



Potholes ahead for **AUTONOMOUS CARS**

Investor engines are revving, media buzz is at fever pitch, but society is not ready

Wired RECENTLY POSTED AN astonishing infographic detailing the “top 263 companies” working on autonomous cars. (Just the “top” ones, remember.) In addition to carmakers, the group includes specialists in sensors, navigation systems, safety gear, mapping and other esoterica. Nonetheless, the list underlines what you probably already knew: Silicon Valley’s chattering classes have gone gaga over self-driving cars. They see a transportation revolution ahead, one that will change the daily lives of everyone in the known universe. And of course, they imagine heaping Smaug-sized piles of treasure.

No question, a lot of super-smart Stanford and Berkeley MBAs and engineers are betting that in the not-too-distant future, we’re all going to be driven by robo-chauffeurs. The promised benefits are massive: no more traffic accidents; no more speeding tickets; the costs of transporting goods will fall; we will have less need for body shops, emergency rooms, traffic school, personal injury lawyers, the DMV and the California

Highway Patrol. Instead of guzzling coffee to keep alert, people will sip for distraction in sleek electric Waymos and Teslas and Applemobiles, reading social media, reviewing email or simply napping. Morgan Stanley has estimated that there could be more than \$500 billion from productivity gains alone, given that Americans spend 75 billion hours a year driving. We’ll be productive, safe, relaxed and happy, free to count our enormous profits from investing in autonomous driving shares.

At least, that’s the theory. But as Yogi Berra once said, “In theory there is no difference between theory and practice. In practice there is.” He had it right. The potential is vast, but autonomous cars also would disrupt the structure of American society in profound ways. People will push back, and push back hard.

Let’s take a brief look at where some of the complications lie.

MASSIVE JOB LOSSES

Driving – 18-wheelers, trash trucks, taxis, Oscar Mayer Wienermobiles, Ubers, delivery vans, buses, Zamboni machines, whatever – accounts for millions of US jobs. There are 3.5 million US truck drivers, according to the American Trucker Association;

another 5.2 million people work in non-driver jobs in the trucking industry. A recent NPR report noted that truck driving is the single most common job in California, Texas and many other states. That’s millions of truck-driving voters likely to pressure Congress to throw roadblocks in the way of self-driving vehicles. And it isn’t just driving jobs at risk – also vulnerable are jobs at trucks stops, gas stations, motels, greasy spoons and others who serve professional drivers.

POLITICS AND REGULATION

A few aggressive cities have taken a stance against car-sharing services such as Uber and Lyft; imagine the reaction when people figure out that self-driving cars are potentially going to drive millions into unemployment. (Uber and Lyft have abandoned Austin, Texas, for instance, in the

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face of regulations that require drivers to be fingerprinted.) Who is going to make the rules about liability, insurance, safety and the like? How will Congress react to the threat of massive potential job losses? The lines aren’t clearly drawn, but expect a battle royale.

INSURANCE AND LICENSING

Widespread adoption of self-driving cars will require a massive rethink about how we handle auto insurance. Current practice is to rate licensed drivers based on their age, driving history and other data. But if the “drivers” aren’t actually driving, should consumers bear responsibility when some algorithm goes kablooey and runs over Fluffy – or gets into a wreck? Should the automaker be responsible? The underlying software vendor? And by the way, what’s the point of getting a driver’s license if you don’t have to actually drive? That sounds trivial . . . until you go try to get through airport security without a driver’s license.

How good do they have to be? Given the stakes in any trip by a self-driving vehicle, the inherent error rates by the underlying software need to be small. Like really, really small. According to IEEE Spectrum, companies testing autonomous driving in California last year reported 2,578 “disengagements” – moments when a human being needed to grab the wheel. That’s about one every three hours – a significant amount of human oversight for an automatic machine.

The bottom line is that the world of self-driving cars is on the way, but it might take longer to get here than you think. One magazine article on self-driving cars suggests you will “settle back to enjoy the ride as your car adjusts itself to the prescribed speed.” That’s from *Electronic Age*. Published by RCA. January 1958.

So, yeah autonomous cars are coming. But don’t rip up your driver’s license just yet.

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