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Good but Not Great: Autonomous Vehicles and the Law in Florida

Jeffery Mackowski[*]

PART I. INTRODUCTION

A bright sun shines in the crisp blue sky, beating down on Florida during a rather pleasant summer afternoon. Alice and Bob are happily married. Alice is a licensed driver in the state of Florida. Bob is blind, and he does not have a license to drive. Together, they own an autonomous vehicle (AV), colloquially known as a self-driving car. Alice and Bob want to travel to a restaurant for dinner. Once they both get in the AV, Alice indicates their destination and causes the AV to engage (i.e., Alice pushes the start button). The AV transports the couple safely to the restaurant, obeying all traffic laws, and utilizing public roadways. Alice's sister, Carol, wants to join the couple for dinner. Alice sets the AV's destination to Carol's home and causes the AV to engage. While empty and without any human capable of taking control, the AV drives on public roadways to Carol's home. Once there, Carol, a licensed driver, gets in the AV, sets the destination, and causes the AV to engage. Once again, the AV safely travels on public roadways without incident. Under Florida's current motor vehicle laws, this scenario is perfectly legal.[1]

This scenario raises some interesting and important legal issues. Is AV technology a good idea? Who (or what) is the legal operator of the AV? Who is responsible if something goes wrong? Can an AV break the law? What impact does AV technology have on strict-liability noncriminal offenses? What about intoxicated driving? What happens if Alice uses the AV for illegal racing? Should the AV allow her to break the law? Can Bob, who does not have a driver license because he is blind, use the AV by himself? If he cannot, does it make sense to allow the AV to drive on public roadways without any human passengers? How should law enforcement be allowed to stop an AV? Who has standing to challenge a search of an AV? If a hacker took control of the AV, is this virtual car-jacking governed by existing law? Should all AVs be equipped with a "black box" type data

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[*] J.D. Candidate, 2016, Florida International University College of Law. I am grateful for the invaluable feedback provided to me by Professor Eric Carpenter and the *FIU Law Review*. I owe special thanks to those who endeavor to make self-driving cars a reality.

[1] *See* FLA. STAT. § 316.85(1) (2014); *see also* Act effective July 1, 2012, ch. 2012-174, 2012 Fla. Laws 1, 99 ("The Legislature finds that the state does not prohibit or specifically regulate the testing or operation of autonomous technology in motor vehicles on public roads.").

recorder? Should law enforcement have special tools to address the use of AVs in the furtherance of crimes, such as drug smuggling?

The idea that "the law lags behind technology" is generally agreed upon by policy makers, academia, and legal practitioners.[2] AVs are poised to become commonplace in the not-too-distant future.[3] The benefits of this technology are in the areas of safety, efficiency, and mobility.[4] The traditional legal regime of automobiles assumes that the person in the driver's seat of a vehicle is in control of that vehicle.[5] An AV is capable of controlling itself, with or without a person in the vehicle, and this technological feat is not effectively addressed by the traditional automobile criminal liability regime.[6] However, the AV laws in Florida are good in that they augment the traditional legal regime of automobiles to address the unique legal challenges posed by AVs, but are not great because they substantially limit the benefits of AV technology.

This Comment will show how Florida's current AV laws combined with the application of traditional automobile legal principles are sufficient to address the unique issues raised by AVs, and point out the missed opportunities of Florida's AV legal paradigm to maximize the benefits of AV technology. This Comment is organized in six parts. Part I is this introduction. Part II provides an overview of AV technology. Part III will examine the benefits of AV technology. Part IV discusses and compares the current legal regimes of states with AV laws (Florida, Nevada, Michigan, and California) in order to show different approaches to resolving the legal issues that AVs present while maximizing their benefits. Part V identifies the unique legal issues regarding AVs, how Florida handles these issues, and how Florida could alter its AV legal regime to increase the benefits of AV technology. Finally, Part VI is a short conclusion summarizing the main points of the Comment.

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2 *See* Lyria Bennett Moses, *Recurring Dilemmas: The Law's Race to Keep Up with Technological Change*, 2 U. ILL. J.L. TECH. & POL'Y 239, 239 (2007).

3 *See* Sven A. Beiker, *Legal Aspects of Autonomous Driving*, 52 SANTA CLARA. L. REV. 1145, 1149-52 (2012).

4 Frank Douma & Sarah Aue Palodichuk, *Criminal Liability Issues Created by Autonomous Vehicles*, 52 SANTA CLARA L. REV. 1157, 1158 (2012).

5 Julie Goodrich, *Driving Miss Daisy: An Autonomous Chauffeur System*, 51 HOUS. L. REV. 265, 281-82 (2013).

6 Douma & Palodichuk, *supra* note 4, at 1158.

PART II. AN OVERVIEW OF AUTONOMOUS VEHICLE TECHNOLOGY

A. The History of Autonomous Vehicles

At the 1939 World's Fair, General Motors predicted that by the 1960s, AVs would replace traditional automobiles.[7] Development of AVs began in the 1980s with a European program called EUREKA PROMETHEUS.[8] This program worked to develop driving systems that utilized "electronic traffic-flow monitors to increase communication among drivers and automatically detect any risk of collision."[9] Development of AVs was further spurred by the United States through its DARPA[10] Grand Challenges, which sought to create AVs capable of operating in warzones.[11]

The "Google Car" is the most advanced AV in the world.[12] The Google Car uses a sophisticated computer within the vehicle to process data from a variety of sensors, cameras, lasers, and GPS technology.[13] This combination of computer hardware and software allows the AV to operate without any human interaction.[14] It is unclear whether Google intends to manufacture its own AV or sell or license their AV technology suite to existing manufacturers.[15] Automobile manufacturers are also developing their own technology. BMW, General Motors, Honda, Mercedes-Benz, Nissan, Tesla, Toyota, and Volvo are all developing AVs.[16] Almost $10

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7 *See, e.g.,* Chloe Albanesius, *Google Car: Not the First Self-Driving Vehicle*, PC MAG (Oct. 11, 2010, 3:55 PM), www.pcmag.com/article2/0://www.pcmag.com/article2/0,2817,2370598,00.asp.

8 Nineteen European countries comprised the EUREKA program, which was a joint research and development program focused on getting innovative products to market. PROMETHEUS stands for the Program for European Traffic and Highest Efficiency and Unprecedented Safety. *See* David Dickson, *EUREKA!*, 91(6) TECH. REV. 26, 27-28 (1988).

9 *See id.*

10 DARPA stands for the Defense Advanced Research Projects Agency. *Defense Advanced Research Projects Agency*, DARPA, www.darpa.mil/ (last visited Jan. 31, 2016).

11 CHRISTIAN BERGER ET AL., INTRODUCTION TO EXPERIENCE FROM THE DARPA URBAN CHALLENGE 3, 4 (Christopher Rouff & Mike Hinchey eds., 2012).

12 *See* John Lippert & Jack Clark, *Google to Make Driverless Cars an Alphabet Company in 2016*, BLOOMBERG BUSINESS (Dec. 16, 2015, 12:16 PM), www.bloomberg.com/news/articles/2015-12-16/google-said-to-make-driverless-cars-an-alphabet-company-in-2016.

13 *See The Diane Rehm Show: The Future of Driving* (NPR radio broadcast Sept. 27, 2012, 10:06 AM), 10:10:25 AM, thedianerehmshow.org/shows/2012-09-27/future-driving/transcript.

14 *See* Sebastian Thrun, *What We're Driving at*, GOOGLE OFFICIAL BLOG (Oct. 9, 2010), https://googleblog.blogspot.com/2010/10/what-were-driving-at.html.

15 *The Future of Driving*, *supra* note 13, at 10:16:06 AM.

16 *See* FLA. DEP'T. OF HIGHWAY SAFETY AND MOTOR VEHICLES, *Autonomous Vehicle Report*, #13-008, at 2 (2014)*; see also* Larry Carley, *Active Safety Technology: Adaptive Cruise Control, Lane Departure Warning & Collision Mitigation Braking*, IMPORT CAR (June 16, 2009), www.import-car.com/active-safety-technology-adaptive-cruise-control-lane-departure-warning-collision-mitigation-braking/; Julie Goodrich, *Driving Miss Daisy: An Autonomous Chauffeur System*, 51 HOUS. L. REV. 265, 268-72 (2013); Jose E. Naranjo et al., *Using Fuzzy Logic in Automated Vehicle Control*, IEEE INTELLIGENT SYS. 36, 40 (Jan.–Feb. 2007) ("Almost all car manufacturers now offer [ADAS].").

billion was spent on AV research and development in 2011, and this amount is predicted to increase to $130 billion by 2016.[17]

The National Highway Traffic Safety Administration (NHTSA) has defined five levels of vehicle automation.[18] At level 0, "[n]o-automation," the driver is completely in control of the vehicle's speed, steering, and other functions required for safe operation on the roadway (such as monitoring for pedestrians).[19] At level 1, "function-specific automation," the driver is still in control of the vehicle's safe operation, but the vehicle has some technology that assists the driver with steering or speed, monitoring the roadway, or a combination of both.[20] At level 2, "combined function automation," the vehicle is capable of controlling both speed and steering such that the driver need only monitor the roadway and be available to take control "at all times and on short notice."[21] At level 3, "limited self-driving automation," the vehicle assumes "safety-critical functions under certain traffic or environmental conditions . . . so that the driver is not expected to constantly monitor the roadway while driving."[22] At level 4, "full self-driving automation," the vehicle is in complete control of all functions, including monitoring the roadways, such that the vehicle is capable of operating while unoccupied.[23] The discussion and analysis contained within this Comment is focused on level 4 AVs, full self-driving automation. The Florida Legislature recognizes the difference between an AV with full self-driving automation and vehicles with lesser levels of automation.[24]

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17 *See* Jim Motavalli, *Self-Driving Cars Will Take Over by 2040*, FORBES (Sept. 25, 2012, 11:39 AM), www.forbes.com/sites/eco-nomics/2012/09/25/self-driving-cars-will-take-over-by-2040/ (cited by Racheal Roseman, Note, *When AVs Take Over the Road: Rethinking the Expansion of the Fourth Amendment in a Technology-Driven World*, 20 RICH. J.L. & TECH. 1, 10 n.49 (2013), http://jolt.richmond.edu/v20il/article3.pdf.

18 NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., PRELIMINARY STATEMENT OF POLICY CONCERNING AUTOMATED VEHICLES 4 (2013).

19 *Id.* at 4.

20 *Id.* (Examples of function specific automation include traditional cruise control and collision warning systems.).

21 *Id.* at 5 (An example of combined function automation is adaptive cruise control, which maintains the vehicle's speed relative to the other traffic on the roadway, and lane centering, which steers the vehicle without a driver's input.).

22 *Id.* (An example of limited self-driving automation is a self-driving car that alerts the driver when it encounters a condition, such as a construction zone, where the automation system will not function properly.).

23 *Id.* (At this level of automation, "safe operation rests solely on the automated vehicle system.").

24 *See* FLA. STAT. § 316.003(90) (2015) (Defining an AV as "[a]ny vehicle equipped with autonomous technology. The term 'autonomous technology' means technology installed on a motor vehicle that has the capability to drive the vehicle on which the technology is installed without the active control or monitoring by a human operator. The term *excludes* a motor vehicle enabled with active safety systems or *driver assistances systems* . . . unless any such system alone or in combination with other systems enables the vehicle on which the technology is installed to drive without the active control

B. Current Technology Limitations

Fully automated technology is "very early stage technology."[25] Google's fully autonomous car can operate on a roadway without any "extra cautious driving to avoid making a mistake . . . only if intricate preparations have been made beforehand."[26] Google's fully autonomous car has many unresolved issues including driving in snow or heavy rain.[27] Other issues include "big, open parking lots or multilevel garages . . . [and] being blinded when the sun is directly behind a light."[28] Limitations of the car's sensors mean that it "can't tell if a road obstacle is a rock or a crumpled piece of paper, so the car will try to drive around either. . . . [T]he car can't detect potholes or spot an uncovered manhole if it isn't coned off."[29]

Despite these current limitations, experts in the field of self-driving vehicles (academics, engineers, researchers, and automobile industry insiders) agree that between 2015 and 2025 fully automated AVs will surpass human drivers in all safety metrics.[30]

PART III. THE BENEFITS OF AV TECHNOLOGY: SAFETY, EFFICIENCY, AND MOBILITY

The benefits of AVs fall into three categories: (1) safety; (2) efficiency; and (3) mobility.[31] The Florida legislature recognized efficiency and mobility when it enacted statutes authorizing the use of AVs on public roads.[32] Each of these three categories is discussed briefly below.

A. Safety

Automobile accidents in the United States are a serious public health concern.[33] Operator error accounts for over 95 percent of all automobile

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or monitoring by a human operator.") (emphasis added).

25 Lee Gomes, *Hidden Obstacles for Google's Self-Driving Cars: Impressive Progress Hides Major Limitations of Google's Quest for Automated Driving*, MIT TECH. REV. (Aug. 28, 2014), www.technologyreview.com/news/530276/hidden-obstacles-for-googles-self-driving-cars.

26 *Id.*

27 *Id.*

28 *Id.*

29 *Id.*

30 Dan Carney, *Ready to Nap Behind the Wheel? The Road to Self-Driving Cars Remains a Long One*, DIGITAL TRENDS (Aug. 14, 2014), www.digitaltrends.com/cars/self-driving-cars-far-flung-future-or-almost-here.

31 *See* Beiker, *supra* note 3, at 1150–52; *see also* Gary Marchant & Rachel Lindor, *The Coming Collision Between Autonomous Vehicles and the Liability System*, 52 SANTA CLARA L. REV. 1321, 1322 (2012).

32 *See* Staff Analysis, H.B. 599, Reg. Sess. (Fla. 2012).

33 JAMES M. ANDERSON ET AL., AUTONOMOUS VEHICLE TECHNOLOGY: A GUIDE FOR

accidents.[34] In the United States in 2010, "32,788 people were killed in motor vehicle traffic crashes."[35] Given that operator error is the major cause of these fatalities, it follows that reducing or even completely removing the role of the operator will decrease the number of accidents thus saving lives.[36] In addition to saving lives and reducing injuries, the use of AVs will reduce property damage as well.[37] Simply put, self-driving cars are safer than human-operated cars.

The Insurance Institute for Highway Safety (IIHS) has examined the likely potential impact that AVs will have on automobile safety, concluding that "AV technology can dramatically reduce the frequency of crashes."[38] Automobile features categorized at the level 0 and level 1 of automation, such as lane departure warning and forward collision warning, could prevent an estimated one-third of fatal automobile accidents.[39] Drug and alcohol impaired drivers, distracted drivers, and fatigued drivers are the cause of 40 percent of fatal automobile accidents.[40] Level 4 technology is capable of eliminating these underlying human conditions by allowing the AV to take control of the automobile.[41]

B. Efficiency

AVs are more convenient to share than traditional vehicles.

Many families now own more than one car, to satisfy the needs of two working spouses and a teenager or two. When a single car can drop one person off at work, and then drive home to drop off the next person, and then shuttle the kids to school and after-school events, and then pick up the parents at the end of the day, demand for cars may

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POLICYMAKERS xiv (2014), www.rand.org/pubs/research_reports/RR443-1.html.

34 *See* NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., DOT HS 811.059, NATIONAL MOTOR VEHICLE CRASH CAUSATION SURVEY 31 (2008), www-nrd.nhtsa.dot.gov/Pubs/811059.PDF (cited in Beiker, *supra* note 3, at 1149) (Road conditions, weather, and technical failure account for the remaining five percent.).

35 Beiker, *supra* note 3, at 1149 (citing NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., DOT HS 811.059, NATIONAL MOTOR VEHICLE CRASH CAUSATION SURVEY (2008)).

36 *See generally* Matthew Moore & Beverly Lu, *Autonomous Vehicles for Personal Transport: A Technology Assessment* (Social Science Research Network, Working Paper, 2011), www.pickar.caltech.edu/e103/Final%20Exams/Autonomous%20Vehicles%20for%20Personal%20Transport.pdf (cited in Marchant & Lindor, *supra* note 31, at 1322) (discussing the ability of "autonomous vehicles to reduce the frequency and/or severity of traffic accidents").

37 *See* Beiker, *supra* note 3, at 1150 ("There is clear evidence that . . . complete vehicle autonomy can significantly reduce property damage, injuries and casualties.").

38 ANDERSON, *supra* note 33, at xiv.

39 *Id.* at 15.

40 Adam Ozimek, *The Massive Economic Benefits of Self-Driving Cars*, FORBES (Nov. 8, 2014, 9:28 PM), www.forbes.com/sites/modeledbehavior/2014/11/08/the-massive-economic-benefits-of-self-driving-cars.

41 ANDERSON, *supra* note 33, at 16.

plummet. One car may provide ample transportation for not just one family, but several.[42]

Traffic congestion is part of the operation of traditional vehicles in the United States, and traffic congestion "leads to unproductive time of about thirty-six hours for the average commuter each year."[43] There is also the monetary loss of $87.2 billion per year from vehicle fuel that is consumed needlessly because of traffic congestion.[44] AV technology counters both of these inefficiencies. First, the AV allows the person inside to be a passenger, rather than an operator, and thus able to conduct productive tasks (or take a nap) essentially transforming the vehicle into a virtual office (or bedroom). Second, in a transportation scheme where all vehicles are autonomous, coordinated traffic "can lead to a fuel saving in the order of 20-25%."[45]

Estimates suggest that the automobile insurance industry will benefit as the number of traffic accidents is reduced by AVs, resulting in auto insurance premium reductions of over $37 billion per year in the United States.[46]

C. Mobility

If one assumes that a person inside an AV is a passenger, then the existing infrastructure of our current roadway system becomes available to individuals who cannot operate traditional vehicles. AVs "can help elderly or disable citizens keep an active lifestyle such as running daily errands and maintaining social relationships."[47] The same is true for teenagers. AV technology will surely benefit individuals with cognitive or visual impairments.

An important aspect of the benefit to mobility provided by AVs is that AV technology can utilize already existing infrastructure.[48] Individuals with cognitive or visual impairments can ride as a passenger in an AV on the

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42 Mark Herrmann, *Why Driverless Cars Will Wreck Your Legal Practice*, ABOVE THE LAW (Aug. 11, 2014, 11:40 AM), http://abovethelaw.com/2014/08/why-driverless-cars-will-wreck-your-legal-practice/?rf=1.

43 Beiker, *supra* note 3, at 1150.

44 *Id.* (citing David Schrank & Tim Lomax, *2009 Urban Mobility Report*, TEXAS TRANSP. INSTIT. THE TEXAS A&M UNIV. SYS. 1, 1 (2009)).

45 *Id.* at 1151.

46 *See* Joseph A. Dallegro, *How Google's Self-Driving Car Will Change Everything*, INVESTOPEDIA, www.investopedia.com/articles/investing/052014/how-googles-selfdriving-car-will-change-everything.asp (last visited Jan. 21, 2016); *see also* Beiker, *supra* note 3, at 1151.

47 Beiker, *supra* note 3, at 1151.

48 There is research and development into technology known as vehicle communication systems that require substantial and costly changes to infrastructure. *See The Future of Driving*, *supra* note 13, at 10:24:33AM–10:25:49AM.

very same roads that exist today. This is a massive increase in independence provided by the mobility of AVs. A blind person could own (or share) an AV to run errands or pursue leisure activities rather than rely on friends, relatives, government sponsored aid workers, or public transportation. In addition to people with impairments, parents could send their children to school or daycare without leaving work. The family AV would function as a personal, and flawless, chauffeur.

However, in Florida, an AV must always be operated by a person and engaged by a licensed driver.[49] This significantly hinders the benefit of mobility. A blind person still must rely on someone with a valid driver license, to engage the AV on his or her behalf. A son or daughter being picked-up from high school also needs a licensed driver to actually engage the AV. This may be as simple as having a person with a valid driver license remotely engage the AV, perhaps by use of a smartphone. This remote activation, however, is still inconvenient and nowhere near as simple as allowing a person without a driver license, such as a blind individual, to engage an AV on his or her own. This issue would be resolved if Florida recognized that an AV operates itself and removes the requirement that the operator of an AV have a valid driver license. If there is a malfunction in an AV with a blind occupant, what difference does it make if the blind person engaged the AV or if a licensed driver engaged the AV remotely? There is no difference whatsoever. The same goes for a child. In either event, the person who engaged the AV is liable for any resulting harm, which is ridiculous. The harm here is caused by either a manufacturing defect or something other than the AV, but in no situation is the harm caused by a person who tells the AV, remotely, "drive to the high school."

PART IV. THE LEGAL PARADIGM OF AUTOMOBILES

A. An Overview of Traditional Motor Vehicle Laws and Regulations

Most crimes have a mens rea element.[50] Although there are some strict liability vehicular crimes,[51] the general rule is that vehicular crimes "have intent requirements [that] depend on a person being 'in control' of a motor

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49 *See* FLA. STAT. § 316.85 (2015).

50 *See* Jeremy M. Miller, *Mens Rea Quagmire: The Conscience or Consciousness of the Criminal Law?*, 29 W. ST. U. L. REV. 21, 21 (2001) (citing WAYNE R. LAFAVE, CRIMINAL LAW § 3.44 (3d ed. 2000)).

51 Florida statutes governing motor vehicles classify most strict liability vehicular offenses as "noncriminal traffic infraction[s], punishable as a moving violation." FLA. STAT. § 316.183 (2015). *But see* FLA. STAT. § 316.191 (2015) (making racing on highways a strict liability misdemeanor of the first degree).

vehicle."[52] There are four broad categories of vehicular offenses: (1) strict liability offenses;[53] (2) offenses with an intent requirement;[54] (3) offenses that require "a person having control of a vehicle;"[55] and (4) offenses "where the owners of vehicles are vicariously liable for the actions of the drivers."[56]

The discussion will focus on the criminal liability regime as it pertains to offenses that require: (1) an intent element; and (2) a person be in control of the vehicle. Reckless driving, vehicular manslaughter, and driving under the influence all have an intent element as well as require a person to be in control of the vehicle. Strict liability offenses pose an interesting issue because one of the strongest promises of AVs is a car that always has a flawless driver.[57]

In Florida, the criminal offense of Reckless Driving requires an intent element of "willful or wanton disregard for the safety of persons or property."[58] In Florida, vehicular homicide is a felony[59] with an intent element of recklessness.[60] The Florida statute prohibiting driving under the influence (DUI) does not contain an express intent element.[61] However, a prima facie element of the DUI offense is that the person is under the influence of an intoxicating substance "to the extent that the person's normal faculties are impaired."[62] This element of intoxication itself requires more than strict liability, at least implicitly.[63] The important language from Florida's DUI statute, as it pertains to this Comment, is the phrase "if the person is driving or in actual physical control of a vehicle."[64] The analysis

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52 Douma & Palodichuk, *supra* note 4, at 1158.

53 *Id.* at 1159 (Examples of strict liability vehicular offenses include "speeding infractions, driving without proof of insurance, and even parking tickets.").

54 *Id.* ("These include any vehicular crime that has a mens rea requirement—most notably, criminal vehicular homicide.") (citing MINN. STAT. § 609.21 (2011)).

55 *Id.* (using implied consent as an example) (citing CAL. VEH. CODE § 23612 (2012)).

56 *Id.* (using "automated enforcement of speeding and red-light-running" as an example) (citing 652 ILCS 5/11-208.88 (2011)).

57 Beiker, *supra* note 3, at 1149–50.

58 FLA. STAT. § 316.192(1)(a) (2015).

59 FLA. STAT. § 782.071 (2015) ("Vehicular homicide is the killing of a human being, or the killing of an unborn child by any injury to the mother, caused by the operation of a motor vehicle by another in a reckless manner likely to cause the death of, or great bodily harm to, another.").

60 *See, e.g.*, Miller, *supra* note 50, at 33 (defining recklessness as a conscious disregard for a known danger).

61 *See* FLA. STAT. § 316.193(1)(a)–(c) (2015).

62 FLA. STAT. § 316.193(1)(a) (2015).

63 *See* FLA. STAT. § 775.051 (2015) ("Voluntary intoxication resulting from the consumption, injection, or other use of alcohol or other controlled substance as described in chapter 893 is not a defense to any offense proscribed by law. Evidence of a defendant's voluntary intoxication is not admissible to show that the defendant lacked the *specific intent* to commit an offense.") (emphasis added).

64 FLA. STAT. § 316.193(1) (2015).

to determine what "in actual physical control of a vehicle" means in the context of a fully AV is discussed in depth in Part III, B of this Comment.

B. The Current Legal Regime of AVs

Currently, Nevada, California, Michigan, the District of Columbia, and Florida have enacted laws specifically governing the use of AVs.[65] These statutes explicitly legalize the operation of AVs on normal roadways that are used by traditional vehicles; the self-driving car is permitted to share the road with the traditional car.[66] An examination of these enacted statutes indicates that "[d]river liability appears to be a foremost concern for the legislators proposing autonomous vehicle legislation."[67] This section will examine the statutes of Florida, Nevada, California, and Michigan.

1. The Laws of Florida

The operation of AVs in Florida became legal on July 1, 2012.[68] As of January 1, 2015, Florida has six statutes that pertain to AVs.[69] Title XXIII, Motor Vehicles, of the Florida Statutes governs almost all of AV operations.[70] In Florida, an "AV" is defined as "[a]ny vehicle equipped with autonomous technology. The term 'autonomous technology' means technology . . . that has the capability to drive the vehicle . . . without the active control or monitoring by a human operator."[71] The 2012 Florida session laws required that "[b]y February 12, 2014, the Department of Highway Safety and Motor Vehicles shall submit a report to the [Legislature] recommending additional legislative or regulatory action that

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65 CAL. VEH. CODE § 38750 (West 2015); D.C. CODE § 50-2352 (2015); MICH. COMP. LAWS ANN. §§ 257.663, 257.665 (West 2014); FLA. STAT. ANN. § 316.86 (West 2015); NEV. REV. STAT. ANN. § 482A.100 (LexisNexis 2013) (cited in Swanson, *infra* note 66, at 1097).

66 *See* Andrew Swanson, *"Somebody Grab the Wheel!": State AV Legislation and the Road to a National Regime*, 97 MARQ. L. REV. 1085, 1096 (2014); *see also* Bryant Walker Smith, *Automated Vehicles Are Probably Legal in the United States*, 1 TEX. A&M L. REV. 411, 516 (2014) (contending that despite express legislation, AVs are probably legal to operate on public streets anywhere in the United States because "[c]urrent law probably does not prohibit automated vehicles—but may nonetheless discourage their introduction or complicate their operation").

67 Swanson, *supra* note 66, at 1118.

68 Act effective July 1, 2012, ch. 2012-174, 2012 Fla. Laws 1, 101.

69 These six statutes are FLA. STAT. § 316.003(25) (2015) (defining an operator, generally); § 316.003(90) (2015) (defining an AV); § 316.305(3)(b)(7) (2015) (exempting an AV operators from Florida's ban on texting while driving); § 316.85 (2015) (establishing AV operator's requirements and defining "operator" relating to an AV); § 316.86 (establishing AV testing procedures); § 319.145 (2015) (requiring AVs "to meet federal standards and regulations," have an operator disengage system, have a malfunction alert, obey state traffic laws, and allowing federal regulations preemption); and § 627. 0653(6) (2015) (permitting the Office of Insurance Regulation to discount insurance on a vehicle "equipped with autonomous driving technology").

70 *See generally* FLA. STAT. §§ 316, 319 (2015).

71 FLA. STAT. § 316.003(90) (2014).

may be required for the safe testing and operation of motor vehicles equipped with autonomous technology."[72]

The Department of Highway Safety and Motor Vehicles (DHSMV) submitted the required report (DHSMV report) on February 10, 2014.[73] The DHSMV report states that the "current Florida laws are brief, requiring a licensed driver, unless on a closed course, to monitor the autonomous mode and intervene, when necessary."[74] The DHSMV report references AV legislation enacted in Nevada, California, the District of Columbia, Michigan, and Ontario, Canada.[75]

The DHSMV report is flawed. The DHSMV had twenty-one months to submit its report, "recommending additional legislative or regulatory action," to the Florida Legislature.[76] During those twenty-one months, the DHSMV not only "participated in the Autonomous Vehicle Summit," but was "also involved extensively in autonomous vehicle research, planning, and outreach."[77] Yet despite all this effort, the DHSMV created a report that is a mere seven pages.[78]

The DHSMV report relies heavily on the National Highway Traffic Safety Administration (NHTSA) recommendations.[79] The DHSMV report is careful to point out that these are just recommendations and the "NHTSA has not established safety standards for autonomous vehicles."[80] The DHSMV "reviewed NHTSA's recommendations and practices in other states to determine if Florida's current laws are satisfactory."[81] After a review of the NHTSA recommendations, the report finds that current Florida laws satisfy only four of the eight recommendations.[82] After

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72 Act effective July 1, 2012, ch. 2012-174, 2012 Fla. Laws 1, 101.

73 JULIE L. JONES, FLA. DEP'T. OF HIGHWAY SAFETY AND MOTOR VEHICLES, AUTONOMOUS VEHICLE REPORT 1 (2014), www.flhsmv.gov/html/HSMVAutonomousVehicleReport2014.pdf [hereinafter AV Report].

74 *Id.* at 2 (footnote omitted).

75 *Id.*

76 *See* Act effective July 1, 2012, ch. 2012-174, 2012 Fla. Laws 1, 101.

77 *See* AV Report, *supra* note 73, at 6 (2014).

78 *Id.* at 1–7 (The DHSMV report actually contains only six pages of text (2,779 words); the first page is a cover page.).

79 *Id.* at 3–6 (2014).

80 *Id.* at 3.

81 *Id.* at 4.

82 *See id.* at 3; *see also* Nat'l Highway Traffic Safety Administration, *Preliminary Statement of Policy Concerning Automated Vehicles*, at 11–14 (2013), www.nhtsa.gov/staticfiles/rulemaking/pdf/Automated_Vehicles_Policy.pdf. The NHTSA recommends that states: (1) "Ensure that the driver understands how to operate a self-driving vehicle safely;" (2) "Ensure that on-road testing of self-driving vehicles minimizes risks to other road users;" (3) "Limit testing operations to roadway, traffic and environmental conditions suitable for the capabilities of the tested self-driving vehicles;" (4) "Establish reporting requirements to monitor the performance of self-driving technology during testing;" (5) "Ensure that the process for transitioning from self-driving mode to driver control is safe, simple, and

establishing the metric for determining whether Florida's current laws are satisfactory, and then finding that they are not, the DHSMV makes a single recommendation, "The Department recommends that the State of Florida establish working relationships with motor vehicle manufacturers and technology developers to encourage these business opportunities."[83] After all due consideration, the DHSMV "proposes no changes to existing Florida laws and rules at this time."[84]

Why, after finding that the current Florida laws meet only half of the NHTSA's recommendations, does the DHSMV make a single recommendation and go on to propose no changes to Florida law rather than offer solutions (including solutions from other states' statutes)? In part, the DHSMV correctly understands that the difference between recommendations and standards.[85] Further, Florida's current laws require that any AV operated in Florida "is required to comply with existing federal and state safety and traffic regulations."[86] Ultimately, the DHSMV simply throws up its hands and declares that "[p]olicy-making at this juncture is difficult, at best."[87]

1. *Operation and Testing Purposes*

Not only is the DHSMV report flawed in its single recommendation and lack of proposals, but it misinterprets Florida's current AV laws. The DHSMV report clearly references both section 316.85 and 316.86. This is evident in the report's statement that "[t]he person who engages the autonomous technology is deemed the operator,"[88] which is a clear reference to Florida Statute section 316.85(2).[89] The DHSMV report claims that "the Florida Legislature authorized the testing of AVs in Florida."[90] The DHSMV report also concludes that "[c]urrent Florida laws allow manufacturers of autonomous technology to test on Florida's public

timely;" (6) "Self-driving test vehicles should have the capability of detecting, recording, and informing the driver that the system of automated technologies has malfunctioned;" (7) "Ensure that the installation and operation of any self-driving vehicle technologies does not disable any federally required safety features or systems;" and (8) "Ensure that self-driving test vehicles record information about the status of the automated control technologies in the event of a crash or lass of vehicle control."

83 AV Report, *supra* note 73, at 7 (2014).

84 *Id.*

85 *Id.* ("[T]here are no national safety standards and many unknowns.").

86 *Id.*

87 *Id.*

88 *Id.*

89 FLA. STAT. § 316.85(2) (2014) ("[A] person shall be deemed to be the operator of an AV operating in autonomous mode when the person causes the vehicle's autonomous technology to engage.").

90 AV Report, *supra* note 73, at 2 (2014).

roadways."[91] The DHSMV report does not address AV operation for non-testing purposes.[92]

I contend that the DHSMV report mistakenly interprets Florida's AV statutes to limit AV to testing only.[93] In fact, of the six Florida statutes that pertain to AVs, only section 316.86 mentions "testing purposes."[94] When all of the applicable statutes are considered together, along with the legislative intent of these statutes, it is clear that the operation of AVs for non-testing purposes is permitted on the public roadways of Florida. Most pertinent to the discussion of whether current Florida laws only permit testing of AV are sections 316.85 and 316.86 of the Florida Statutes, which were both created by the 2012 Florida session laws.[95]

The text of Florida Statue section 316.85 is[96]:

> AVs; operation.—
>
> (1) A person who possesses a valid driver license may operate an AV in autonomous mode.
>
> (2) For purposes of this chapter, unless the context otherwise requires, a person shall be deemed to be the operator of an AV operating in autonomous mode when the person causes the vehicle's autonomous technology to engage, regardless of whether the person is physically present in the vehicle while the vehicle is operating in autonomous mode.[97]

The text of Florida Statute section 316.86 is[98]:

> Operation of vehicles equipped with autonomous technology on roads for testing purposes; financial responsibility; exemption from liability for manufacturer when third party converts vehicle.—
>
> (1) Vehicles equipped with autonomous technology may be operated on roads in this state by employees, contractors, or other persons designated by manufacturers of autonomous technology, or by research organizations associated with accredited educational

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91 *Id.* at 7.

92 *See generally* AV Report, *supra* note 73.

93 *But see* John W. Terwilleger, *Navigating the Road Ahead: Florida's Autonomous Vehicle Statute and Its Effect on Liability*, 89 FLA. BAR J. 26, 28 (2015) ("Autonomous vehicles may be used only for testing purposes.").

94 *See* FLA. STAT. §§ 316.003(25), 316.003(90), 316.305(3)(b)(7), 316.85, 316.86, 319.145, and 627.0653(6).

95 2012 Fla. Laws ch. 2012-174, 100–01.

96 The text of Florida Statute § 316.85 is identical to the session law text in which it was enacted. 2012 Fla. Laws ch. 2012-174, 100.

97 FLA. STAT. § 316.85 (2014).

98 The text of Florida Statute § 316.86 is identical to the session law text in which it was enacted. 2012 Fla. Laws ch. 2012-174, 101.

> institutions, for the purpose of testing the technology. For testing purposes, a human operator shall be present in the AV such that he or she has the ability to monitor the vehicle's performance and intervene, if necessary, unless the vehicle is being tested or demonstrated on a closed course. Before the start of testing in this state, the entity performing the testing must submit to the department an instrument of insurance, surety bond, or proof of self-insurance acceptable to the department in the amount of $5 million.
>
> (2) The original manufacturer of a vehicle converted by a third party into an AV shall not be liable in, and shall have a defense to and be dismissed from, any legal action brought against the original manufacturer by any person injured due to an alleged vehicle defect caused by the conversion of the vehicle, or by equipment installed by the converter, unless the alleged defect was present in the vehicle as originally manufactured.[99]

The DHSMV's interpretation creates inconsistency between the various Florida laws that govern AVs and violates the legislative intent. An interpretation of the plain language of the statutes leads to the conclusion that current Florida laws do not limit the operation of AVs on Florida's public roadways to testing purposes. This conclusion is further bolstered by the legislative intent behind the statutes.

The scope of these two sections is drastically different, and based on the plain language of the statutes, it is clear that section 316.85 is broad and section 316.86 is narrow. Section 316.85(2) begins with the language, "For purposes of this chapter," clearly establishing that this subsection applies broadly to the entirety of Chapter 316 of the Florida Statutes.[100] The title language of section 316.86, which begins, "Operation of vehicles equipped with autonomous technology on roads *for testing purposes*," establishes that section 316.86 is narrow in its scope, and does not apply to any other statute.[101] While the Florida statutes do not define the term "testing," that term, as it relates to AVs, is only used in section 316.86.[102] The plain language of section 316.85(2) demonstrates that AVs may be operated for any purpose, not solely for testing purposes, because this section applies to the testing section (316.86) as well as the entirety of Chapter 316, State Uniform Traffic Control.[103]

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99 FLA. STAT. § 316.86 (2014).

100 FLA. STAT. § 316.85(2) (2014).

101 FLA. STAT. § 316.86 (2014) (emphasis added).

102 *See* FLA. STAT. § 316.003(25), 316.003(90), 316.305(3)(b)(7), 316.85, 316.86, 319.145, and 627.0653(6). The use of the term "testing" in Chapter 316 of the Florida Statutes generally relates to driver impairment. *See, e.g.*, FLA. STAT. § 316.1934.

103 *See* FLA. STAT. §§ 316.001–316.86 (2014).

Another inconsistency is who may operate an AV. Florida Statutes section 316.85(1) permits any person with a valid driver license to operate an AV.[104] This statute does not place any other restrictions or requirements on the potential operator, such as having a Florida driver license, passing a test using an AV, taking an AV certification course, or having an AV endorsement on the potential operator's license.[105] In contrast, section 316.86(1) limits the operation of an AV in Florida to "employees, contractors, or other persons designated by [manufactures or educational institutes]."[106] The specific limitations on operators of AVs for testing purposes established by section 316.86 makes sense when this section is construed narrowly; likewise, the less restrictive mandate on permissible AV operators established in section 316.85 makes sense when this section is broadly construed.

Staying within the four corners of these statutes, the next inconsistency concerns whether a person need be inside an AV. Florida Statutes section 316.85 uses language that expressly indicates that an AV may operate "regardless of whether the person is physically present in the vehicle."[107] Compare this to Florida Statutes section 316.86 which requires that "[f]or testing purposes, a human operator shall be present in the AV such that he or she has the ability to monitor the vehicle's performance and intervene."[108]

If the DHSMV report is correct by indicating that, in Florida, an AV may only be operated for testing purposes, then "a human operator shall be present"[109] in the AV at all times, thus making the language of Florida Statute section 316.85(2), "regardless of whether the person is physically present" excess and surplus text that serves no purpose. The DHSMV report's assertion that any AV operation in Florida is solely for testing purposes, although not stating this expressly, may interpret these portions of the statute to coexist. Perhaps the language in section 316.85(2) is simply meant to attach culpability to a tester-operator that, for whatever reason, engages an empty AV remotely.

This interpretation, that the text of section 316.85(2) is merely a prophylactic to assign legal blame in the event of a mishap, is absurd given that: (1) section 316.86 requires that "a human operator shall be present"

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104 FLA. STAT. § 316.85(1) (2014).

105 As of January 2015, the state of Florida does not offer any testing, certification, or endorsements pertaining to AVs.

106 FLA. STAT. § 316.85(1) (2014).

107 FLA. STAT. § 316.85(2) (2014).

108 FLA. STAT. § 316.86(1) (2014).

109 *Id.*

during the testing of an AV;[110] and (2) section 316.86's insurance requirements.[111] There is no logical reason to conclude that section 316.86(1) relies on section 316.85(2) to determine the operator of an AV on public roads for testing purposes. Section 316.86 not only requires that the operator of the AV be physically present in the AV, it requires a human operator to be present in the testing AV, "unless the vehicle is being tested or demonstrated on a closed course."[112] Although term "closed course" is not defined by Florida law,[113] the plain usage of the term means roadways not accessible to the public.[114] Interpreting Florida laws to limit AV use "for testing purposes" only means that a human operator will be present in the AV when the AV is on public roadways, but this interpretation cannot coexist with the plain language from 316.85 that confirms an AV may operate "regardless of whether the person is physically present in the vehicle."[115]

The need to assign culpability to a specific operator is not necessary given section 316.86's requirement that "the entity performing the testing must submit to the department [of Highway Safety and Motor Vehicles] an instrument of insurance . . . in the amount of $5 million."[116] This drastically limits the need to assign legal blame to the operator of an AV on a closed course (the only place AV testing may take place without a human operator) because the testing entity (with their $5 million dollars of insurance) is legally responsible for unoccupied AV. Further, if interpreted to apply to the entirety of Florida's AV laws, the financial responsibility clause of section 316.86 is inconsistent with section 627.0653. Section 627.0653(6) authorizes the Office of Insurance Regulation to approve a discount on insurance premiums for AVs.[117] If these statutes are construed to limit AV operation to testing purposes only, then the requirement that the testing entity have $5 million dollars of insurance coverage contradicts the authorization of discounted insurance for AVs.

Yet another inconsistency that results from construing Florida laws to restrict AVs to testing only is seen in Florida's ban on texting while driving.

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110 *Id.*

111 *Id.*

112 *Id.*

113 *See* FLA. STAT. § 316.003 (2014); *see also* AV Report, *supra* note 73, at 2 n.1.

114 *See, e.g.*, *Off-highway Vehicles Closed Courses*, NOVASCOTIA.CA, http://NovaScotia.ca/natr/ohv/courses.asp (last visited February 16, 2016) ("[A] closed course is a facility which is designed and managed to provide a safe, controlled environment . . . .").

115 FLA. STAT. § 316.85(2) (2014).

116 FLA. STAT. § 316.86(1) (2014).

117 FLA. STAT. § 627.0653(6) (2014) ("The Office of Insurance Regulation may approve a premium discount to any rates, rating schedules, or ratings manuals for liability, personal injury protection, and collision coverages . . . if the insured vehicle is equipped with autonomous driving technology.").

The Florida Ban on Texting While Driving Law allows law enforcement to "issue citations as a secondary offense to persons who are texting while driving."[118] This law "does not apply to a motor vehicle operator who is . . . [o]perating an AV . . . in autonomous mode."[119] Section 316.86 requires that the operator of an AV for testing purposes must have "the ability to monitor the vehicle's performance and intervene, if necessary."[120] Given this heightened concern for an operator's focused attention on an AV being tested, the exemption provided to AVs by the Florida Ban on Texting While Driving Law is contradictory because it specifically allows an AV operator to be distracted by texting. The reasonable interpretation is that exemption for AVs provided by the Florida Ban on Texting While Driving Law exists because, in Florida, AVs may be operated on public roadways for purposes other than testing.

The best support for the DHSMV's interpretation that Florida's current laws only permit the operation of AVs for testing purposes is found in section 316.86, "Vehicles equipped with autonomous technology may be operated on roads in this state by [specified persons], *for the purpose of testing the technology*."[121] Here, omitted language is just as important as what is included. Section 316.85 places a single restriction on the operation of an AV, possession of a valid driver license.[122] There is no mention of where an AV may operate, nor is there any mention of AV operation for testing purposes only.[123] Similarly, section 316.86 does not use a limiting term such as "only."[124] Common sense dictates that the lack of restrictors in section 316.85 means AVs may be operated in Florida for purposes other than testing. A plain language construction of the phrase "for testing purposes" means that the phrase is self-limiting. It is meant to confine the provisions of section 316.86(1) only to AVs used for testing purposes.

The operation of AVs for purposes other than testing is supported by the statutes' legislative intent. The legislative intent of Florida's AV statutes is found within the 2012 Florida session laws:

> It is the intent of the Legislature to encourage the safe development, testing, and operation of motor vehicles with autonomous technology on the public roads of the state. The Legislature finds that the state does not prohibit or specifically regulate the *testing or operation* of

118 FLA. STAT. § 316.305(1)(d) (2014).

119 FLA. STAT. § 316.305(3)(b) (2014).

120 FLA. STAT. § 316.86(1) (2014).

121 FLA. STAT. § 316.85(1) (2014) (emphasis added).

122 *Id.*

123 *See* FLA. STAT. § 316.85 (2014).

124 *See id.*

autonomous technology in motor vehicles on public roads.[125]

Although this text from the session law was not codified,[126] it was still approved by Governor Rick Scott and provides a lens by which to examine the statutes that were codified in order to help clarify the current state of the law. The phrase "testing or operation" is a clear indication that the Florida Legislature considers the use of AVs for testing purposes something different than the operation of AVs because of the use of "or." The use of the word "or," rather than "and," shows that the Legislature is aware that the AVs can be used for testing purposes *or* operated for transportation purposes. This is reflected in the enactment of sections 316.85 and 316.86 as separate pieces of legislation as well as the interrelationships between all of Florida's current AV laws.

It is important to note that unlike many other sections of Florida Statutes Chapter 316, there are no specific punishments for violations of sections 316.85 or 316.86.[127] Florida law does provide that a driver convicted of a violation of any offense prohibited by chapter 316 that results in an accident "may have his or her driving privileges revoked."[128] So even if the DHSMV is correct and AVs may only be operated for testing purposes, a person who violates this law is only subject to a suspension of driving privileges if an accident occurs. Regardless of the interpretation of Florida's AV laws, enforcement is difficult because those laws lack teeth.

2. The Laws of Nevada

An examination of Nevada's legislation governing the use of AVs reveals that Nevada legislators do not want the issue of criminal liability to go before the courts as a matter of first impression without legislative intent to guide the judicial branch.[129] The Nevada statute offers key definitions for the terms "autonomous system," "AV," and "manufacturer."[130] The legislation enacted in Nevada is not self-executing, rather it mandates that the Nevada Department of Motor Vehicles (DMV) adopts regulations to govern the use of AVs in the state.[131] On February 15, 2012, Nevada's DMV adopted such regulations.[132]

The Nevada's DMV regulations "anticipate the hindering of existing vehicles, the possible malfunctions that may require user override, and the

125 2012 Fla. Laws ch. 2012-174, 99 (emphasis added).

126 *See* FLA. STAT. § 316 (2014).

127 *See id.*

128 FLA. STAT. § 316.665(2) (2014).

129 Swanson, *supra* note 66, at 1118.

130 Swanson, *supra* note 66, at 1110–11.

131 NEV. REV. STAT. § 482A.100 (2014) (cited in Swanson, *supra* note 66).

132 NEV. ADMIN. CODE § 482A (2014) (cited in Swanson, *supra* note 66).

uncertainty of blame that my result from a tort suit."[133] The Nevada regulations specifically state that they apply to fully AV systems and not to already existing ADAS such as "a safety system or driver assistance system, including, without limitation, a system to provide electronic blind spot assistance, crash avoidance, emergency braking, parking assistance, adaptive cruise control, lane keep assistance, lane departure warnings and traffic jam and queuing assistance."[134] This legislative scheme is designed to prevent users of existing technology from "becoming unexpectedly regulated by a new legal regime."[135]

The Nevada regulations place a premium on the safety of the other vehicles and their drivers that share the road with AVs. The regulation requires an override switch, a mechanism that disengages the autonomous technology and allows the person that utilized the mechanism to take control of the vehicle manually.[136] Additionally, the regulations require that a notification alert system activates when there is a malfunction with the autonomous technology with the intent that a passenger thus alerted will engage the override mechanism.[137] Seemingly with an eye towards both civil and criminal liability, the Nevada regulations require that any AV:

> [Have] a separate mechanism in addition to, and separate from, any other mechanism required by law, to capture and store the autonomous technology sensor data for at least 30 seconds before a collision occurs between the AV and another vehicle, object or natural person while the vehicle is operating in autonomous mode. The autonomous technology sensor data must be captured and stored in a read-only format by the mechanism so that the data is retained until extracted from the mechanism by an external device capable of downloading and storing the data. Such data must be preserved for 3 years after the date of collision. The provisions of this paragraph do not authorize or require the modification of any other mechanism to record data that is installed on the AV in compliance with federal law.[138]

The requirement of this recording mechanism demonstrates that the "Nevada DMV is already anticipating a situation wherein these AVs are

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133 Swanson, *supra* note 66, at 1117.

134 NEV. ADMIN. CODE § 482A (2014) (cited in Swanson, *supra* note 66, at 1118)

135 Swanson, *supra* note 66, at 1118.

136 NEV. ADMIN. CODE § 482A.190(2)(b) (2014); *see also id.* § 482A.190(2)(g) (requiring AVs to have a disengage system that can be activated "in multiple manners, including, without limitation, through the use of the brake, the accelerator pedal and the steering wheel") (cited in Swason, *supra* note 66, at 1120).

137 NEV. ADMIN. CODE § 482A.190(2)(d) (2014) (cited in Swanson, *supra* note 66, at 1120).

138 NEV. ADMIN. CODE § 482A.110(2)(b) (2014).

involved in accidents."[139] Such a device will no doubt be useful to determine not only civil liability, but criminal liability as well.[140] AVs equipped with some type of apparatus that gathers and stores sensory information would be invaluable to determine whether a natural person would have been able to utilize a disengage mechanism and prevent a criminal act, such as some form of vehicular homicide.

The Nevada regulations also include a geographic limitation. When the Nevada DMV issues a license permitting the use of an AV, a certificate is issued allowing the AV to only operate within a specific geographic area.[141] To obtain a certificate to use the AV in other areas, the licensee must establish that the AV is "capable of being driven in the conditions of the proposed geographic location in compliance with the traffic laws and other laws applicable to drivers and motor vehicles" with that region.[142] This provision of the regulations enables the Nevada DMV to control the specific areas where AVs will operate, allowing a certain plasticity in responding to policy concerns including public fear of cars that drive without human interaction.

3. The Laws of California

California's AV laws, as of February 2016, "are very similar to Florida's."[143] However, there are some notable differences between the two states' AV laws. A prime difference is California's inclusion of the text, "[A] motor vehicle shall not be operated in autonomous mode on public roads in California except as permitted under . . . the regulations in this article."[144] The lack of similar language in Florida's laws gives rise to inconsistent interpretations of whether an AV can be operated for non-testing purposes. California law also requires that AV manufacturers have a test driver training program.[145] California law, like Nevada, requires the AV manufacturer to report motor vehicle accidents involving AVs to the state within ten days.[146] Florida AV law establishes operator liability by defining the term "operator" to mean the person who engages the AV,[147] while California AV law is more aggressive and requires the AV manufacturer's agent to sign a document "binding" the manufacturer to the AV for liability

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139 Swanson, *supra* note 66, at 1121.

140 Swanson, *supra* note 66, at 1121; *see also* Kyle Graham, *Of Frightened Horses and AVs: Tort Law and Its Assimilation of Innovations*, 52 SANTA CLARA L. REV. 1241, 1242 (2012).

141 NEV. ADMIN. CODE § 482A.120(2) (2014) (cited in Swanson, *supra* note 66, at 1121).

142 NEV. ADMIN. CODE §482A.120(2) (cited in Swanson, *supra* note 66, at 1121).

143 AV Report, *supra* note 73, at 2.

144 *See* CAL. VEH. CODE § 227.00 (2012).

145 *See id.* § 227.22.

146 *See id.* § 227.44.

147 *See* FLA. STAT. § 316.85(2) (2014).

purposes.[148] California, like Florida and Nevada, requires $5 million of insurance.[149]

California, unlike Florida, has robust AV testing regulations. California requires an AV testing entity to submit a testing application.[150] The fee for the application is $150 for the first ten AVs and up to twenty test drivers; each additional ten AVs and twenty test drivers cost an additional $50.[151] If the application is granted by the state, the AV manufacturer obtains a "Manufacturer's Testing Permit," which is renewable at one year intervals by submission of a new application and application fee.[152] California law also requires that a test driver have a valid test vehicle operator permit.[153]

California's AV laws are on course for a dramatic change. On December 16, 2015, California's DMV released proposed regulations for public operation of AVs.[154] Public input on the proposed regulations closed in February of 2016.[155] Among the proposed regulations is a provision stating that AVs "shall only be operated by the manufacturer or made available to the general public on no more than a leased basis."[156] This has the potential of driving AV developers out of the state.[157]

4. The Laws of Michigan

Generally, Michigan's AV laws are similar to Nevada's AV laws.[158] Michigan, Florida, and Nevada all define an AV operator as the person that engages the AV technology, whether or not that person is physically present in the AV.[159] Michigan, like Nevada but unlike Florida, requires AVs to have a special license plate.[160] Michigan, unlike the other states, does not require $5 million dollars of insurance on an AV used for testing purposes, but rather requires only "proof satisfactory to the secretary of state that the

148 *See* CAL. VEH. CODE § 227.16 (2012).

149 *See id.* § 227.14(b).

150 *See id.* § 227.26(a).

151 *See id.* § 227.26(a)(1).

152 *See id.* § 227.04.

153 *See id.* § 227.20(a).

154 *Autonomous Vehicles in California*, CAL. DEP'T MOTOR VEHICLES, www.dmv.ca.gov/portal/dmv/detail/vr/autonomous/auto.

155 *Id.*

156 CAL. CODE REGS. tit. 13, art. 3.7, § 227.68(c) (2015).

157 *See e.g.,* Richard Read, *California DMV Driving Autonomous Car Developers Off the Road & Out of State*, The Car Connection (Feb. 23, 2016), www.thecarconnection.com/news/1102500_california-dmv-driving-autonomous-car-developers-off-the-road-out-of-state.

158 AV Report, *supra* note 73, at 5.

159 *See* 2013 Mich. Pub. Acts 231, § 36.

160 *See id.*, § 244.

vehicle is insured" in accordance with the Michigan insurance code.[161] Michigan, like Florida, does not require an AV driver license endorsement or an AV operator permit.[162]

PART V. RESOLVING AV LEGAL ISSUES AND MAXIMIZING AV BENEFITS

A. Manufacturer's Criminal Liability

AV technology will significantly improve vehicle safety, transportation and driver efficiency, and individual mobility.[163] AV technology has a great potential to improve our quality of life, but only if the law changes in a fashion that promotes the wide spread use of the technology as it advances. However, the U.S. legal systems "acts to retard the introduction of new and beneficial technology."[164] As new technology emerges and is adopted, there is a concern that liability issues will impede innovation.[165] AV liability issues will arise from users, consumers, insurance companies, and manufacturers.[166] Insurance companies are a likely ally for the adoption of AV technology because the safety benefits of this technology will lower these companies' bottom line.[167] However, "manufacturers have been historically reluctant to incorporate safety technologies because of liability concerns."[168]

In the past, manufacturers have demonstrated reluctance to adopt safety features that are now commonplace such as seat belts, cruise control, and airbags.[169] Ford Motor Company and General Motors clashed over efforts to implement seat belts in cars.[170] Regarding cruise control, "there

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161 *Id.* § 665.

162 *See* 2013 Mich. Pub. Acts 231.

163 *See* Part III.

164 Robert Dan Spendlove, Note, *Speed Bumps on the Road to Progress: How Product Liability Slows the Introduction of Beneficial Technology—An Airbag Example*, 12 GEO. MASON L. REV. 1143, 1143 (2005).

165 Andrew P. Garza, Note, *"Look Ma, No Hands!": Wrinkles and Wrecks in the Age of Autonomous Vehicles*, 46 NEW ENG. L. REV. 581, 605-09 (2012) (explaining that AVs will result in an increase in overall safety that will encourage manufacturers to adopt the technology despite initial liability issues).

166 NIDHI KARLA ET AL., LIABILITY AND REGULATION OF AV TECHNOLOGIES 1 (2009).

167 *Id.* at 19–21 (noting that the as human error is reduced, insurances costs are likely to be reduced as well).

168 Garza, *supra* note 165, at 581. *See also* KARLA, *supra* note 166, at 22–32; Jameson M. Wetmore, *Redefining Risks and Redistributing Responsibilities: Building Networks to Increase Automobile Safety*, 29 SCI. TECH. & HUM. VALUES 377, 379 (2004) (stating that vehicle manufacturers are "wary of accepting the new liabilities and costs that would accompany" the design, production, and implementation of new or revised safety technologies).

169 Swanson, *supra* note 66, at 1095.

170 Garza, *supra* note 165, at 595–97 ("General Motors 'consistently contested the value of belts, tried to minimize their importance for the industry and attempted to discourage their adoption.'")

were concerns that cruise control technology may keep the throttle open and lead to wrecks."[171] Additionally, both vehicle safety experts and manufacturers were "concerned that a driver 'with literally nothing to do except steer and ruminate' would be 'more likely to drop off for 40 fatal winks.'"[172] Ultimately, "manufacturers have benefitted from the implementation of these technologies."[173]

An examination of the history of air bag technology offers useful lessons learned. The National Highway Transportation and Safety Agency, in 1977, estimated that air bags could prevent over 12,000 vehicle collision fatalities and an additional 100,000 vehicle collision injuries.[174] Part of the push to adopt air bag technology was an effort to reduce fatalities and injuries from vehicle collisions "by replacing a human responsibility [of using seat belts] with a technical artifact [self-deploying air bags]."[175]

Today, air bags "are installed in almost every vehicle due to changing public attitudes on vehicle safety and air bag expectations as well as improved technology and testing of airbags."[176] However, automakers were hesitant to adopt airbag technology, primarily because they were "frightened of taking on the liability that would accompany their involvement in an air bag strategy."[177] Ultimately, automakers embraced air bag technology, in large part, because their potential liability for occupants in vehicles equipped with air bags was greatly reduced as the attitude of viewing air bags favorably increased.[178] AV technology is likely to enjoy the same upward trend of acceptability from the public as airbags.[179]

Federal or state legislation that would limit or protect against liability for AV manufacturers would help this socially beneficial technology become widely adopted.[180] It is within the realm of the legislature to enact statutes or delegate agencies to create regulations that apportion liability, both civil and criminal, between AV manufacturers and users.[181] Nevada's

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(quoting Edward M. Swartz et al., *Seat-Belt Injury Litigation: Defective Restraint Systems Can Result in Serious Injury*, TRIAL, NOV. 1988, at 46, 47–48) (quotation marks omitted)).

171 Swanson, *supra* note 66, at 1095, n.58.

172 Garza, *supra* note 165, at 599 (footnote omitted) (quoting Frank Rowsome Jr., *Educated Gas Pedal Keeps the Cops Away*, POPULAR SCI., Jan. 1954, at 166).

173 Swanson, *supra* note 66, at 1095.

174 Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 35 (1983) (citing 42 Fed. Reg. 34,298 (July 5, 1977)).

175 Wetmore, *supra* note 168, at 390.

176 Goodrich, *supra* note 5, at 283–84.

177 Wetmore, *supra* note 168, at 390.

178 *Id.* at 391.

179 Marchant & Lindor, *supra* note 31, at 1331–32.

180 *Id.* at 1337.

181 Dylan LeValley, Comment, *Autonomous Vehicle Liability—Application of Common Carrier Liability*, 36 SEATTLE U. L. REV. 5, 17 (2013).

AV statute delegates regulatory power to the Nevada Department of Motor Vehicles.[182] The statute requires the Nevada Department of Motor Vehicles to create regulations that govern safety standards, testing methods, insurance requirements, and "such other requirements as the Department determines to be necessary."[183] Legislatures should be proactive in establishing statutes or regulations that apportion liability to prevent the question of liability involving AVs from being brought "before a court as a matter of first impression with no statutory direction."[184]

In order to ensure that manufacturer liability does not become "a barrier that blocks the introduction of this socially beneficial new technology,"[185] legislatures should act to provide manufacturers with "liability protection, or preemption, to ensure AVs are not unduly impeded by liability concerns."[186] There is historic precedent for new and emerging technologies to be protected by legislative efforts to limit liability.[187] The Price-Anderson Nuclear Industries Indemnity Act was enacted in 1957 to limit liability to the nuclear industry.[188] In the transportation industry, the General Aviation Revitalization Act of 1994 provided small plane (and small plane parts) manufacturers with immunity from liability for eighteen years.[189]

Limited liability protections were enacted for vaccine manufacturers in the interest of greater public safety.[190] These federal laws were passed primarily because the "public health benefit of vaccines is undeniable, yet they are so frequently the source of lawsuits that federal preemption laws had to be passed to protect their manufacturers."[191] The Public Readiness and Emergency Preparedness Act of 2005 provides vaccine manufacturers with immunity from liability for harm resulting from vaccinations that take place during public health emergencies.[192] In 1986, the National Childhood Vaccine Injury Act was enacted to limit liability for manufacturers of

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182 NEV. REV. STAT. § 482A.100 (2014).

183 *Id.*

184 LeValley, *supra* note 181, at 17.

185 Marchant & Lindor, *supra* note 31, at 1340.

186 *Id.* at 1340.

187 *Id.* at 1337.

188 42 U.S.C. § 2210 (2006) (cited in Marchant & Lindor, *supra* note 31, at 1337).

189 Pub. L. No. 103-298, §(a), 108 Stat. 1552 (1994) (codified at 49 U.S.C. § 40101 (2006) (cited in Marchant, *supra* note 31, at 1338).

190 Eva B. Stensvad, Note, *Immunity for Vaccine Manufacturers: The Vaccine Act and Preemption of Design Defect Claims*, 95 MINN. L. REV. 315, 323 (2010) (cited in Goodrich, *supra* note 5, at 284); *see also* Marchant & Lindor, *supra* note 31, at 1335–36.

191 Marchant & Lindor, *supra* note 31, at 1331 (citing National Childhood Vaccine Injury Act, 42 U.S.C. §§ 300aa-1–300aa-34 (1986)).

192 42 U.S.C. § 329 (2006) (cited in Marchant & Lindor, *supra* note 31, at 1338).

children's vaccines.[193] State legislatures have enacted similar liability limitations in the area of tort reform, specifically for medical malpractice, largely "to ameliorate the liability concerns faced by vulnerable, but promising, technologies."[194]

The enormous safety benefits that AVs could provide for society demand that the legislature take proactive measures to ensure that liability will not hinder the implantation and adoption of this emerging technology. The model of liability protection established for vaccine manufactures should be looked to as legislators seek to maximize the benefits of this new AV technology while still giving persons that suffer harm a legal remedy as well as advancing the aims of the criminal liability regime.

Some legal scholars have suggested that AV manufacturers should be held to the same liability standards as common carriers.[195] This suggestion relies heavily on the idea that AVs are like common carriers because "they will engage in transportation services, their services will be widely available to the public, and the passenger's safety is not entirely within the control of the passenger."[196] This argument assumes that the manufacturer is the operator of the vehicle.[197] This assumption is flawed because a manufacturer of an AV, unlike the common carrier operator, will have little, if any, control of the vehicle after it is sold. While a manufacturer will have control over the design and implementation of the autonomous technology, it will be up to the user to conduct routine maintenance on the vehicle. Due to this partitioning between manufacturing and maintaining the autonomous technology, the heightened duty of carje imposed on common carriers[198] should not guide criminal liability for AV manufacturers.

The aims of the criminal liability regime are, in important part, to deter and punish conduct that society has deemed undesirable.[199] AV technology represents a new paradigm in automotive safety, efficiency, and mobility.

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193 2242 U.S.C. §§ 300aa-1–300aa-4 (2006) (cited in Marchant & Lindor, *supra* note 31, at 1338).

194 Marchant & Lindor, *supra* note 31, at 1338 (citing Fred J. Hellinger & William E. Encinosa, U.S. Dep't of Health & Hum. Servs., Agency for Healthcare Research and Quality, *The Impact of State Laws Limiting Malpractice Awards on the Geographic Distribution of Physicians* 3 (2003), www.ahrq.gov/research/tortcaps/tortcaps.htm.

195 LeValley, *supra* note 181, at 20.

196 *Id.* at 12.

197 *Id.* at 17–18 ("[W]e assume that a manufacturer of an autonomous vehicleAV is analogous to an operator of the vehicle . . . [because] the manufacturer of the autonomous vehicleAV, like a carrier operations, will have exclusive control over the capabilities and limitations of the mode of transportation—the autonomous technology.").

198 *Id.* at 1215 (noting that common carriers owe "the highest duty of care" to their users).

199 *See e.g.*, Raymond Paternoster, *How Much Do We Really Know About Criminal Deterrence?*, 100 J. CRIM. L. & CRIMINOLOGY 765 (2010). *Accord* FLA. STAT. § 921.002(1)(b) (2015) ("The primary purpose of sentencing is to punish the offender.").

This is an emerging technology, and as such there will likely be real world harms as the automotive industry transitions to fully autonomous vehicles.[200] These harms will probably include the type of incidents that carry with them criminal liability, such as serious bodily harm and death. However, the overall benefit to society that this technology will provide substantially outweighs the need to deter or punish manufacturers under the criminal liability regime.

Yes, society deserves a remedy for when autonomous technology fails, and manufacturers should be held to a reasonable standard when designing and producing a potentially dangerous product to the market. The solution can be found in the historic precedent of limited liability for vaccine manufacturers. Simply put, existing products liability law[201] is well suited to handle civil liability issues for AV manufacturers,[202] and AV technology is too important to hold manufacturers criminally liable for their product.

Florida law already provides some level of liability protection for manufactures. In Florida, the manufacturer of a traditional automobile is exempt from liability if a third party converts the traditional vehicle into an AV.[203] For the reasons stated previously in this section, specifically to maximize and enable the policy benefits from AVs,[204] Florida should relegate manufacturer liability of AVs to comport with existing tort law.

B. Individual Criminal Liability

The primary criminal liability issue that must be addressed is "that our current legal system assumes that the person in the driver's seat is in control of the vehicle, which is not necessarily the case with AVs."[205] Even with the current limitations of autonomous technology, almost all strict liability traffic offenses will be eliminated.[206] What remains is intent-based offenses and offenses that require a person to "operate" the vehicle. The problem with how these offenses are applied and analyzed for AVs is evidenced by the term "self-driving car." Is a person inside the vehicle a passenger or an operator?

"Is the 'driver' of an [AV] like the engineer of a train or pilot of an aircraft on 'autopilot,' or is she simply a passenger, with little or no control

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200 These same types of harm will no doubt occur after the transition phase, just to a lesser extent.

201 *See* RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 1 cmt. a (1998).

202 *See, e.g.*, Marchant & Lindor, *supra* note 31, at 1321.

203 FLA. STAT. § 316.86(2) (2015) ("The original manufacturer of a vehicle converted by a third party into an autonomous vehicle shall not be liable in . . . any legal action brought against the original manufacturer . . . unless the alleged defect was present in the vehicle as originally manufactured.").

204 *See* Part III.

205 Douma & Palodichuk, *supra* note 4, at 1158 (citing Beiker, *supra* note 3, at 1149–52).

206 *See* Gomes, *supra* note 25; s*ee also* Douma & Palodichuk, *supra* note 4, at 1158–59.

of the vehicle's behavior?"[207]

The answer to this question should be that a person inside an AV while operating in autonomous mode is presumed to be a passenger. This is the answer to the operator/passenger question because although the person inside the vehicle is indeed controlling the vehicle, by giving instructions such as the destination, the vehicle itself is in control of how those instructions are carried out. The test should be whether the person inside the vehicle is operating the vehicle in any meaningful way. The NHTSA has weighed in on this issue, determining that the software controlling an AV is the "driver" and anyone inside the vehicle is a mere "occupant."[208] Nobody would seriously argue that a passenger in a taxicab is operating the vehicle merely because that passenger told the driver where to go. In the case of AVs, the car itself is operating the vehicle and the person inside, issuing instructions, should be held to similar criminal liability standards as the passenger of a taxicab.

Laws that make driving under the influence a crime are challenged head-on by AVs. To the average consumer, purchasing an AV might be thought of as purchasing a personal taxi. This same person may presume that after a night of drinking, their AV would be capable of "delivering the intoxicated person home safely without any further interaction."[209]

The most obvious legal issue from a criminal liability standpoint is created by the following scenario. An intoxicated person gets in their AV. The vehicle begins to drive the intoxicated person home. The AV is equipped with an alert and disengage system (required in Florida).[210] The vehicle is involved in an accident that results in death or serious bodily harm. The legal issue is causation: whether, but for the person's intoxication, the accident would have occurred. Because "[t]he possibility of removing drunk drivers from the road is one of the most prominent benefits [AVs] might provide,"[211] legislatures should recognize that the person inside the vehicle is a passenger. To do otherwise would mean that instances of drunk driving are not as effectively reduced. Additionally, if this scenario were to substitute being blind for being intoxicated, the promise of increased mobility would also be strongly hindered.

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207 Douma & Palodichuk, *supra* note 4, at 1160.

208 David Shepardson and Paul Lienert, *Exclusive: In Boost to Self-Driving Cars, U.S. Tells Google Computers Can Qualify as Drivers*, REUTERS (Feb. 10, 2016, 1:14pm) ("NTHSA will interpret 'driver' in the context of Google's described motor vehicle design as reffering to the [self-driving system], and not to any of the vehicle occupants.") (quoting a NHTSA letter dated February 4, 2016) (alterations in the original).

209 *Id.* at 1163 (describing this concept as "an 'I'm drunk, take me home' button").

210 *See* FLA. STAT. § 319.145.

211 Douma & Palodichuk, *supra* note 4, at 1163.

There is another DUI situation that legislatures should address regarding AVs equipped with alert and disengage systems. What if an intoxicated person, due to their normal faculties being impaired, disengages autonomous operation and the result isof the vehicle, which results in death or serious bodily harm? Technology could provide for a "method of triggering this disengage option [through] the inclusion of in-car breathalyzers."[212] A legislative solution would be to recognize the crime of "autonomous DUI" in these situations. This could function similarly to situations where courts have found people to be in control of a vehicle simply by having their keys in their pocket, sleeping in their vehicle, while intoxicated.[213]

The law in Florida is clear that some human is always the operator, even when the vehicle is empty.[214] The law in Florida also requires a system that alerts the operator if the autonomous technology fails[215] and a disengagement system that is "easily accessible to the operator"[216] to allow the person to take control of the vehicle in the event of a malfunction.[217] Florida legislators should, instead, borrow from Nevada's laws and require that "[i]f the driver is not present or is unable to safely take control of the vehicle, the vehicle must safely cause itself to come to a stop."[218]

Noncriminal moving violations raise an interesting legal question, whether it is appropriate to punish, by issuance of a fine, for a traffic violation caused by the AV The majority of traffic offenses in Florida are strict liability, noncriminal traffic infractions.[219] Strict liability offenses lack a mens rea element because they are not concerned as much with moral culpability as they are with deterrence.[220] If an AV, while in autonomous mode and without a physically present operator, for whatever reason, fails to obey a police officer directing traffic, why should the human operator be issued a ticket? Florida's current AV legal regime would allow this human operator to be issued a ticket because that is the letter of the law.[221] The operator is not morally blameworthy, but moral blame is not contemplated by noncriminal strict liability offenses.[222] Yet issuing a ticket to the operator

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212 *Id.* at 1163.

213 *See, e.g.*, City of Naperville v. Watson, 677 N.E. 2d 955 (Ill. 1997) (cited in Douma & Palodichuk, *supra* note 4, at 1163).

214 *See* FLA. STAT. § 316.85 (2014).

215 *See* FLA. STAT. § 319.145(1)(c) (2015).

216 FLA. STAT. § 319.145(1)(a) (2015).

217 *See* FLA. STAT. § 319.145(1)(c) (2015).

218 Douma & Palodichuk, *supra* note 4, at 1161 (citing NEV. ADMIN. CODE § 16(2)(d)(2)).

219 *See* FLA. STAT. § 316 (2015).

220 *See* Miller, *supra* note 50, at 22.

221 *See, e.g.*, FLA. STAT. § 316.1945 (2015).

222 *See* Miller, *supra* note 50, at 21.

here does not further the aims of deterrence either. Here, the operator has no control of how the AV functions once it is engaged, and no amount of fines or tickets will change this.

Imagine being issued a ticket every time your smartphone went out of service. Would these tickets somehow make you stay in service? Of course not, and the same concept is at play with AVs. If anyone should be liable in this instance it is the manufacturer. This is similar to when a speedometer malfunctions resulting in a speeding ticket. The difference being that in the case of the faulty speedometer, an actual person with a valid driver license is present in the vehicle exercising control of the vehicle, and the argument can be made that the operator should realize how fast the vehicle is traveling based on context and experience.

C. Crimes Involving AVs

If a third party were to take control of an AV through hacking, a host of criminal issues are raised. If someone (regardless of whether the person is considered a passenger or operator) is inside the vehicle at the time the third party takes control, is this theft, kidnapping, carjacking, or something else entirely? Existing statutes may adequately address this issue.[223] State legislatures should enact new (or amend existing) statutes to address a situation in which an AV is hacked, and then involved in an accident that causes death or seriously bodily harm.

One issue that needs to be resolved is raised in the following hypothetical. An AV has an alert and disengage system. The law states that a person with access to this system is considered to be in control of the vehicle. The vehicle is hacked, and is now controlled by a third party. The alert and disengage system still functions. The AV, under the control of the hacker, kills a pedestrian. This death would have been avoided had the virtual carjacking victim utilized the disengage system. The issue that must be addressed by the legislature is whether "the ultimate responsibility for safe operation of the vehicle . . . remain[s] with the person with the ability to [use the disengage]."[224] The legislature should be proactive and place criminal liability on the hacker because the hacker's illicit actions are the proximate cause of the death.

AVs could potentially be used to transport contraband such as drugs because: (1) they obey all traffic laws resulting in a lower risk of being stopped by law enforcement; and (2) they can be operated without anyone in the vehicle so that if the vehicle is stopped and the contraband is found, the owner of the contraband may escape capture. Given the possible use of

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223 *See, e.g.*, FLA. STAT. § 812.133 (1993).

224 Douma & Palodichuk, *supra* note 4, at 1165.

AVs as drug mules or otherwise transporting contraband, should AVs have some type of "black box" style data recorder? Nevada requires a black box type system in AVs that captures thirty seconds of data before a collision occurs.[225] This type of data capturing system could be accessed by law enforcement, subject to a traditional search analysis, even when the AV has not been in a collision. In light of the recent legal issues surrounding the use of GPS tracking devices on vehicles,[226] an extension of data collection requirement beyond collision and safety reporting seems likely to give rise to Fourth Amendment issues. A better policy would be to have law enforcement investigate, without resorting to data snooping, AVs found laden with contraband but without anyone physically present.

D. Searches of AVs

The Fourth Amendment to the United States Constitution protects individuals from unreasonable intrusion by the federal government.[227] The Fourth Amendment has been incorporated against the states through the Fourteenth Amendment.[228] Although the Supreme Court has stated that a person's reasonable expectation of privacy is greater in a home than in an automobile,[229] the Court has also stated that "people are not shorn of all Fourth Amendment protection when they step from their homes onto public sidewalks. Nor are they shorn of those interests when they step from the sidewalks into their automobiles."[230] There are numerous Fourth Amendment issues raised by the use of AVs.[231]

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225 *See* FLA. DEP'T. OF HIGHWAY SAFETY AND MOTOR VEHICLES, *Autonomous Vehicle Report*, #13–008, at 4 (2014).

226 *See, e.g.*, United States v. Jones, 132 S. Ct. 945 (2012) (holding that the attachment of a GPS tracking device to a vehicle and subsequent use of that device to monitor the vehicle, was a search within the Fourth Amendment).

227 *See* U.S. CONST. amend. IV. The amendment states:

> The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

The Fourth Amendment "has evolved into an important part of every citizen's procedural rights against government intrusion into personal affairs." Daniel R. Dinger & John S. Dinger, *Deceptive Drug Checkpoints and Individual Suspicion: Can Law Enforcement Really Deceive Its Way into a Drug Trafficking Conviction?*, 39 IDAHO L. REV. 1, 6 (2002) (cited by Roseman, *supra* note 17, at 16).

228 *See* Wolf v. Colorado, 338 U.S. 25 (1949) (incorporating the right against unreasonable search and seizure); Aguilar v. Texas, 378 U.S. 108 (1964) (incorporating the various warrant requirements against the states); Ker v. California, 374 U.S. 23 (1963) (incorporating the standards for determining whether a warrantless search or seizure was "unreasonable" against the states).

229 *See, e.g.*, Rakas v. Illinois, 439 U.S. 128, 153–54, 154 n.22 (1978) (Powell, J., concurring); United States v. Knotts, 460 U.S. 276, 281 (1983).

230 Delaware v. Prouse, 440 U.S. 648, 662–63 (1979).

231 *See generally* Roseman, *supra* note 17, at 3.

Generally, a person has standing to bring a Fourth Amendment challenge when the person is seized[232] or when the person has an expectation of privacy in the area searched.[233] Not all interactions between law enforcement and individuals are seizures or searches under the Fourth Amendment.[234] However, it is well settled that the Fourth Amendment is implicated when law enforcement stops an automobile.[235] Once an automobile has been stopped by law enforcement, an officer must have a warrant,[236] obtain consent,[237] or establish probable cause in order to conduct a search of the vehicle.[238] Setting aside the issue of how law enforcement stops an AV (which dutifully obeys all traffic regulations and laws),[239] I will focus on the procedural issues presented when an AV is searched subsequent to a lawful stop.

In Florida, the operator of an AV is the person that "causes the vehicle's autonomous technology to engage, regardless of whether the person is physically present in the vehicle."[240] This definition of "operator" leads to legally unusual and unique situations pertaining to who has standing to challenge a search of an AV. If the operator of an AV is physically present in the vehicle, then the traditional jurisprudence regarding standing to challenge a search of an automobile applies. However, in Florida, because the operator of an AV need not be physically present, the issue of who has standing to challenge a search of an AV becomes unclear. I will address the following scenarios: (1) an AV with a physically present operator; (2) an AV without anyone physically present; and (3) an AV with a passenger that is not the operator.

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232 *See Prouse*, 440 U.S., *supra* note 230, at 653 ("[S]topping an automobile and detaining its occupant constituted a 'seizure.'"); Brendlin v. California, 551 U.S. 249, 263 (2007) (holding that an automobile passenger was seized and thus entitled to challenge the stop under the Fourth Amendment).

233 *See* Katz v. United States, 389 U.S. 347, 361 (Harlan, J., concurring) (outlining the two prongs of Fourth Amendment privacy: (1) that a person must have an expectation of privacy; and (2) that expectation must be "one that society is prepared to recognize as 'reasonable'"); *Rakas*, 439 U.S. at 148 (finding no standing to challenge a search under the Fourth Amendment when defendant was a "mere passenger" in an automobile); s*ee generally* WAYNE R. LAFAVE, SEARCH AND SEIZURE: A TREATISE ON THE FOURTH AMENDMENT (4th ed. 2004).

234 *See* Terry v. Ohio, 392 U.S. 1, 19 n.16 (1968).

235 *See Brendlin*, 551 U.S. at 254 ("A person is seized by the police and thus entitled to challenge the government's action under the Fourth Amendment when the officer, 'by means of physical force or show of authority,' terminates or restrains his freedom of movement." (quoting Florida v. Bostick, 501 U.S. 429, 434 (1991)); *Prouse*, 440 U.S. 648, 653 (1979) ("[S]topping an automobile and detaining its occupants constitutes a 'seizure' . . . even though the purpose of the stop is limited and the resulting detention quite brief." (citing United States v. Brignoni-Ponce, 422 U.S. 873, 878 (1975)).

236 *See, e.g.*, Chambers v. Maroney, 399 U.S. 42, 52 (1975).

237 *See, e.g.*, Illinois v. Rodriguez, 497 U.S. 177, 181 (1990).

238 *See, e.g.*, City of Indianapolis v. Edmond, 531 U.S. 32, 37 (2000).

239 For a thoughtful discussion of establishing reasonable suspicion to stop an AV, see Roseman, *supra* note 17, at 33–39, 41.

240 FLA. STAT. § 316.85(2) (2015).

In the first scenario the AV's operator is physically present and a search occurs subsequent to a lawful traffic stop. This scenario should not be treated any differently than a traditional search subsequent to a lawful traffic stop. In this scenario a law enforcement officer is able to talk face-to-face with the operator, ask routine questions, determine the operator's final destination, run a search for outstanding warrants, and ask for consent to conduct a search. Because the operator is physically present and able to act in every as a traditional driver at this point (when the AV is no longer being driven), there is no reason to deviate from the traditional search analysis in this scenario. Law enforcement will obtain a warrant, consent from the operator, or establish probable cause. The operator will have standing to challenge the search.

When an AV without anyone physically present is searched subsequent to a lawful stop,[241] traditional search analysis is substantially unaltered. In this scenario a law enforcement officer cannot speak to the AV operator to obtain consent. It has been suggested that implied consent laws should be enacted for AVs without a physically present operator.[242] This lack of face-to-face dialogue also creates a hurdle in establishing probable cause because the law enforcement office cannot utilize his or her observations of the operator's demeanor or ask the operator where his or her final destination is. Aside from this lack of interaction between law enforcement and the operator, the search analysis is unchanged. Essentially, the AV without a physically present operator will be treated like a parked car with retained mobility. In this scenario, the issue of standing to challenge the search is also based on traditional search analysis. The operator would have standing to challenge a search subsequent to a lawful stop even when not physically present because he or she has a reasonable expectation of privacy, just like he or she would have in a parked car or luggage on a public bus.[243]

The final scenario, in which the person inside the AV is not the operator, is the most interesting. The search analysis is almost the same as when the operator is present in the AV, except that a law enforcement officer would utilize the passenger's demeanor and statements regarding the final destination. Also, an officer may be able to obtain consent from the passenger, if the passenger is authorized to consent to the search.[244]

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241 Although an AV obeys all traffic laws and regulations flawlessly, in Florida a police officer may stop a vehicle for a safety inspection "upon reasonable cause to believe that a vehicle is unsafe." FLA. STAT. § 316.610(1) (2015).

242 Roseman, *supra* note 17, at 41.

243 *See* Bond v. United States, 529 U.S. 334, 338–39 (2000) (holding that a person has a reasonable expectation of privacy in a piece of luggage on a bus traveling long distances).

244 *See* Roseman, *supra* note 17, at 44–46.

The operator of the AV would likely have standing to challenge a search subsequent to a lawful stop, for the reasons noted previously. However, the issue of whether the passenger has standing to challenge is more complex. Courts do not require ownership of a vehicle to assert standing to challenge a search.[245] However, in *Rakas v. Illinois*, the Supreme Court held that a defendant who was the passenger in an automobile did not have standing to challenge the search of the automobile because they did not have a reasonable expectation of privacy in the area searched.[246] It is unlikely that a court will find that a passenger in an AV operated by someone else (such as a child or other person without a driver license) has reasonable expectation of privacy in the AV itself because being a passenger in a "car with the permission of its owner is not determinative of whether [a passenger] had a legitimate expectation of privacy in the particular areas of the automobile searched."[247] However, if a passenger who is not the owner of the AV is able to consent to a search, "then that same non-owner must have a protected privacy interest. The scope of the authority sufficient to grant a valid consent can hardly be broader than the contours of protected privacy."[248]

E. Nevada's Legislation as a Model

Florida should follow Nevada's lead and amend the AV statute to include language to the effect of "The Department of Highway Safety and Motor Vehicles is directed to adopt rules providing for the implementation and the use of AVs."[249] This would allow administrative flexibility to maximize the benefits of AVs. Specifically, the delegation of regulatory powers to the Department of Highway and Safety and Motor Vehicles would allow for adolescents, elderly, and disabled persons the same mobility that licensed drivers would have. If the law in Florida allows an AV to operate on public roadways without anyone inside,[250] what's the

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245 *See, e.g.*, United States v. Miller, 821 F.2d 546, 548–49 (11th Cir. 1987) (A defendant who borrows a car from a friend has standing to assert an expectation of privacy.); United States v. Arango, 912 F.2d 441, 445-46 (10th Cir. 1990) (recognizing that a defendant has standing to challenge a search when he has "gained possession [of the area searched] from the owner or someone with the authority to grant possession"); United States v. Thomas, 447 F.3d 1191, 1199 (9th Cir. 2006) ("An unauthorized driver [of a rental car] may have standing to challenge a search if he or she has received permission to use the car."). *But see* People v. Cacioppo, 479 N.Y.S. 2d 264, 265–66 (App. Div. 2d Dep't 1984) (holding that the occasional use of a vehicle did not give rise to a reasonable expectation of privacy because the defendant was not the actual owner, the doors were not locked at the time of the search, and he did not have his own set of keys to the vehicle).

246 *See* Rakas v. Illinois, 439 U.S. 128, 130 (1978).

247 *Id.* at 148.

248 *Id.* at 163 (White, J., dissenting).

249 This language is a slight alteration of FLA. STAT. § 316.193 (11) (2015).

250 *See generally* FLA. STAT. § 316 (2015).

harm of allowing a blind person to sit inside?

PART VI. CONCLUSION

AV technology will improve the safety, efficiency, and mobility benefits of our existing automobile infrastructure. In order to maximize these improvements, a new legal regime must be created. This new regime needs to recognize that an operator of an AV may actually be a mere passenger. This new regime must recognize that more often than not, an AV is its own operator. Florida's traffic laws and motor vehicle regulations should reflect this concept. The Nevada statutes governing AVs should be used as model legislation. This new regime must also address crimes against AVs, such as virtual carjackings, and autonomous crimes, and the use of an AV in the furtherance of a crime. Existing law can be readily adapted to address these crimes. By creating a new legal regime for AVs, the goals of deterrence and punishment can be met while achieving the benefits from autonomous technology.