

Supporting Autonomous Vehicles With Better Regulations

By **Geoffrey Wyatt and Anthony Balzano** (October 22, 2019, 4:56 PM EDT)

Autonomous vehicles are coming, and promise to become a multitrillion-dollar industry.[1] According to a recent report from McKinsey & Co., by 2040, autonomous vehicles will generate \$1.1 trillion in services revenue annually, and \$900 billion in sales revenue.[2]

According to another report, the economic gains will be accompanied by massive economic savings as well, with the U.S. economy alone potentially saving \$1.3 trillion.[3] By some projections, driverless cars may inject \$7 trillion annually to the economy by 2050 by way of faster and cheaper delivery of goods, reduction of commuting times, reduction of car accidents and an increase in productivity.[4]

The stakes for automakers and their local economies are correspondingly significant. Eyeing the enormous potential benefits of being at the forefront of a future market for autonomous vehicles, automakers have been turning to unprecedented partnerships with new-tech firms, and even other automakers, in a bid to be the first to develop commercially viable autonomous vehicles and related technology.[5]

These manufacturers' home countries' economies stand to benefit as well, as car manufacturers continue to provide a source of thousands of jobs in their domestic economies, and autonomous vehicle technologies stand to create even more new jobs as the industry grows.[6] The employment benefits may extend beyond the auto industry too: Some analysts report that the "extended" auto industry touches almost every other industry in America — from insurance and transportation of goods to medical services, legal services and energy consumption.

In fact, a report from Deloitte in 2017 estimated that the extended auto industry represented "nearly \$2 trillion in revenues — more than 10% of the US gross domestic product" in 2017, and noted that the "future of mobility could affect nearly everyone who commutes to and from a job." [7]

Investments by automakers have generated pressure on governments to modernize their regulatory infrastructures to promote the development, testing and ultimately sale of self-driving cars. This area has proven to be one of intense competition. Recently, KPMG International published a ranking of countries by autonomous-vehicle readiness — with the United States listed as fourth, behind the Netherlands, Singapore and Norway.[8]

Buoyed by its top ranking in innovation and technology, the United States achieved a relatively high overall ranking, but was nevertheless held out of the top three by its much lower ranking of ninth in terms of policy and legislation. The report explains that "the lack of a strong [U.S.] national approach means individual states have to work hard to attract [autonomous-vehicle] businesses." [9]

Other reports have struck a similar theme, arguing that the biggest challenge facing autonomous-vehicle development in the United States is an anachronistic regulatory framework.[10] While criticizing the U.S. approach, these reports also contrasted it with the clear and unified policy initiatives relating to autonomous vehicles pursued by other governments.

For example, Singapore (ranked first in terms of policy and legislation by the KPMG report) amended its general driving safety law, The Road Traffic Act, to clarify that motor vehicles do not require human drivers to be legal.[11] Singapore also enacted Technical Reference 68, a set of provisional national standards dedicated to guiding the development of autonomous vehicles.[12]

Similarly, the United Kingdom (ranked second in terms of policy and legislation by the KPMG report) recently established a dedicated government agency, the Centre for Connected and Autonomous Vehicles, to create and review the regulatory framework for autonomous vehicles.[13]

By contrast, the U.S. regulatory regime relating to autonomous vehicles is still very much in flux, with the federal government only beginning to remove certain regulatory barriers that currently exist in federal law. In particular, the National Highway Traffic Safety Administration, or NHTSA, recently proposed, and sought public comments on, a new rule to safely remove and replace certain regulations that simply do not fit the autonomous vehicles of tomorrow — for instance, because they presume the existence of a human driver and related controls that may be absent in self-driving cars.[14]

To take one example, according to the proposed rule, some regulations expressly require manual controls in every vehicle, such as an operating lever to activate the turn signals,[15] a foot brake[16] or a parking brake "operable by a person seated in the normal driving position" [17] — equipment that could be rendered obsolete by fully autonomous vehicles.

Other regulations in effect require manual controls by prescribing safety compliance tests that require use of such manual controls. Federal Motor Vehicle Safety Standard No. 126, for example, requires a steering machine be used to test whether the vehicle's electronic stability control system is effective.[18]

The thrust of manufacturers' responses to NHTSA — submitted in late August — is that expeditious reform is required in order to propel development forward in the fierce contest to develop commercially viable autonomous vehicles.[19] At the same time, however, the comments provided differing solutions to some very complex questions. These divergent proposals and the complexity of the issues involved illustrate that, while it is clear enough that autonomous vehicles must be exempted from certain regulatory requirements to avoid strangling development, it is also important to settle on solutions that will serve the same safety interests in a rational way.

For example, it makes little sense to require autonomous vehicles to be outfitted with manual controls solely to facilitate testing of the electronic stability control system referenced above using existing NHTSA standards. But testing electronic stability control systems remains important — these systems detect loss of traction and correct the position of the wheels to gain maximum traction, which is a function that will remain important even if a car is driving itself.

The notice and comments suggest multiple possible approaches — remote operation, the inclusion of manual controls in test models, or testing protocols that are programmed into self-driving car software. But the same comments also raise practical objections to each of these approaches. Cognizant of the difficult questions these issues pose, a number of manufacturers suggested that NHTSA allow for interim, ad hoc approaches to develop further information that could lead to more sensible regulatory solutions in the longer term.



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While these dialogues underscore the difficult questions that NHTSA must resolve, they also suggest the potential barriers to commercial viability that may be posed by leaving too much authority to state and local governments to define core standards governing autonomous vehicle use and development. It may be, as the KPMG report suggests, that a strong national approach is needed to optimize opportunities for manufacturers and pave the way for the strong economic incentives that await the countries who lead innovation in this area.

The ball is now in NHTSA's court to parse the proposals made to it as expeditiously as it can, to promote development while ensuring the safety of the passengers and pedestrians of tomorrow.

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[1] See Samuel I. Schwartz, How Autonomous Cars Will Reshape Our World, *The Wall Street Journal*, Oct. 27, 2018, <https://www.wsj.com/articles/how-autonomous-vehicles-will-reshape-our-world-1539871201>.

[2] See Chandrima Sanyal Zacks, US Autonomous Vehicle Market Dominance Under Threat By China, *Yahoo Finance*, Aug. 29, 2019, <https://finance.yahoo.com/news/us-autonomous-vehicle-market-dominance-120912471.html>.

[3] See *Autonomous Cars: The Future is Now*, *Morgan Stanley*, Jan. 23, 2015, <https://www.morganstanley.com/articles/autonomous-cars-the-future-is-now/>.

[4] See Schwartz, *supra* note 1.

[5] See Mike Colias & Sara Germano, VW Ups Its Investment in Ford's Self-Driving Car Unit, *The Wall Street Journal*, July 12, 2019, <https://www.wsj.com/articles/volkswagen-to-invest-in-fords-self-driving-car-unit-11562890815>.

[6] See *id.* (describing the German auto industry as a "a pillar of the domestic economy"); Carmen Reinicke, Autonomous Vehicles Won't only Kill Jobs. They Will Create Them, Too, *CNBC*, Aug. 11, 2018, <https://www.cnbc.com/2018/08/10/autonomous-vehicles-are-creating-jobs-heres-where.html>.

[7] See Scott Corwin & Derke M. Pankratz, Forces of Change: The Future of Mobility, *Deloitte Insights*, Nov. 16, 2017, https://www2.deloitte.com/us/en/insights/focus/future-of-mobility/overview.html?id=us:2ps:3gl:confidence:eng:cons:102218:nonem:na:F5tmf2fU:1124733069:339149875907:b:RLSA_Future_of_Mobility:Future_of_Mobility_BMM:nb.

[8] See 2019 Autonomous Vehicles Readiness Index: Assessing Countries' Preparedness for Autonomous Vehicles, *KPMG* (2019), <https://assets.kpmg/content/dam/kpmg/xx/pdf/2019/02/2019-autonomous-vehicles-readiness-index.pdf>.

[9] *Id.*

[10] See Katie Jones, Ranked: The Autonomous Vehicle Readiness of 20 Countries, *Visual Capitalist*, Aug. 27, 2019, <https://www.visualcapitalist.com/ranked-the-autonomous-vehicle-readiness-of-20-countries/>.

[11] See Cristina Lago & Charlotte Trueman, How Singapore is Driving the Development of Autonomous Vehicles, *CIO*, Jan. 24, 2019, <https://www.cio.com/article/3294207/how-singapore-is-driving-the-development-of-autonomous-vehicles.html>.

[12] See Joint Media Release by The Land Transport Authority (LTA), Enterprise Singapore, Standards Development Organisation & Singapore Standards Council — Singapore Develops Provisional National Standards To Guide Development of Fully Autonomous Vehicles, *News Release*, Jan. 31, 2019, <https://www.lta.gov.sg/apps/news/page.aspx?c=2&id=8ea02b69-4505-45ff-8dca-7b094a7954f9>; Soumik Roy, How the LTA's TR68 Fuelled Singapore's Autonomous Vehicle Agenda, *Techwireasia*, March 7, 2019, <https://techwireasia.com/2019/03/how-the-ltas-tr68-fuelled-singapores-autonomous-vehicle-agenda/>.

[13] See Ellen Daniel, "Maximising Safety Through Innovation": How The UK Is Tackling Driverless Car Regulation, *Verdict*, July 18, 2019, <https://www.verdict.co.uk/maximising-safety-through-innovation-how-the-uk-is-tackling-driverless-car-regulation/>.

[14] See National Highway Traffic Safety Administration (NHTSA), Removing Regulatory Barriers for Vehicles With Automated Driving Systems, 84 Fed. Reg. 24433 (May 28, 2019) (to be codified at 49 C.F.R. Pt. 571).

[15] See *id.* at 24440.

[16] See *id.*

[17] See *id.*

[18] See *id.* at 24438-39.

[19] Comments from manufacturers and other parties are available on NHTSA's docket at <https://www.regulations.gov/docket?D=NHTSA-2019-0036>. The latest comments from manufacturers were submitted in late August.