

Seton Hall University

eRepository @ Seton Hall

---

Law School Student Scholarship

Seton Hall Law

---

2021

## How the Everchanging Technology Involving Autonomous Vehicles Will Change Tort Liability

Stephen Gengaro

Follow this and additional works at: [https://scholarship.shu.edu/student\\_scholarship](https://scholarship.shu.edu/student_scholarship)



Part of the Law Commons

---

## **How the Everchanging Technology Involving Autonomous Vehicles Will Change Tort Liability**

### **1. Introduction**

The majority of car accidents are caused by human error.<sup>1</sup> The question of when fully autonomous vehicles will be fully implemented and available to consumers is the subject of debate; experts are estimating we are still decades away while industry leaders and manufacturers of these cars are more optimistic.<sup>2</sup> Experts and industry leaders both agree, however, our roadways will be occupied with fully autonomous vehicles at some point in the future.<sup>3</sup>

Fully autonomous vehicles create an internal map of their surroundings, and use sensors to construct this map.<sup>4</sup> Next, software inputted in the vehicles processes the surroundings and creates a path while sending signals to the parts of the vehicle that control its' accelerating,

---

<sup>1</sup> See Miltos Kyriakidis, Reinder Happee, and J.C.F. de Winter, *Public opinion on automated driving: Results of an international questionnaire among 5000 respondents*, ScienceDirect (July 2015), <https://www.sciencedirect.com/science/article/abs/pii/S1369847815000777>.

<sup>2</sup> Compare Daniel Gessner, *Experts say we're decades from fully autonomous cars. Here's why*, Business Insider (June 2020), <https://www.businessinsider.com/self-driving-cars-fully-autonomous-vehicles-future-prediction-timeline-2019-8> (predicting that consumers will not be able to purchase autonomous vehicles for decades); with Graham Rapier, *Elon Musk predicts Tesla will complete the 'basic functionality' needed for fully autonomous driving this year—4 years after the company started selling 'full self driving' software*, Business Insider (July 2020), <https://www.businessinsider.com/tesla-fully-autonomous-2020-years-behind-schedule-elon-musk-predicts-2020-7>, (arguing Tesla is claiming to be four years away from making fully autonomous vehicles available to consumers); and Daniel Faggella, *The Self-Driving Car Timeline—Predictions from the Top 11 Global Automakers*, EMERJ (March 2020), <https://emerj.com/ai-adoption-timelines/self-driving-car-timeline-themselves-top-11-automakers/>, (Distinguishing between the top automakers around the world and their predictions for when they expect to have fully autonomous vehicles, all of which predicting that by 2021 they will have implemented for sale fully autonomous vehicles).

<sup>3</sup> *Id.*

<sup>4</sup> See Union of Concerned Scientists, *Self-Driving Cars Explained*, UCSUSA (February 21, 2018), <https://www.ucsusa.org/resources/self-driving-cars-101>, (explaining the process of how self-driving cars process data and use the data to move the vehicle without human intervention).

breaking, and steering.<sup>5</sup> The vehicle then begins to travel automatically to the destination selected by the consumer without further human intervention.<sup>6</sup>

Once fully autonomous vehicles are implemented there will be a shift in the current scheme of tort lawsuits involving car accidents from actions against negligent parties to actions against the manufacturer of the vehicle. The litigation will occur in the form of products liability lawsuits against the manufacturer of the fully autonomous vehicle. Products liability litigation, however, will be insufficient because there will likely be few successful cases against manufacturers. This will likely create a need for the Federal standards regarding safety in the manufacturing and design of autonomous vehicles. Once these regulations are implemented, the optimal way to resolve litigation and hold the manufacturer liable for accidents involving fully autonomous vehicles is via a lawsuit alleging the manufacturer was negligent per se.

Accidents involving partially autonomous vehicles can be successfully resolved under the current tort liability regime regardless of whether the accident in a no-fault or an at-fault state. An accident involving a partially autonomous vehicle would only spark products liability litigation if there was a problem with the operating system that caused the crash. In the case where the plaintiff is alleging the partially autonomous function malfunctioned, a products liability lawsuit will likely be initiated. The result will be substantially similar to how that of a plaintiff in a products liability lawsuit involving a fully autonomous vehicle; examined in Part 4A.

Part 2 of this article discusses the different types of autonomous vehicles and the technology behind them. These are generalized for the purposes of this article as either: (A) a partially autonomous vehicle; or (B) a fully autonomous vehicle.

---

<sup>5</sup> Union of Concerned Scientists, *supra* note 4.

<sup>6</sup> *Id.*

It is important to note that the NHTSA classifies the evolution of autonomous vehicles into six categories.<sup>7</sup> These categories range from a human operator having full control of the vehicle to the human operator having no control of the vehicle.<sup>8</sup> This article generalizes the six stages that involve partial human intervention into the category of partially autonomous vehicles.

Part 3 of the article discusses tort liability for car accidents as it stands today. States have varying laws regarding liability and insurance for an injured party. Generally speaking, these can be categorized as either: (A) no-fault insurance states; or (B) at-fault states.<sup>9</sup> There are three sub-categories of no-fault insurance states which include (i) modified no-fault insurance; (ii) add-on plans; and (iii) choice plans.<sup>10</sup> A hypothetical accident involving a partially autonomous vehicle is examined throughout the different schemes of tort liability.

Part 4 of the article discusses liability in regard to accidents involving fully autonomous vehicles. Applicable tort law will no longer involve who is at fault, but rather center around the manufacturer in the form of a product liability lawsuit. Part 4(A) of this article explains the inefficiencies of products liability law, and the result of a hypothetical litigation involving an accident with fully autonomous vehicle. Part 4(B) of this article argues, with proper legislation in place, negligence per se is the most efficient standard of liability for prescribing damages

---

<sup>7</sup>See Nat'l Highway Traffic Safety Administration, *Automated Vehicles for Safety*, NHTSA, (2020), <https://www.nhtsa.gov/technology-innovation/automated-vehicles>. The NHTSA explains that stage 0 is when the human does all of the driving. *Id.* Stage 1 is when a computer assists the human with basic tasks such as accelerating. *Id.* Stage 2 is when the computer can control both steering and accelerating at the same time. *Id.* Stage 3 is when the vehicle can switch in and out of a mode where a computer does all of the driving. *Id.* Stage 4 is when the vehicle, in certain circumstances, can do all of the driving which generally is the case when the vehicle is going to specific locations that have been tested and the vehicle knows. *Id.* Stage 5 is when the vehicle is fully autonomous, and the human is just a passenger. *Id.*

<sup>8</sup> *Id.*

<sup>9</sup> See HG.org Legal Resources, *What Is the Difference Between No-Fault and At-Fault Insurance States*, (last visited October 31, 2020), <https://www.hg.org/legal-articles/what-is-the-difference-between-no-fault-and-at-fault-insurance-states-35152>, (describing the differences and defining at-fault and no-fault insurance states).

<sup>10</sup> See Cassandra Cole, Kevin Eastman, et al., *A Review of the Current and Historical No-Fault Environment*, 23-1 *Journal of Insurance Regulation* 3, (Winter 2004).

against the manufacturer of fully autonomous vehicles. Part 4(C) of this article explains the current state of liability for accidents involving fully autonomous vehicles.

## **2. How Autonomous Vehicles Work**

Car manufacturers are producing partially autonomous vehicles.<sup>11</sup> Fully autonomous cars differ because they operate without human interaction, while partially autonomous vehicles require the driver to fully engage in driving the car.<sup>12</sup>

### **A. Partially Autonomous Vehicles**

Almost all motor vehicles today have some form of autonomous function in the sense that the computer initiates certain activities rather than the human driver.<sup>13</sup> For example, the airbags in your vehicle go off automatically when the vehicle sustains a certain degree of impact.<sup>14</sup> Another example is how there is likely a light in your car that go on automatically when you are running low on gas.<sup>15</sup>

Today, the technology has emerged even further. There are currently nine partially autonomous vehicles available for sale or presale, each requiring slightly varying levels of human intervention.<sup>16</sup> None of them, however, are fully autonomous.<sup>17</sup> For example, Tesla describes their “full self-driving capability” as the motor vehicle having the following

---

<sup>11</sup> Compare Tesla, *Autopilot and Full Self-Driving Capability*, (2020), <https://www.tesla.com/support/autopilot>, (stating that before enabling the partially autonomous vehicle, you must agree to ‘keep your hands on the steering wheel at all times’ and to ‘maintain control and responsibility for your car’); with NHTSA *supra* note 7, (stating that fully autonomous vehicles treat the driver as a passenger).

<sup>12</sup> *Id.*

<sup>13</sup> See Harry Surden and Mary-Anne Williams, *Technological Opacity, Predictability, and Self-Driving Cars*, 38 CARDOZO L. REV. 121, at 129 (2016), <https://pdfs.semanticscholar.org/14fa/7c063def5392666b059b08777a0228e43ab4.pdf>.

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*

<sup>16</sup> See Nick Kurczewski, *Cars That Are Almost Self-Driving*, U.S. News and World Report (October 22, 2020), <https://cars.usnews.com/cars-trucks/cars-that-are-almost-self-driving>.

<sup>17</sup> *Id.*

capabilities: (1) to automatically change lanes; (2) to automatically park; (3) to automatically move the car out of tight spaces; and (4) to automatically steer.<sup>18</sup>

Tesla is the most advanced with this technology.<sup>19</sup> Only one of the other manufacturers has incorporated the automatic lane change function.<sup>20</sup> Most of the other industry leading manufacturers have only incorporated functions such as the vehicle automatically maintaining speed and automatically breaking if there is an emergency.<sup>21</sup>

## **B. Fully Autonomous Vehicles**

Fully autonomous vehicles use sensors and a multitude of cameras and radar devices that create a map of the surroundings of the vehicle.<sup>22</sup> The vehicle also uses lidar which is a rotating laser system on top of the vehicle that spins 360 degrees in order to detect obstacles.<sup>23</sup> The vehicle then uses the data it collects to operate the vehicle, causing it to automatically accelerate, change lanes, stop, or turn.<sup>24</sup> The driver is a passenger who is not expected to control the vehicle after inputting their desired destination.<sup>25</sup> The key characteristic of these vehicles is that the system is able to operate itself.<sup>26</sup>

---

<sup>18</sup> Tesla, *supra* note 11.

<sup>19</sup> See generally Nick Kurczewski *supra* note 16, (breaking down the motor vehicles that are available to consumers and stating their autonomous functions, price, and availability).

<sup>20</sup> *Id.*

<sup>21</sup> See Kurczewski, *supra* note 16.

<sup>22</sup> See Synopsys, *What is an Autonomous Car*, <https://www.synopsys.com/automotive/what-is-autonomous-car.html>, (explaining what an autonomous car is and the six stages of automation).

<sup>23</sup> Surden, *supra* note 13.

<sup>24</sup> See James M. Anderson, Nidhi Karla, et al., *Autonomous Vehicle Technology, A Guide for Policymakers*, RAND Corporation (2016), [https://www.rand.org/content/dam/rand/pubs/research\\_reports/RR400/RR443-2/RAND\\_RR443-2.pdf](https://www.rand.org/content/dam/rand/pubs/research_reports/RR400/RR443-2/RAND_RR443-2.pdf), (explaining the functionality of the autonomous portions of cars that are available today to the consumer for purchase).

<sup>25</sup> *Id.*

<sup>26</sup> Surden, *supra* note 13.

While these vehicles are not yet available to consumers, they are prevalent in commercial use.<sup>27</sup> For example, Waymo, a product of the Google sister company Alphabet, transported thousands of people in California via an autonomous taxi service.<sup>28</sup> Other companies, like Walmart, use autonomous vehicles to deliver or to transfer cargo.<sup>29</sup> Furthermore, most motor vehicle manufacturers are currently developing fully autonomous vehicles.<sup>30</sup>

### **3. The Current Car Accident Liability Regime and Partially Autonomous Vehicles**

Car accidents involving partially autonomous vehicles while the vehicle is in an automated mode have occurred in the past.<sup>31</sup> The following hypothetical is examined throughout the different tort regimes regarding car accidents currently in place in the United States: Imagine the owner of the autonomous vehicle puts the vehicle in its “self-driving” mode proceeds to scroll on his or her phone without looking at the road. The driver is making a decision to not pay attention to the road and the vehicle strikes another vehicle injuring that driver.

Liability for automobile accidents varies depending on whether the state is a no-fault insurance state, an at-fault state, or some combination of the two.<sup>32</sup> The proceedings of the National Association of Insurance Commissioners uses the following generalization regarding laws in no-fault states: “No-fault laws generally require drivers to carry both liability insurance and personal injury protection coverage to pay for basic needs of the insured, such as medical

---

<sup>27</sup> See generally Steve Harris, *Driving Forward: What’s the State of Autonomous Cars Today?*, Orange Business Services (January 20, 2020), <https://www.orange-business.com/en/blogs/driving-forward-whats-state-autonomous-vehicles-today>.

<sup>28</sup> *Id.*

<sup>29</sup> *Id.*

<sup>30</sup> See Kelsey Piper, *It’s 2020, Where are our self-driving cars?*, VOX (February 28, 2020), <https://www.vox.com/future-perfect/2020/2/14/21063487/self-driving-cars-autonomous-vehicles-waymo-cruise-uber>.

<sup>31</sup> See Joan Lowy, *Driver Killed in Self-Driving Car Accident for First Time*, PBS SOCAL (June 30, 2016), <http://www.pbs.org/newshour/rundown/driver-killed-in-self-driving-car-accident-for-first-time/>. See also Rebecca Heilweil, *Tesla needs to fix its’ deadly Autopilot problem*, VOX (February 26, 2020), <https://www.vox.com/recode/2020/2/26/21154502/tesla-autopilot-fatal-crashes>.

<sup>32</sup> See Ashlee Tilford, *What Does a No-Fault State Mean for Auto Insurance?*, Coverage, (May 5, 2020), <https://www.coverage.com/insurance/auto/what-does-a-no-fault-state-mean-for-auto-insurance/>.

expenses, in the event of an accident.”<sup>33</sup> This means that insurance companies typically compensate their policyholders for minor injuries sustained in car accidents, and in some instances remove the ability of the party with the minor injuries from being able to sue the party allegedly at-fault.<sup>34</sup>

On the opposite end of the spectrum are “fault states” which require that the at-fault party pay damages to the innocent party.<sup>35</sup> This means the driver who causes a car accident will be liable to pay the injured party for damages.<sup>36</sup> While the driver in an at-fault state is able to sue the manufacturer if an accident is caused by a malfunction in the autonomous system, many at-fault states require manufacturers of partially autonomous vehicles to obtain a large insurance policy.<sup>37</sup> The effect of this insurance policy requirement is that, where the partially autonomous vehicle malfunctions and causes an accident, the manufacturing companies can be sued up to their policy limit under a theory of products liability.<sup>38</sup> The result of this litigation will be substantially similar to if a fully autonomous vehicle malfunctions and injurs another party, leaving the injured party with the difficulties that come with alleging a products liability lawsuit against an autonomous vehicle manufacturer.<sup>39</sup>

---

<sup>33</sup> See Financial Regulation Standards and Accreditation Committee, *2008-3 NAIC Proc. 1*, (September 22, 2008).

<sup>34</sup> See HG.org, *supra* note 9 (defining at-fault insurance and what is required for determining liability in cases in this jurisdiction).

<sup>35</sup> *Id.*

<sup>36</sup> *Id.*

<sup>37</sup> See Jordan Fowler, Student Comment: TRAILBLAZING AN INDUSTRY: THE POTENTIAL EFFECTS AND DEFECTS OF AUTONOMOUS VEHICLES AND THE NEED FOR LEGISLATION IN TEXAS, 49 *Tex. Tech L. Rev.* 903 (2017).

<sup>38</sup> *Id.*

<sup>39</sup> See *infra* notes 96-117 and accompanying text.



## A. Types of No-Fault Insurance

Typically, there are three types of no-fault systems that states have implemented: (i) modified plans; (ii) add-on plans; and (iii) choice plans.<sup>40</sup> Each of these can be described as a form of no-fault insurance.<sup>41</sup> No state has what is known as a “pure no-fault” system.<sup>42</sup> This means that there is no system in the United States that precludes an injured party from suing for damages if the damages were of a certain degree.<sup>43</sup> These lawsuits may be limited by threshold requirements involving money and degree of personal injury, or other limits typically stated in the policyholder’s insurance.<sup>44</sup>

### i. Modified Plans and Threshold Requirements

The following 12 states have a modified no-fault insurance statute: Florida; Hawaii; Kansas; Kentucky; Massachusetts; Michigan; Minnesota; New Jersey; New York; North Dakota; Pennsylvania; and Utah.<sup>45</sup> Washington D.C. has a modified no-fault insurance statute as well.<sup>46</sup> A modified no-fault plan prevents injured persons from bringing tort actions unless the injured party is hurt to a certain degree prescribed by the statute or state common law.<sup>47</sup>

---

<sup>40</sup> See Cole, *supra* note 10 (explaining the variations of no-fault insurance and the threshold requirements on a state-by-state basis).

<sup>41</sup> *Id.*

<sup>42</sup> *Id.*

<sup>43</sup> *Id.*

<sup>44</sup> *Id.*

<sup>45</sup> See Matthew Bender, *2 No-Fault & Uninsured Motorist Auto Insurance*, § 17.01 (2020). (citing Fla. Stat. Ann. § 627.737; Haw. Rev. Stat. § 431:10C-306(a); Kan. Stat. Ann. § 40-3117; Ky. Rev. Stat. Ann. § 304.39-060(2)(a), (b); Mass. Gen. Laws ch. 90, § 34M; Mich. Comp. Laws § 500.3135(2); Minn. Stat. § 65B.51, subd. 3; N.J. Stat. Ann. § 39:6A-8(a); N.Y. Ins. Law § 5102; N.D. Cent. Code § 26.1-41-08; 75 Pa. Cons. Stat. § 1705; 9 P.R. Laws Ann. § 2058; Utah Code Ann. § 31A-22-309).

<sup>46</sup> *Id.* (citing D.C. Code § 31-2405).

<sup>47</sup> *Id.*

There are two types of threshold requirements that a modified no-fault state can require the injured party to meet before they bring litigation.<sup>48</sup> These threshold requirements categorized as either: a monetary threshold requirement; or a verbal threshold requirement.<sup>49</sup>

Verbal threshold is defined as “a threshold based on a person's degree of injury that must be exceeded before a suit can be brought against the negligent party in a state with a no-fault insurance law. The verbal threshold is usually an injury that results in a whole or partial loss of a body member or function.”<sup>50</sup> A monetary threshold sets the amount that which an injured party must prove in order to bring a lawsuit for damages in a modified no-fault state.<sup>51</sup> Additionally, most no-fault states such as Kansas, Kentucky, Massachusetts, North Dakota and Utah require that the medical expenses used to reach the monetary threshold must be “reasonable and necessary.”<sup>52</sup> These monetary threshold requirements typically range from \$1,000 to \$5,000 depending on the state that which the injury occurred.<sup>53</sup>

How would a motor vehicle accident lawsuit involving a partially autonomous vehicle play out in a jurisdiction that offers no-fault insurance plans? The likely answer is that the result would be substantially similar whether the car was partially automated, or fully controlled by a human being. Therefore, liability should be assigned in an accident involving a partially

---

<sup>48</sup> Bender, *supra* note 45.

<sup>49</sup> *See id.* (Explaining that while there are two types of threshold requirements, some states also require both to be met before a lawsuit is brought).

<sup>50</sup> *See* International Risk Management Institute, *Verbal Threshold Definition* (2020), <https://www.irmi.com/term/insurance-definitions/verbal-threshold>.

<sup>51</sup> *See* Bender, *supra* note 45.

<sup>52</sup> *Id.* (citing e.g., Kan. Stat. Ann. § 40-3103(k) (all reasonable expenses for necessary health care); Ky. Rev. Stat. Ann. § 304.39-020(5)(a); Mass. Gen. Laws ch. 231, § 6D; Minn. Stat. § 65B.51, subd. 3; N.D. Cent. Code § 26.1-41-01(9); Utah Code Ann. § 31A-22-307(1)(a)).

<sup>53</sup> *Id.* (Citing, D.C. Code § 31-2405; Haw. Rev. Stat. § 431:10C-306 (setting a limit at \$5,000); Kan. Stat. Ann. § 40-3117 (setting a limit at \$2,000); Ky. Rev. Stat. Ann. § 304.39-060(2)(b) (setting a limit at \$1,000); Mass. Gen. Laws Ann. ch. 231, § 6D (\$2,000); Minn. Stat. § 65B.51, subd. 3.(setting a limit at \$4,000); N.D. Cent. Code § 26.1-41-01(21) (setting a limit at \$2,500); 9 P.R. Laws Ann. § 2058 (setting a limit at \$1,000); Utah Code Ann. § 31A-22-309 (setting a limit at \$3,000)).

autonomous vehicle to the driver of that vehicle where it can be determined that it was the decision of the driver that led to the accident.<sup>54</sup>

Under the facts of the hypothetical above, it would be the likely result that the injured party would still be given benefits from their modified no-fault plan and would only be able to sue if the injury arose to the level applicable threshold. Therefore, in the absence of a clear manufacturing defect,<sup>55</sup> the injured party in an accident involving a partially autonomous vehicle in this jurisdiction is subject to a monetary and/or verbal threshold requirement to bring suit against the driver.<sup>56</sup> This means if an injured party were to sue because they were injured by a partially autonomous vehicle, they would be limited in their ability to recover damages from the tortfeasor by the applicable threshold requirements.<sup>57</sup>

## **ii. Choice Plan**

A choice plan gives the policy holder the option to choose whether their automobile coverage is under a no-fault system or an at-fault system.<sup>58</sup> An accident involving a partially autonomous vehicle is evaluated in a choice plan jurisdiction differently depending on if the policy holder chose a no-fault policy or an at-fault policy. Of the twelve states and D.C. who have modified no-fault statutes, four allow the insured to choose whether they want to pay lower premiums and have no-fault coverage or pay higher premiums for the right to sue.<sup>59</sup>

---

<sup>54</sup> See Raja Jurdak and Salil Kanhere, *Who's to blame when driverless cars have an accident?*, The Conversation (March 20, 2018), <https://theconversation.com/whos-to-blame-when-driverless-cars-have-an-accident-93132>.

<sup>55</sup> *Id.*

<sup>56</sup> See generally Cole, *supra* note 10. Table 1 lists seven states as having both a verbal and monetary threshold. *Id.*

<sup>57</sup> *Id.*

<sup>58</sup> See International Risk Management Institute, *Choice Plan Definition*, (2020), <https://www.irmi.com/term/insurance-definitions/choice-no-fault>.

<sup>59</sup> See Bender, *supra* note 45, (citing D.C. Code §31-2405; N.J. Stat. Ann. §39:6A-8; Pa. Cons. Stat. § 1705).

The result of the hypothetical accident above would be the same if the accident occurred in a jurisdiction that allowed choice plans where the policy holder chose the option of no-fault insurance rather than at-fault insurance.

### iii. Add-On Plan

An add-on insurance state gives the injured policyholder the right to sue the tortfeasor as well as collect no-fault insurance benefits.<sup>60</sup> States that allow add-on plans allow the policyholder to purchase additional insurance for injury protection, but allow the injured party to sue for tort liability.<sup>61</sup> Courts find that states with add-on statutes are states that do not have true no-fault statutes.<sup>62</sup> These states provide the policyholder with first party benefits.<sup>63</sup> A first-party benefit is money provided to the injured party, regardless who is at fault for the accident.<sup>64</sup> Payments typically include medical expenses, and may also include work-loss coverage, funeral benefits, or accidental death benefits depending on the state and the amount of coverage the policy holder purchases.<sup>65</sup>

If the parties involved in hypothetical accident were in a jurisdiction that allowed add-on insurance plan and the injured party paid a premium, they would have the choice of whether to claim their benefits from their policy or sue the at-fault party under the applicable tort laws of that jurisdiction.<sup>66</sup> If they claim their benefits, the result of a car accident involving the vehicle

---

<sup>60</sup> See Jeffery O'Connell and Robert Joost, *ARTICLE: GIVING MOTORISTS A CHOICE BETWEEN FAULT AND NO-FAULT INSURANCE*, 72 V. L. Rev. 61 (1986).

<sup>61</sup> See International Risk Management Institute, *Add-On Plan Definition*, (2020), <https://www.irmi.com/term/insurance-definitions/add-on-no-fault-laws>.

<sup>62</sup> See *Allstate Ins. Co. v. Ivie*, 606 P.2d 1197, 1199 (Utah 1980).

<sup>63</sup> See Butterworth's Personal Injury Litigation Service (UKBIL), *Division XVIII Personal Injury Litigation Outside the United Kingdom, Personal injury in the USA, L Automobile insurance made complex 3 No fault provision*, (December 6, 2012).

<sup>64</sup> See Henderson Brothers, *Insurance 101: First-Party Benefits*, (August 16, 2016), <https://www.hendersonbrothers.com/insurance-101-first-party-benefits/>.

<sup>65</sup> *Id.*

<sup>66</sup> See generally Butterworth's Personal Injury Litigation Service (UKBIL), *supra* note 63.

in its partially autonomous mode would be substantially similar to an accident under these circumstances in a modified no-fault state. If they choose to sue, the analysis of a hypothetical motor vehicle accident lawsuit would be substantially similar to that of a lawsuit in an at-fault state.

## **B. At-Fault Insurance**

An at-fault state has no restrictions on who can sue.<sup>67</sup> There are twenty-eight states that currently use an at-fault system regarding car accidents.<sup>68</sup> This means that an injured party can sue the tortfeasor for medical expenses or pain and suffering.<sup>69</sup> The driver will need to seek recovery from the other driver or person who caused the injury, as opposed to the injured driver receiving benefits from their insurance company.<sup>70</sup>

Motor vehicle accident litigation in tort states is typically proved through a theory of negligence.<sup>71</sup> The elements of a negligence claim include a duty, a breach of said duty, causation, and damages.<sup>72</sup> Duty is defined typically in motor vehicle accident litigation as the driver owing reasonable care to the other drivers and other people while operating the motor vehicle.<sup>73</sup> A breach of the duty of reasonable care in a car accident could include, but is not limited to: failing to stop at a red light; failing to use a turn signal; or failing to adhere to

---

<sup>67</sup> See Insurance Information Institute, *Background On: No-fault auto insurance*, (November 6, 2018), <https://www.iii.org/article/background-on-no-fault-auto-insurance>.

<sup>68</sup> Butterworth's Personal Injury Litigation Service (UKBIL), *supra* note 63.

<sup>69</sup> *Id.*

<sup>70</sup> See Jeffery O'Connell and Samuel McCoy, *5 Law of Liability Insurance* § 48.01, (2020).

<sup>71</sup> See David Goguen, *Car Accidents Caused by Negligence*, NOLO, (2020). <https://www.nolo.com/legal-encyclopedia/car-accidents-caused-by-negligence-29537.html>.

<sup>72</sup> See *K.M. v. Ala. Dept. of Youth Servs.*, 360 F.Supp 2d 1253, 1263 (M.D. Ala. Lr. 2005) (citing *Armstrong Bus. Servs., Inc. v. AmSouth Bank*, 817 So.2d 665, 679 (Ala. 2001)). See also *Curreri v. Saint*, 126 A.3d. 422, 486 (R.I. 2015) (stating the elements of a negligence claim which include duty; a breach of that duty; proximate causation; and actual damages).

<sup>73</sup> See Goguen, *supra* note 71.

pedestrians.<sup>74</sup> Proving the final element of damages may be difficult, especially where the party you are suing uses the defense that the injured party contributed to the accident.<sup>75</sup>

Depending on the state, the applicable law regarding defenses for damages could be either comparative negligence or contributory negligence. For states that allow the defense of comparative negligence, damages to the injured party can be reduced in direct proportion to the percentage the Court finds the injured party contributed to the accident.<sup>76</sup> Some states use a pure comparative fault method, whereby victims can recover damages even if the court decides the victim was 90% at fault.<sup>77</sup> Other states use a modified comparative negligence rule, whereby victims can recover damages where they were less than 50% negligent.<sup>78</sup>

In states that use contributory negligence as a defense, if the defendant can prove that the plaintiff contributed even ever so slightly to the accident, the plaintiff will be unable to recover damages.<sup>79</sup>

In our hypothetical accident above, did the driver of the vehicle breach a duty when the vehicle was basically driving itself?

The plaintiff in this hypothetical lawsuit would likely argue that the defendant breached a duty to not pay attention to the road or keep their hands on the wheel when the vehicle was engaged in its' partially autonomous mode.<sup>80</sup> Therefore, a negligence lawsuit against the injured party would likely leave the driver of the partially autonomous vehicle with little defense.

---

<sup>74</sup> Goguen *supra* note 71.

<sup>75</sup> *Id.*

<sup>76</sup> *Id.*

<sup>77</sup> *Id.* See also *Kalamazoo Oil Co. v. Boerman*, 242 Mich. App. 75, at 79-80 (Mich. Ct. App. 2000) (finding that “plaintiff’s recovery of damages is reduced to the extent plaintiff’s negligence contributed to the injury”).

<sup>78</sup> *Id.* See also *Bradley v. Appalachian Power Co.*, 163 W. V.a. 332, 335 (finding that the modified comparative negligence defense bars a party who is substantially negligent from recovery, but not a plaintiff who is only slightly at fault).

<sup>79</sup> See Goguen, *supra* note 71.

<sup>80</sup> See generally *Tesla*, *supra* note 11, (discussing what is required for the driver engaged in the Tesla’s self-drive mode).

The only recourse they may have is in a jurisdiction that allows contributory negligence as a defense.<sup>81</sup> The driver of the partially autonomous vehicle using contributory negligence as a defense would need to argue that another party (such as the manufacturer) was even slightly at fault in the accident to avoid liability.<sup>82</sup> The defendant in this case would then state that the manufacturer of the vehicle contributed to the negligence by some malfunction or defect in the vehicle's partially autonomous mode.<sup>83</sup> The likely result is that the alleged tortfeasor would be without liability to the injured party.

In a jurisdiction that recognizes modified comparative fault, the driver of the autonomous vehicle would need to prove that another party was more than 50% at fault.<sup>84</sup> In a jurisdiction that recognizes pure comparative fault, the driver of the autonomous vehicle could prove that another party was even slightly at fault and reduce the amount of damages they owe based on the percentage the Court finds the other party to be at fault.<sup>85</sup>

Therefore, in this hypothetical the likely result of a lawsuit between an injured party and a tortfeasor operating a vehicle in its' partially autonomous mode would result in the operator of that vehicle paying the majority of damages. The driver of the partially autonomous vehicle

---

<sup>81</sup> For a full discussion on contributory negligence as a defense, see E.H. Schopler, *Comment Note—Distinction between assumption of risk and contributory negligence*, 82 A.L.R.2d. 1218 (2020).

<sup>82</sup> *Id.*

<sup>83</sup> However, manufacturers who have been indicted in a defense for contributing to the liability of the accident or for wrongful death regarding an injured party who was the operator of the partially autonomous vehicle have, as a general matter, vehemently defended that they are at fault. See generally, Soo Yun, *Tesla sued for 'defective' Autopilot in wrongful death suit of Florida driver who crashed into tractor trailer*, ABC News (August 1, 2019), <https://abcnews.go.com/Technology/tesla-sued-defective-autopilot-wrongful-death-suit-florida/story?id=64706707>. For example, the driver of a Tesla engaged in its partially autonomous mode was killed, and Tesla was sued for wrongful death as a result. *Id.* The article quotes a tesla spokesperson stating that because the partially autonomous mode was initiated ten seconds before the crash and the driver 'immediately removed his hands from the wheel,' that the vehicle was not at fault. *Id.*

<sup>84</sup> For a full discussion of modified comparative fault and pure comparative fault, see David C. Sobelsohn, *ARTICLE: "PURE" Vs. "MODIFIED" COMPARATIVE FAULT: NOTES ON THE DEBATE*, 34 Emory L.J. 65 (Winter 1985).

<sup>85</sup> *Id.*

would likely be found at fault, and manufacturers of partially autonomous vehicles will fight tooth and nail to prove it was primarily user error that caused the accident.<sup>86</sup>

The result of this litigation would be different if the accident occurred as a result of a malfunction in the vehicle's autonomous system. Many states require manufacturers to have an insurance policy before they can sell partially autonomous vehicles, limiting the amount of damages recoverable against the manufacturer.<sup>87</sup> The plaintiff would be limited in their recovery to the amount of the insurance policy.<sup>88</sup>

A manufacturer who does not adopt a reasonably safe, fault-tolerant policy is subject to tort liability for the resulting harms.<sup>89</sup> An example of such a fault-tolerant policy is implementing coding into the vehicle's operating system that can detect whether the driver is not watching the road, and use audible alerts to get the driver's attention.<sup>90</sup> Liability for the manufacturer in this circumstance will likely depend on if the alerts were loud enough to get their attention, as well as the size of the insurance policy the manufacturing company has.

---

<sup>86</sup> See generally Sean O'Kane, *Tesla defends Autopilot after Fatal Model X crash*, THE VERGE, (March 28, 2018), <https://www.theverge.com/2018/3/28/17172178/tesla-model-x-crash-autopilot-fire-investigation>, (quoting Tesla's statement that tens of thousands of Tesla cars engaged in autopilot have driven past the barrier that the injured party hit with no issues and generally outlining Tesla's reasoning for why they are not at fault).

<sup>87</sup> Fowler, *supra* note 37. There are some states that require manufacturers to purchase expensive insurance policies in order to provide persons injured as a result of an autonomous vehicle's malfunction. *Id.*

<sup>88</sup> *Id.*

<sup>89</sup> See Mark A. Geistfeld, ARTICLE: A Roadmap for Autonomous Vehicles: State Tort Liability, Automobile Insurance, and Federal Safety Regulation, 105 Calif. L. Rev. 1611. This article explains how manufacturers would only be liable for crashes caused by "malfunctioning hardware; malfunctions of the operating system due to either programming error or third-party hacking; the manufacturer's failure to adopt a reasonably safe design or to provide adequate warnings for ensuring safe development of the vehicle, or the manufacturer's failure to treat consumers and bystanders equally when designing the vehicle and its operating system." The article further explains that each of these has a separate liability structure, meaning that some are strict liability offenses and others are not.

<sup>90</sup> *Id.*



#### 4. Assigning Liability Involving Accidents Fully Autonomous Vehicles

For the purposes of this section, we shall assume that the industry leaders are correct in their prediction that fully autonomous vehicles will be available to consumers and widely used.<sup>91</sup> So why have these autonomous vehicles not yet been made readily available to consumers? The answer could be that there are concerns and risks that come with fully autonomous vehicles that many argue outweigh their primary benefit: safety. For example, fully autonomous vehicles use intense coding systems that can lead to cybersecurity threats.<sup>92</sup>

Other areas of concern include the ability of the vehicle to travel in changing weather conditions, the ability of the vehicle to adapt to new roadways, and liability for when the vehicle is involved in an accident.<sup>93</sup> Additionally, some surveys conducted indicate that 48% of Americans would not even enter a fully autonomous taxi.<sup>94</sup>

Consider the following hypothetical piece of legislation: “It shall be a violation of Federal law for a manufacturer to sell a fully autonomous vehicle without the vehicle being tested on roadways for 1,000 miles and during which the vehicle had no accidents or technical errors.” Now consider this hypothetical situation: A consumer purchased a fully autonomous vehicle from a manufacturer. The manufacturer finished put together said vehicle last week and tested

---

<sup>91</sup> See Faggella, *supra* note 2. Additionally, Tesla has also indicated that they have the technology to implement fully autonomous vehicles already. See John Koetsier, *Elon Musk: Tesla Will Have Level 5 Self-Driving Cars This Year*, Forbes, (July 9, 2020), <https://www.forbes.com/sites/johnkoetsier/2020/07/09/elon-musk-tesla-will-have-level-5-self-driving-cars-this-year/?sh=509defb2d1d6>.

<sup>92</sup> See generally Daniel J. Fagnant and Kara Kockelman, *Transportation Research Part A: Policy and Practice*, Volume 77, 167-181 at 177, ScienceDirect (May 2015), [https://www.sciencedirect.com/science/article/pii/S0965856415000804?casa\\_token=3dbmRhJzzT8AAAAA:cSSkSkIACPrKYKbdTG3Dn5yWMwVfAUxhkhMdbpUNVGZjkEEyqK3pvKo2ld4iW72upspnpjh8rQ](https://www.sciencedirect.com/science/article/pii/S0965856415000804?casa_token=3dbmRhJzzT8AAAAA:cSSkSkIACPrKYKbdTG3Dn5yWMwVfAUxhkhMdbpUNVGZjkEEyqK3pvKo2ld4iW72upspnpjh8rQ), (arguing that manufacturers are worried about security issues and that it is not feasible to create a completely secure system).

<sup>93</sup> See Josh McDermid, *Autonomous Cars: five reasons they still aren't on our roads*, The Conversation (July 30, 2020), <https://theconversation.com/autonomous-cars-five-reasons-they-still-arent-on-our-roads-143316>, (citing a survey conducted by Partners of Automated Vehicle Education and highlighting fears Americans have about being a passenger in an autonomous vehicle).

<sup>94</sup> See e.g. Andrew J. Hawkins, *Americans still don't trust self-driving cars*, THE VERGE (May 19, 2020), <https://www.theverge.com/2020/5/19/21262576/self-driving-cars-poll-av-perception-trust-skepticism-pave>.

the vehicle for 1,000 miles. During testing, however, the vehicle was involved in two minor accidents involving the vehicle changing course when an unexpected animal entered the roadway. Our hypothetical consumer purchases the vehicle from the manufacturer, enters, and plugs in an address. The vehicle begins moving toward the location inputted by the consumer. While the consumer is scrolling on their phone, however, a deer runs into the road and the vehicle veers off of the road injuring the consumer as a result.

Negligence lawsuits created by accidents involving a fully autonomous vehicle are inadequate in establishing liability because accidents involving fully autonomous vehicles should hold the manufacturer rather than the driver liable.<sup>95</sup> Products liability lawsuits are also insufficient in assigning liability in an accident to a manufacturer of a fully autonomous vehicle.<sup>96</sup>

#### **A. Problems with a Product Liability Law for Fully Autonomous Vehicles**

Like negligence standards, product liability standards differ from state to state.<sup>97</sup> There are three types of products liability claims, each can hold manufacturers strictly liable for manufacturing defects, design defects, or warning defects.<sup>98</sup>

A manufacturing defect exists “when the product departs from its intended design even though all possible care was exercised in preparation and marketing of the product.”<sup>99</sup> A

---

<sup>95</sup> *But see* Hawkins *supra* note 94. (Arguing that when an autonomous vehicle causes an accident the case should be treated the same as if there were a human driver evaluated under a negligence standard).

<sup>96</sup> See John W. Zipp, *Note: The Road Will Never Be the Same: A Reexamination of Tort Liability for Autonomous Vehicles*, 43 *Transp. L.J.* 137 (Winter 2016) (arguing that assigning liability under a products liability theory is insufficient as it does not assign liability to the correct parties instead the law should treat autonomous vehicles as “special business entities”).

<sup>97</sup> See David King, *ARTICLE: PUTTING THE REIGNS ON AUTONOMOUS VEHICLE LIABILITY: WHY HORSE ACCIDENTS ARE THE BEST COMMON LAW ANALOGY*, 19 *N.C. J.L. & Tech. On.* 127 (December 2017).

<sup>98</sup> *Id.* (Citing Kim D. Larsen, *Note, Strict Products Liability and the Risk-utility Test for Design Defect: An Economic Analysis*, 84 *COLUM. L. REV.* 2045 (1984)).

<sup>99</sup> Geistfeld, *supra* note 89 (explaining that a coding error would likely implicate the software creator rather than the manufacturer because a manufacturing defect is an error with the specific product. Coding errors would be consistent across all products manufactured with the software).

manufacturing defect can also occur if the product violates the malfunction doctrine. This has three basic elements: “(1) the product malfunctioned, (2) the malfunction occurred during a regular and proper use of the product, and (3) the product was not altered or misused in a way that could lead to the malfunction.”<sup>100</sup>

There are fewer cases involving manufacturing defects today because most products are mass produced according to the specific guidelines.<sup>101</sup> One would assume consequently that when autonomous vehicles are mass-produced, similar guidelines will be imposed regarding the design of the vehicle and would subsequently keep the number of manufacturing defect cases low.

The manufacturer would likely only be liable for a manufacturing defect where the accident was caused because of a malfunction with the sensors, cameras, or lidar rather than a coding error.<sup>102</sup> This is because a coding error would result in a problem with the product line rather than the individual product itself.<sup>103</sup> Therefore, in our hypothetical accident above, the driver of the fully autonomous vehicle that crashed would need to prove that it was an error with something other than the coding to be successful on a manufacturing defect claim. This could result in costly, technical litigation, which impedes justice and thus is inefficient for holding the manufacturer liable in this instance.<sup>104</sup> Additionally, in applying the malfunctioning doctrine to our hypothetical accident litigation, it is possible that the vehicle operated correctly in avoiding the deer and crashing. The malfunction doctrine requires the plaintiff allege the accident would not have occurred if the car was not defective.<sup>105</sup> The manufacturer would likely argue that the

---

<sup>100</sup> See Ryan J. Duplechin, *ARTICLE: THE EMERGING INTERSECTION OF PRODUCTS LIABILITY, CYBERSECURITY, AND AUTONOMOUS VEHICLES*, 85 *Tenn. L. Rev.* 803 (Spring 2018).

<sup>101</sup> King, *supra* note 97.

<sup>102</sup> Geistfeld, *supra* note 89.

<sup>103</sup> Geistfeld, *supra* note 89 (arguing that a coding error would be likely to be brought under a design defect claim because the coding is similar throughout all of the vehicles manufactured).

<sup>104</sup> Jensen, *infra* note 123 and accompanying text.

<sup>105</sup> Duplechin, *supra* note 100.

car is programmed to avoid large animals that would result in a heavy collision. The plaintiff would struggle in this lawsuit without more developed law and policy of what constitutes a “malfunction” for an autonomous vehicle.

There are multiple tests for proving a design defect. The first of which is the consumer expectations test.<sup>106</sup> This test requires a consumer to have “sufficient knowledge or familiarity with the design of the product to have reasonable expectations about its safety or performance.”<sup>107</sup> Courts will struggle apply this test to autonomous vehicles because it is near impossible for consumers to have advanced knowledge of these complex products.<sup>108</sup>

Additionally, a design defect occurs if a product is dangerous to an unreasonable degree and the manufacturer could have used a safer alternative.<sup>109</sup> This is known as the risk-utility test.<sup>110</sup> This means that a manufacturer could be held liable for a design defect in when the product meets the their intended design, but the plaintiff challenges the entire product line as defective.<sup>111</sup> Similarly to the amount of successful manufacturing defect cases, the amount of cases regarding design defects in fully autonomous vehicles would not be large because manufacturers would be able to mitigate liability by explaining a fully autonomous vehicle is a

---

<sup>106</sup> Duplechin, *supra* note 100.

<sup>107</sup> Duplechin, *supra* note 100 (citing Terrence F. Kiely & Bruce L. Ottley, *Understanding Products Liability Law* 135 (2006)).

<sup>108</sup> *Contra Pruitt v. Gen. Motors Corp.*, 86 Cal. Rptr. 2d 4, 6 (Ct. App. 1999) (stating that air bags are too complex of a technology for the Court to apply the consumer expectations test).

<sup>109</sup> See King *supra* note 94. For a full discussion on design defects and how they relate to manufacturing defects, see FindLaw Attorney Writers, *Product Liability: Manufacturing vs. Design Defects*, (January 30, 2017), <https://corporate.findlaw.com/litigation-disputes/product-liability-manufacturing-defects-vs-design-defects.html>.

<sup>110</sup> For a full discussion of the factors relating to the risk-utility test, see Legal Information Institute, *Products Liability*, (2020) [https://www.law.cornell.edu/wex/products\\_liability](https://www.law.cornell.edu/wex/products_liability).

<sup>111</sup> Duplechin, *supra* note 100.

safety benefit to society.<sup>112</sup> Additionally, manufacturers would likely explain all of the risks that autonomous vehicles mitigate.<sup>113</sup>

In the hypothetical accident litigation above, the plaintiff would be unsuccessful in alleging a design defect based on the risk-utility test because this is a world where these vehicles are prevalent, and the most likely situation is that manufacturers have already explained the social benefits of these vehicles and how similar substitutes would not be as safe.

A warning defect occurs if the manufacturer sells a product without properly informing the consumer of what makes the product dangerous and telling the consumer how they can mitigate the dangerous aspects to prevent the consumer from harming themselves or others.<sup>114</sup> It is also important that the injury must result from the failure on the manufacturer's part to warn the consumer.<sup>115</sup> The burden of establishing a warning defect is on the plaintiff.<sup>116</sup> The key issue is usually whether the product was safe for its foreseeable use.<sup>117</sup>

A warning defect case involving a fully autonomous car will likely not succeed because manufacturers will more than likely go above and beyond the call of duty to make sure they have provided consumers with sufficient notice of the dangerous aspects or flaws with autonomous

---

<sup>112</sup> See King *supra* note 97. See also Nat'l Highway Traffic Safety Admin., *supra* note 7, (explaining the safety advantages of the implementation of fully autonomous vehicles). See also Teena Maddox, *How Autonomous Vehicles Could Save Over 350K lives in the U.S. and Millions Worldwide*, ZDNet (February 1, 2018), <https://www.zdnet.com/article/how-autonomous-vehicles-could-save-over-350k-lives-in-the-us-and-millions-worldwide/>. But see The Insurance Institute for Highway Safety, *Self-driving vehicles could struggle to eliminate most crashes*, IIHS HLDI (June 4, 2020), <https://www.iihs.org/news/detail/self-driving-vehicles-could-struggle-to-eliminate-most-crashes>, (finding that while it would be better for safety to have autonomous vehicles, they would likely only eliminate one-third of crashes).

<sup>113</sup> *Id.*

<sup>114</sup> *Id.*

<sup>115</sup> See NOLO, *Types of Defective Product Liability Claims*, (2020) <https://www.nolo.com/legal-encyclopedia/types-of-defective-product-liability-30070.html>, (explaining the different types of liability defects and specifically what is required for proving a typical warning defect case).

<sup>116</sup> See, *Moss v. Wyeth Inc.*, 872 F. Supp. 2d 162 (D. Conn. 2012). See also, *Sharpe v. Bestop, Inc.*, 314 N.J. Super. 54 (NJ Super. Ct. App. Div. 1998) (finding that the plaintiff satisfied their burden in proving a warning defect).

<sup>117</sup> 2 *Products Liability Practice Guide* §15.11, (2020) (citing *Alfieri v. Cabot Corp.*, 17 A.D.2d 455 (NY App. Div. 1962)).

vehicles.<sup>118</sup> In order for a plaintiff in the hypothetical accident above to succeed in a lawsuit alleging there was a warning defect the plaintiff would have the burden of proving they were not warned that the vehicle could still get into an accident.<sup>119</sup> This would likely be unsuccessful because manufacturers will almost certainly tell consumers that there is still a possibility that the vehicle is engaged in an accident.

Justice will thus not be achieved for drivers of fully autonomous vehicles who are injured as a result of a car accident unless the manufacturer is held to a negligence per se standard, rather than a product liability standard.

### **B. Negligence Per Se Benefits**

The elements of a claim of negligence per se are: (1) there is a statute that is conduct oriented which means that its purpose is to protect conduct that leads to injury; (2) the defendant violated that statute; and (3) the plaintiff is in a class of people protected by the statute.<sup>120</sup>

Negligence per se assumes that there was a breach of duty where the tortfeasor violates a statute that is related to the accident that occurred.<sup>121</sup> If there were a statute passed regarding how one should manufacture a certain product, or a criminal statute against the conduct

---

<sup>118</sup> *But see* Brett A. Ross, *AUTOMATED VEHICLE LAWSUITS, HOW WILL WE LITIGATE THE AUTO CRASH OF THE FUTURE*, 47 *The Brief* 42 (Winter 2018) (arguing that litigation involving warning defects especially as they relate to partially autonomous vehicles would be plentiful and two of the crashes involving Tesla's autopilot should use this strategy in their litigation and argue that the autopilot could not perform certain tasks, which then require the driver to stay alert and these tasks were not adequately warned of by Tesla).

<sup>119</sup> *Id.*

<sup>120</sup> For a full discussion of what constitutes negligence per se, *see generally* *Dalal v. City of New York*, A.D.2d 596 (N.Y. App. Div. 1999) (finding negligence per se in a case involving a statute that required drivers to wear glasses, and that this was a statute governing a specific action). *See also* *Bayne v. Todd Shipyard Corp.*, 88 Wn.2d 917 (Wash. 1977) (holding that a violation of a safety regulation by a party who knew or should have known of said regulation constitutes negligence per se).

<sup>121</sup> *See* Barbara Kritchevsky, *ARTICLE: WHAT DOES LAW HAVE TO DO WITH IT? THE JURY'S ROLE IN CASES ALLEGING VIOLATIONS OF LAW, CUSTOM, AND STANDARDS*, 71 *Ark. L. Rev.* 45 (2018) (arguing that the history of the negligence per se doctrine lends to the conclusion that we should limit the applicability of negligence per se in tort law).

committed by the tortfeasor, a plaintiff in a lawsuit could allege that the defendant was negligent per se and mitigate the duty and breach requirements of a negligence lawsuit.<sup>122</sup>

In order for someone to use negligence per se to prove that a manufacturer of a fully autonomous vehicle was at fault, there would need to be legislation involving proper warning and safety standards for fully autonomous vehicles.<sup>123</sup> Legislation regarding safety standards for autonomous vehicles have not yet been signed into law, however, there are bipartisan efforts to approve legislation in Congress.<sup>124</sup> A negligence per se standard of liability regarding accidents involving autonomous cars would require safety regulations or legislation about how these vehicles should be implemented.

Analyzing the hypothetical above, the consumer would allege a cause of accident against the manufacturer under the doctrine of negligence per se. This hypothetical statute would be considered a conduct statute for the purposes of negligence per se.<sup>125</sup>

In a lawsuit where the plaintiff alleges the defendant was negligent per se, the plaintiff must also show that the statute was intended to protect a class of people of which the plaintiff is a member of.<sup>126</sup> This is an issue of law that should be decided by the Court rather than by a factual determination by the jury.<sup>127</sup> The argument that this hypothetical statute does not protect against a particular class and that the plaintiff is not a member of said class would likely not be successful under these facts. The hypothetical statute's plain language makes it a violation for

---

<sup>122</sup> *Id.*

<sup>123</sup> See Jacob B. Jenson, *STUDENT SCHOLARSHIP: Self-Driving but Not Self-Regulating: The Development of a Legal Framework to Promote the Safety of Autonomous Vehicles*, 57 Washburn L.J. 579 (Summer 2018).

<sup>124</sup> *Id.* The Self-Drive Act was passed by the House of Representatives and amended by the Senate in their own safety proposal for autonomous vehicles called the Advancement of Revolutionary Technologies Act similar to the Self-Drive Act. *Id.* Both proposed pieces of legislation would give the National Highway Traffic Safety Administration power to enforce safety regulations for autonomous vehicles. *Id.*

<sup>125</sup> *Cf. Victor v. Hedges*, 77 Cal. App. 4th 229 (Cal. Ct. App. 1999) (holding that negligence per se does not exist when the statute was not meant to protect against the type of injury that the defendant suffered).

<sup>126</sup> See Dalal, *supra* note 120.

<sup>127</sup> See *Schlimmer v. Poverty Hunt Club*, 268 Va. 74, (Va. 2004).

the manufacturer to sell the vehicle, and the consumer in the hypothetical purchased the vehicle from the manufacturer.

The only issues that remain are if the manufacturer violated the statute and if the violation was a proximate cause of the injury. Both of these are factual inquiries which the jury is charged with determining.<sup>128</sup> It would not be hard to convince a jury under these facts that the manufacturer violated the statute because they did not test the vehicle without accident for 1,000 miles. Therefore, the only real issue that would remain in this hypothetical litigation would be whether the manufacturer's violation of the statute was a proximate cause of the plaintiff's injury.

Here, it would be relatively easy argument given the facts that if the vehicle had not been sold because it was in two accidents during testing, the vehicle would not have injured the hypothetical plaintiff.<sup>129</sup> Additionally, the argument can be further fostered by the fact that the two accidents that occurred in testing were of the same nature as the one that occurred to our hypothetical plaintiff.

The likely result of this hypothetical legislation and litigation would give the injured party a successful cause of action against the manufacturer. This is the optimal result because the consumer of the vehicle should not be without recourse if the fully autonomous vehicle crashes and results in an injury to the consumer.

---

<sup>128</sup> *Id.* (Citing *Thomas v. Settle*, 247 Va. 15, 20, 439 S.E. 2d 360, 363, (1994); *Smith v. New Dixie Lines, Inc.*, 201 Va. 466, 470, (1959)).

<sup>129</sup> *See 1 California Torts §3.10*, (2020) (stating that proximate cause is not established if the injury would have occurred absent the statute at issue) (citing *Nunneley v. Edgar Hotel* 36 Cal. 2d 493, 498-499 (Cal. 1950); *Burt v. Bank of Cal. Nat'l Ass'n* 211 Cal. 548, 551 (Cal. 1931)).



### C. Current State of Fully Autonomous Vehicles Accidents and Litigation

Companies such as Waymo and Uber have been beginning to implement fully autonomous vehicles in certain cities by offering a taxi service where the passenger is taken from point “A” to point “B” by a car operated automatically by a computer.<sup>130</sup> Additionally, there have already been accidents involving these taxi services and fully autonomous vehicles.<sup>131</sup>

Waymo released their data from 2019 through September of 2020 which indicated that there were no injuries caused from the twenty-nine collisions involving their fully autonomous taxi service.<sup>132</sup> The first reported injury from a fully autonomous vehicle occurred in Tempe, Arizona where a self-driving Uber was carrying a passenger and got into an accident resulting in the passenger’s fatality.<sup>133</sup> The National Traffic and Safety Board’s commissioner put the blame on Uber primarily because they are testing this technology.<sup>134</sup> Uber defended themselves by stating that the passenger was watching a show on her phone for the few minutes leading up to the accident, and that this was a violation of their policy regarding the use of phones.<sup>135</sup> The driver was ultimately charged with negligent homicide, to which she pled not guilty and is

---

<sup>130</sup> See Andrew J. Hawkins, *Waymo’s robot taxi service is improving, but riders still have complaints*, THE VERGE, (August 26, 2019), <https://www.theverge.com/2019/8/26/20833215/waymo-self-driving-car-taxi-passenger-feedback-review>, (reviewing feedback from people who have used fully autonomous vehicles). See also Andrew J. Hawkins, *Uber has resumed testing its self-driving cars in San Francisco*, THE VERGE (March 10, 2020), <https://www.theverge.com/2020/3/10/21172213/uber-self-driving-car-resume-testing-san-francisco-crash>, (explaining that despite a crash involving Uber’s fully automated vehicle, tests have resumed and they are implementing a taxi service in California).

<sup>131</sup> See Ian Bogost, *Can You Sue A Robocar?*, The Atlantic, (March 20, 2018), <https://www.theatlantic.com/technology/archive/2018/03/can-you-sue-a-robocar/556007/>.

<sup>132</sup> For a full discussion on the results of the released data, see Andrew J. Hawkins, *WAYMO PULLS BACK THE CURTAIN ON 6.1 MILLION MILES OF SELF-DRIVING CAR DATA IN PHOENIX*, THE VERGE (October 30, 2020), <https://www.theverge.com/2020/10/30/21538999/waymo-self-driving-car-data-miles-crashes-phoenix-google>.

<sup>133</sup> See Bogost, *supra* note 131.

<sup>134</sup> See Andrew J. Hawkins, *The world’s first robot car death was the result of human error — and it can happen again*, THE VERGE (November 20, 2019), <https://www.theverge.com/2019/11/20/20973971/uber-self-driving-car-crash-investigation-human-error-results>.

<sup>135</sup> *Id.* (Explaining Uber’s defense as to why they should not be at fault in regard to the accident that occurred).

awaiting trial scheduled for February of 2021.<sup>136</sup> Uber was sued by the family of the pedestrian and immediately settled for an undisclosed amount.<sup>137</sup>

This was the only reported incident involving injury regarding fully autonomous vehicles, and it does not illustrate fully the legal implications that arise in accidents involving these vehicles. One reason is because the family could have settled because the family did not want to spend money litigating because litigation involving products liability cases are typically very expensive.<sup>138</sup> It is also possible a settlement occurred because the law was underdeveloped regarding accidents of this kind, and the settlement seemed like the best option to avoid costly litigation.<sup>139</sup> Finally, it is possible that the lawsuit settled because the law surrounding products liability and fully autonomous vehicles is underdeveloped and would thus leave the plaintiffs with a weak legal theory to seek recovery.<sup>140</sup>

## 5. Conclusion

The implementation of fully autonomous vehicles will leave the consumer/operator of the vehicle with little recourse under the current tort model.<sup>141</sup> Partially autonomous vehicles are prevalent today, but liability concerns and litigation involving accidents with these vehicles can be determined through current tort law.<sup>142</sup> The result of litigation involving partially autonomous vehicles will be substantially similar to that of ordinary car accident litigation.<sup>143</sup> That is, of

---

<sup>136</sup> See Rory Cellan-Jones, *Uber's self-driving operator charged over fatal crash*, BBC News (September 16, 2020), <https://www.bbc.com/news/technology-54175359>.

<sup>137</sup> See Connie Loizos, *Uber has settled with the family of the homeless victim killed last week*, TechCrunch, (March 29, 2018), <https://techcrunch.com/2018/03/29/uber-has-settled-with-the-family-of-the-homeless-victim-killed-last-week/>.

<sup>138</sup> See Jenson *supra* note 123, at 17 (citing James M. Anderson, *Autonomous Vehicle Technology A Guide for Policymakers*, Rand Corp (2016), [https://www.rand.org/pubs/research\\_reports/RR443-2.html](https://www.rand.org/pubs/research_reports/RR443-2.html)).

<sup>139</sup> For a full discussion on why parties tend to settle cases in tort litigation, see Theodore Eisenberg and Charlotte Lanvers, *ARTICLE: What is the Settlement Rate and Why Should We Care?*, 6 J. Empirical Legal Stud. 111, (March 2009).

<sup>140</sup> See *supra* notes 97-120 and accompanying text.

<sup>141</sup> See *supra* notes 1-10 and accompanying text.

<sup>142</sup> See *supra* notes 30-87 and accompanying text.

<sup>143</sup> *Id.*

course, unless the accident is caused by a malfunction of the operating system. Then, the litigation would take the form of a products liability suit which is inefficient for plaintiffs in these actions.<sup>144</sup>

Fully autonomous vehicles are not yet available to consumers but once they are, the adaptation of legislation regarding safety and implementation of these vehicles will be necessary to allow parties injured to recover on the only theory of tort liability that will properly and consistently assign liability to the manufacturer; negligence per se.<sup>145</sup>

---

<sup>144</sup> See *supra* notes 87-90 and accompanying text.

<sup>145</sup> See *supra* notes 94-140 and accompanying text.