices for many Americans, far more precarious work situations have catapulted driverless trucks from the theoretical realm into the practicalities. Trucks in warDriverless convoys are already being used in war zones, where supply vehicles are prone to attack. Robotics company ASI has developed a driverless convoy systemA that the user sensors in combination with a physical Kevlar band. A single truck leads a small battalion of unmanned vehicles behind it, eliminating the need for human drivers in a dangerous environment. Similarly, mining operations in Chile and western Australia use driverless dumpers to transport worms and other materials, allowing machines to take over in remote locations where few human workers are willing to go. Media coverage of driverless vehicles does a good job of explaining current technology, but hasn't done enough to reality-check what we'll actually use in the next two, five or ten years. So, left to our own imagination, we envision a future where we simply uter,A Take us to the movies, Mr. Car, and by we vroom, with drinks in hand. But an unromantic truth is that such technology will not hit the roads for at least the next two or three presidential administrations - if then. And until then? Keep your eyes on the road and watch out for the automated convoys. Follow TechHive on Tumblr today. Copyright © 2013 IDG Communications, Inc. Inc.

