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DRIVING SOLO: SOLUTIONS TO THE CURRENT PATCHWORK OF LEGISLATION CONCERNING AUTOMATED VEHICLES

❖ NOTE ❖

*Bryan Boccelli**

Abstract

This Note argues that states across the nation should expand upon and in some cases begin to introduce legislation in regards to self-driving vehicles. Although there are currently a handful of states that already have some form of regulation in effect regarding self-driving vehicles, the current patchwork of legislation is not very conducive for companies and entrepreneurs that wish to enter this market. This Note looks at a gradient system of automation as the basis for legislation that could potentially lead to greater investment from car manufactures in this area of technology. If adopted, a gradient system would mean that the automated vehicle would be subject to specific regulations based on a car's level of automation. The more autonomous the car is, the more highly regulated it will become.

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*J.D. Candidate, Class of 2018, University of Illinois College of Law.

I. INTRODUCTION

As technology advances to meet modern needs, companies such as Uber, Tesla, Google, and Apple (among others) have all begun a foray into the area of self-driving cars. The research into this area of technology has gone from theoretical in nature to actuality very recently in Pittsburg,[1] with more plans to roll automated cars out in Los Angles, Nashville, Tucson, and Austin.[2] The arrival of driverless cars across the United States presents unforeseen concerns that have left state and local officials scrambling to come up with rules and regulations to safely integrate this new technology into their cities and states.[3] Part II of this Note will first give a brief background on the history of self-driving cars. Part III of this Note will highlight the benefits of introducing autonomous vehicle legislation. Finally, Part IV will give an explanation of the potential benefits of introducing a gradient system of legislation these vehicles, followed by a conclusion.

II. BACKGROUND

Until recently, self-driving vehicles seemed like a concept stuck on the big screen. However, vehicle and technology manufacturers are slowly, but surely bringing the concept to life. As driverless cars hit the roads, the lack of regulation concerning these vehicles came into the spotlight very recently when Uber was unable to obtain a license to test its self-driving cars in San Francisco.[4] Currently, there exists only a patchwork of regulations for these types of cars across the country.[5] The National Highway Transportation Safety Administration only recently put out a Federal Automated Vehicle Policy ("FAVP") to aid in the transition of these cars from research fields to

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[1] Max Chafkin, *Uber's First Self-Driving Fleet Arrives in Pittsburgh This Month*, Bloomberg (Aug. 18, 2016), https://www.bloomberg.com/news/features/2016-08-18/uber-s-first-self-driving-fleet-arrives-in-pittsburgh-this-month-is06r7on.

[2] Bloomberg Philanthropies and the Aspen Institute Launch First Global Initiative to Help Leading Cities Prepare for the Advent of Autonomous Vehicles, BLOOMBERG PHILANTHROPIES (Oct. 24, 2016), https://www.bloomberg.org/press/releases/bloomberg-philanthropies-aspen-institute-launch-first-global-initiative-help-leading-cities-prepare-advent-autonomous-vehicles/.

[3] *Self-Driving Vehicle Legislation*, NAT'L CONF. OF ST. LEGISLATURES (Dec. 12, 2016), http://www.ncsl.org/research/transportation/autonomous-vehicles-legislation.aspx.

[4] Christopher Mele, *In a Retreat, Uber Ends Its Self-Driving Car Experiment in San Francisco*, N.Y. TIMES (Dec. 21, 2016), https://www.nytimes.com/2016/12/21/technology/san-francisco-california-uber-driverless-car-.html?_r=1.

[5] NAT'L CONF. OF ST. LEGISLATURES, *supra* note 3.

the America's roads.[6] The FAVP however, only lays out basic criteria for driverless vehicles and gives state and local officials much deference if and when they decide to regulate these vehicles differently than regular automobiles.[7] Since state and local governments create their own more specific rules for driving within their state or county, driverless cars would have to be equipped with the changes in driving regulations, especially if they are being used across state lines.[8] For example, in Illinois, U-turn regulations vary quite a bit from the basic statewide regulation to county or city regulations.[9] Statewide, U-turns are only legal if the car can be seen by other drivers within 500 feet of the point where turning.[10] In Chicago, however, the "driver of any vehicle shall not turn such vehicle so as to proceed in the opposite direction at any point closer than 100 feet to any intersection unless official signs are erected to permit such turns."[11] This change within a single state means driverless cars must be made aware of the change in regulation once they enter into Chicago city limits so as to not cause an infraction from occurring.

Given that there has already been one death attributed to a mistake made by a self-driving vehicle,[12] it's not illogical that cities are reluctant to let these companies test these vehicles without first fully understanding the benefits and potential risks associated with their integration into the current transportation map of their areas. The U.S. Department of Transportation has passed additional regulations to better assist in the process of

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[6] U.S. DEP'T OF TRANSP., FEDERAL AUTOMATED VEHICLE POLICY: ACCELERATING THE NEXT REVOLUTION IN ROADWAY SAFETY 3 (2016), https://www.autobeatdaily.com/cdn/cms/AV%20policy%20guidance%20PDF.pdf ("As the Department charged with protecting the traveling public, we recognize three realities that necessitate this guidance. First, the rise of new technology is inevitable. Second, we will achieve more significant safety improvements by establishing an approach that translates our knowledge and aspirations into early guidance. Third, as this area evolves, the "unknowns" of today will become "knowns" tomorrow. We do not intend to write the final word on highly automated vehicles here. Rather, we intend to establish a foundation and a framework upon which future Agency action will occur.").

[7] *Id.*

[8] Sarah Breitenbach, *As Driverless Cars Hit the Streets, States Weigh New Rules*, THE PEW CHARITABLE TRUSTS (April 21, 2016), http://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2016/04/21/as-driverless-cars-hit-the-streets-states-weigh-new-rules.

[9] *See* statutes and ordinances cited *infra* notes 10–11.

[10] 625 ILL. COMP. STAT. 5/11-802 (2016).

[11] CHI., ILL., CODE tit. 9, Ch. 9-16-040 (2005).

[12] Bill Vlasic and Neal E. Boudette, *Self-Driving Tesla Was Involved in Fatal Crash, U.S. Says*, N.Y. TIMES (June 30, 2016), https://www.nytimes.com/2016/07/01/business/self-driving-tesla-fatal-crash-investigation.html.

manufacturing, testing, and placing these cars in homes across the country.[13] Many states, including Illinois, have yet to pass automated vehicle regulation, which places automated vehicle entrepreneurs at a disadvantage when it comes to potential investment or testing facilities. This is shown by the amount of corporate and private investment that has been funneled into states where regulations are already in effect such as California, Michigan, and Arizona.[14] In California, officials have begun to weave regulations regarding self-driving vehicles into their laws for a couple years now and have seen companies begin to invest substantial capital into their state to grow this sector of the automobile industry.[15] Michigan has gone even further, passing four bills–995, 996, 997, and 998–that establish regulations for the testing, use, and eventual sale of autonomous vehicle technology and are meant to more clearly define how self-driving vehicles can be legally used on public roadways."[16] Although driverless cars are not illegal in states lacking legislation,[17] the potential risks associated with entering markets without any sort of regulation puts companies and investors in a perilous position.[18] Automated vehicle companies such as Uber or Google may have to invest unforeseen amounts of capital into factories or research that they had not planned on when they originally entered certain markets or states, which makes investing in states that already have legislation much more appealing from a business standpoint. One option to help companies invest in this market would be to introduce a gradient system of legislation. A gradient system would have rules that vary depending on the car's level of automation and human control of the vehicle.

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[13] Federal Motor Carrier Safety Administration, 81 FR 86,069 (Nov. 29, 2016).
[14] NAT'L CONF. OF ST. LEGISLATURES, *supra* note 3; Ryan Derousseau, *What Self-Driving Cars Will Mean for Automakers' Stocks*, FORTUNE (Sept. 6, 2016), http://fortune.com/2016/09/06/auto-stocks-tesla-gm-ford/.
[15] Mark Lewis, *Documents Confirm Apple is Building Self-Driving Car*, THE GUARDIAN (Aug. 14, 2015), http://autonomousvehicleinstitute.com/wp-content/uploads/2015/08/150814-Apple-Is-Building-Self-Driving-Car-The-Guardian.pdf.
[16] Kirsten Korosec, *Michigan Just Passed the Most Permissive Self-Driving Car Laws in the Country*, FORTUNE (Dec. 9, 2016), http://fortune.com/2016/12/09/michigan-self-driving-cars/.
[17] *See,* Grayson Ullman, *Tesla's self-driving software: Is it street legal?*, FEDSCOOP (Oct. 16, 2015), https://www.fedscoop.com/teslas-self-driving-update-how-is-it-legal/.
[18] Richard Viereckl, Dietmar Ahlemann, Alex Koster, Evan Hirsh, Felix Kuhnert, Joachim Mohs, Marco Fischer, Walter Gerling, Kaushik Gnanasekaran, and Julia Kusb, *Connected car report 2016: Opportunities, risk, and turmoil on the road to autonomous vehicles*, STRATEGY& (Sept. 28, 2016), http://www.strategyand.pwc.com/reports/connected-car-2016-study

III. BETTER LEGISLATION EQUATES TO DRIVING UP A STATE'S ECONOMY

In states such as California, where technological innovations of this kind are commonplace, state officials have begun the process of instituting laws to govern these self-driving vehicles.[19] These laws, however, have yet to garner widespread popularity as noted by Uber's decision not to enter San Francisco (with automated cars) because of the licensure requirements in place.[20] Currently, California law requires a slew of requirements in order to register a fully automated vehicle in the state.[21] These requirements, however, inhibit technological expansion because of the burden placed on companies, especially if they are confident in their technology's ability to maneuver through everyday traffic.[22] One requirement in California is liability insurance in the amount of five million dollars.[23] This rule does not make it fiscally plausible for some companies to register self-driving cars within the state because of the enormous insurance premiums that will have to be paid per vehicle by the companies making breakthroughs in this market of vehicles.

Historically, companies and individuals who venture into flourishing markets tend to have higher startup costs than those who enter later.[24] With car manufacturers spending billions of dollars developing these self-driving vehicles,[25] state and local governments should level the field by allowing them to reap more of the benefits if and when these cars are ready to hit U.S.

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[19] CAL. DEP'T OF MOTOR VEHICLES, TESTING OF AUTONOMOUS VEHICLES (2017), https://www.dmv.ca.gov/portal/dmv/detail/vr/autonomous/testing ("The autonomous vehicles testing regulations were adopted on May 19, 2014 and became effective on September 16, 2014.").

[20] Mele, *supra* note 4.

[21] CAL. VEH. CODE § 38750 (West 2015).

[22] Sam Levin, *Uber cancels self-driving car trial in San Francisco after state forces it off road*, THE GUARDIAN (Dec. 21, 2016), https://www.theguardian.com/technology/2016/dec/21/uber-cancels-self-driving-car-trial-san-francisco-california ("Uber, which had previously declared that its rejection of government regulations was an 'important issue of principle', confirmed that it has stopped its pilot in a statement…").

[23] *Id.*

[24] Harold Demsetz, *Barriers to Entry*, 72 AM. ECON. REV. 47, 47–48 (1982) (discussing how high start-up costs deter initial market entry).

[25] Dana Hull, *Ford Investing $1 Billion in Startup Founded By Two Autonomous Car Pioneers*, BLOOMBERG TECHNOLOGY (Feb. 10, 2017), https://www.bloomberg.com/news/articles/2017-02-10/ford-investing-1-billion-in-ex-google-uber-engineers-startup.

roads. There are currently nine states that have passed legislation outlining the use of self-driving vehicles in their states—and what Illinois should do is balance safety and economic growth so as to reach a nexus, allowing these companies to expand their efforts in its state.

IV. THE BENEFITS OF A GRADIENT SYSTEM OF LEGISLATION

One option would be to base legislation off the FAVP which defines different levels of automation. The FAVP adopted the Society of Automotive Engineers' (SAE) levels of automation; they range from 0 to 5, with SAE level 0 being a human driver controlling the vehicle and SAE level 5 being an automated system controlling all driving tasks.[26] States that have yet to pass legislation should have less regulation for vehicles on the lower end of the spectrum. This creates incentives for different companies and manufactures to enter the market at different points of automation. California's blanket legislation for automated vehicles disproportionately forces self-driving car manufacturers at lower points of the SAE scale to adhere to more stringent rules, which makes it unfeasible for low-SAE vehicles to enter into the state, even though these cars may be just as safe because drivers are aware of the lower level of automation.

A five million dollar insurance policy may not seem irrational given the potential harm to human life that may be caused by computer error; however, by handing over the reins of the potential for liability over to the companies manufacturing these vehicles it will force them to have more skin in the game, so to speak. Looking back at California's five million dollar insurance coverage law, it would be reasonable in cars that are in levels 3-5 of automation to be insured at a higher dollar amount because it is at those levels when a vehicle is considered to be a "highly automated vehicle" ("HAV").[27] These HAV's are "vehicles with automated systems that *are responsible for monitoring the driving environment.*"[28] This gradient system of regulation would help driverless automobile manufactures by having allowing them to enter the market for these cars at different points and with different levels of regulation at each point of automation. If Illinois and other states were to adopt this gradient system of regulation, they would allow for greater access to research into this technological area because of the incentives that would be in place at each level. One example of this might be a five million dollar insurance policy, but only at SAE level 5, an automation level

[26] U.S. DEP'T OF TRANSP., *supra* note 6.
[27] *Id.*
[28] *Id.*

at which a vehicle is completely self-sufficient and does not require human input.

Grimshaw v. Ford Motor Co., a seminal case in the auto industry, would likely deter companies from manufacturing and selling automated cars that were not yet ready to enter the U.S. transportation grid because of the punitive damages that they could be ordered to pay.[29] In *Grimshaw*, Ford calculated the dollar value of potential injury as costing less than a recall of those specific cars.[30] When this came to light at trial the plaintiff was awarded $125 million in punitive damages because of the gross negligence of Ford by not recalling this car model.[31] Thus, if a company knows that their automated vehicles are not yet ready to enter public roads, they stand to lose much more than the cost of the injury to the victim.

V. REAPING THE BENEFITS OF DRIVERLESS CARS

Automated cars are the next horizon in the transportation industry and states such as Illinois should aim to play a role in their growth so as to benefit not only their citizens, but also society as a whole. States should take the wheel and begin to examine the current patchwork of legislation concerning automated vehicles and continue to protect consumers while aiding in the growth of this area of technology. Manufacturers should be fully aware of the product liability they are placing upon themselves; by deploying these cars throughout the country as a new form of public transportation, manufacturers have demonstrated the requisite time and effort to perfect these cars so as to be fully functional and safe on U.S. roads. By adopting a gradient system of regulation, pegged to the vehicle's level of automation, states can introduce legislation that would help the auto industry drive into a new era of transportation.

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[29] Grimshaw v. Ford Motor Co., 119 Cal. App. 3d 757 (1981).
[30] *Id.*
[31] *Id.*