EXCULPATORY CLAUSES AND ARTIFICIAL INTELLIGENCE

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I. INTRODUCTION

In 2016, Florida became home to the first publicly reported fatality in the U.S. from a Tesla vehicle operating in autopilot mode.[1] In 2018,[2] 2019,[3] and 2021[4] three other fatal crashes were reported involving Tesla's autopilot features. Families of the victims in the 2018 California incident[5] and the 2019 Florida incident[6] filed suit against Tesla.[7] Although the U.S. legal system often holds wrongdoers responsible for

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1. *See* Alex Davies, *Tesla's Latest Autopilot Death Looks Just Like a Prior Crash*, WIRED (May 16, 2019), https://www.wired.com/story/teslas-latest-autopilot-death-looks-like-prior-crash/. The victim was driving a Model S "when it crashed into a tractor-trailer that was crossing the road in front of his car." Neal E. Boudette, *Tesla's Self-Driving System Cleared in Deadly Crash*, N.Y. TIMES (Jan. 19, 2017), https://www.nytimes.com/2017/01/19/business/tesla-model-s-autopilot-fatal-crash.html.

2. *See* Chris Isidore, *Family of Apple Engineer Sues Tesla, Saying Autopilot Caused His Fatal Crash*, CNN: BUS. (May 2, 2019), https://www.cnn.com/2019/05/02/tech/telsa-autopilot-crash-suit/index.html.

3. *See* Soo Youn, *Tesla Sued for 'Defective' Autopilot in Wrongful Death Suit of Florida Driver Who Crashed into Tractor Trailer*, ABC NEWS (Aug. 1, 2019), https://abcnews.go.com/Technology/tesla-sued-defective-autopilot-wrongful-death-suit-florida/story?id=64706707.

4. While California Highway Patrol has made an initial determination that the 2021 fatal Tesla crash occurred while Autopilot was engaged, they have not made their final determination. *See* Stefanie Dazio & Tom Krisher, *Officials: Tesla in Fatal California Crash Was on Autopilot*, U.S. NEWS (May 14, 2021), https://www.usnews.com/news/business/articles/2021-05-14/officials-tesla-in-fatal-california-crash-was-on-autopilot; Daisy Nguyen, *Tesla Driver in Fatal California Crash Had Posted Videos of Himself in Vehicle*, L.A. TIMES (May 16, 2021), https://www.latimes.com/california/story/2021-05-16/tesla-driver-in-fatal-california-crash-had-post-videos-of-himself-in-vehicle.

5. Isidore, *supra* note 2.

6. Youn, *supra* note 3.

7. These suits generally allege negligence, wrongful death, and strict liability. Alex Davies, *A Florida Man Is Suing Tesla for a Scary Autopilot Crash*, WIRED (Oct. 30, 2018), https://www.wired.com/story/tesla-autopilot-crash-lawsuit-florida-shawn-hudson/. Other individuals involved in a non-fatal Tesla incident have also filed suit against Tesla, alleging negligence and breach of implied warranties. *Id.* Another suit was filed against Tesla in China; the suit was likely the first of its kind. *See* Katie Burke, *Lawsuit Adds to Scrutiny of Tesla's Autopilot*, AUTO. NEWS (Sept. 29, 2016), https://www.autonews.com/article/20160919/OEM/309199962/lawsuit-adds-to-scrutiny-of-teslas-autopilot. Responding to the allegations, Tesla stated it was impossible to tell if the software was at fault. *Id.*

such damages, contract law allows consenting parties to limit the liability of otherwise responsible parties.[8] Tesla, the number one manufacturer of semi-autonomous vehicles, does exactly that by conditioning the purchase of a Tesla vehicle on a contractual clause that limits its liability for damages associated with the vehicle.[9] Because Tesla's limitation of liability clause likely contravenes Florida's public policy, this Article shows that semi-autonomous vehicle manufacturers may struggle to enforce limitation of liability contracts in relation to their vehicles, even though such contracts may be upheld in other jurisdictions.

By examining Tesla's contractual limitation of liability clause, this Article exposes the difficulties that arise when applying Florida's current contractual limitation of liability jurisprudence to semi-autonomous vehicle accidents. Semi-autonomous and autonomous vehicles—which use artificial intelligence (AI) to perform certain driving functions without human intervention—continue to grow in popularity.[10] Soon, other products that also use AI will touch almost every aspect of our lives.[11] Autonomous and semi-autonomous vehicles present unique challenges in legal suits because, ordinarily, the law holds vehicle drivers liable for vehicle accidents.[12] However, in autonomous and semi-autonomous vehicle accidents with activated self-driving features, the wrongdoing is typically in the technology—leading to liability falling on the manufacturer more often than the driver.[13] Funding this risk of liability could ultimately obstruct the innovation of future autonomous products because AI manufacturers are forced to spend more money on settlements and liability insurance, in addition to, or instead of funding research and development for future autonomous products.[14]

Contractual clauses that limit liability present an opportunity to foster innovation in AI products, such as semi-autonomous vehicles, without hindering the core values of our legal system—justice and fairness. Although some scholars are exploring the potential tort liability

8. *See generally* RESTATEMENT (SECOND) OF CONTS. § 195 (AM. L. INST. 1981).

9. *See infra* pt. II.

10. *See* Weston Kowert, *The Foreseeability of Human-Artificial Intelligence Interactions*, 96 TEX. L. REV. 181, 199 (2017).

11. *See id.*

12. *See* 4A FLA. JUR. 2D *Automobiles and Other Vehicles* § 749 (2021). "Generally, the operator of a motor vehicle who causes injury to another, or damage to another's property, by reason of his or her negligence in operating the vehicle, is liable in damages for the injuries caused regardless of whether such operator is the owner of the vehicle or is driving the vehicle of another." *Id.*

13. *See* Youn, *supra* note 3.

14. *See* F. Patrick Hubbard, *"Sophisticated Robots": Balancing Liability, Regulation, and Innovation*, 66 FLA. L. REV. 1803, 1809–10 (2014).

for autonomous and semi-autonomous vehicles,[15] few are exploring the contractual implications.[16] While the desire for clear precedent and notice is enough to warrant a conversation among lawmakers, it is important to consider the legal implications of AI now, since AI presents unique and complex issues not yet considered in the law.[17]

Part II examines the growing importance of AI technology, focusing specifically on semi-autonomous vehicles, and the current law governing contractual limitation of liability clauses. Part III then evaluates Tesla's current contractual limitation of liability clause to see if courts would enforce the clause as written today. Part III also addresses the difficulties of interpreting and enforcing contractual limitation of liability clauses with respect to semi-autonomous vehicles. Subsequently, Part IV makes the normative argument that AI malfunctions in semi-autonomous vehicle incidents present unique situations deserving of additional liability protections if consumers are aware of the situation before purchasing the product. Part IV also assesses key policy tradeoffs, finding that they weigh on the side of enforcing these contractual limitations of liability. This Article focuses on the applicability of contractual limitation of liability clauses to semi-autonomous and autonomous vehicles; however, the principles laid out in this discussion could be extended to many other AI products and services.

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15. *See, e.g.*, Jessica S. Brodsky, *Autonomous Vehicle Regulation: How an Uncertain Legal Landscape May Hit the Brakes on Self-Driving Cars*, 31 BERKELEY TECH. L.J. 851, 865 (2016) (arguing express assumption of risk should be used for autonomous vehicles); Kyle Colonna, *Autonomous Cars and Tort Liability*, 4 CASE W. RESERVE J.L. TECH. & INTERNET 81, 104 (2012); Mark A. Geistfeld, *A Roadmap for Autonomous Vehicles: State Tort Liability, Automobile Insurance, and Federal Safety Regulation*, 105 CAL. L. REV. 1611, 1650 (2017); David King, *Putting the Reins on Autonomous Vehicle Liability: Why Horse Accidents Are the Best Common Law Analogy*, 19 N.C. J.L. & TECH. ON. 127, 156 (2017); Kowert, *supra* note 10, at 199; *see also* Omri Ben-Shahar, *Should Carmakers Be Liable When A Self-Driving Car Crashes?*, FORBES (Sept. 22, 2016), https://www.forbes.com/sites/omribenshahar/2016/09/22/should-carmakers-be-liable-when-a-self-driving-car-crashes/#3c53d0ca48fb (stating that the Tesla suit in China is likely a long shot because Tesla requires all purchasers to sign a purchase agreement).

16. *See* Hubbard, *supra* note 14, at 1817, 1850 (discussing "sophisticated robots" and how contract law will likely be flexible enough to adapt to new technology but there may be issues if consumers sign contracts with unenforceable terms).

17. *Automated Vehicles for Safety*, NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., https://www.nhtsa.gov/technology-innovation/automated-vehicles-safety (last visited Nov. 4, 2021) ("[Questions regarding who is liable and how the vehicle is insured] are among many important questions beyond the technical considerations that policymakers are working to address before automated vehicles are made available.").

II. BACKGROUND ON AI AND CONTRACTUAL LIMITATIONS OF LIABILITY

This Part discusses the basics of AI and semi-autonomous vehicles, it also examines Florida's contractual limitation of liability doctrine as it stands today. Contract law is largely a function of state law,[18] which varies considerably across jurisdictions. This Article focuses primarily on Florida law[19] and the Restatement (Second) of Contracts §195. Yet, the principles this Article lays out apply to all states that permit contractual limitation of liability clauses.[20]

A. Semi-Autonomous Vehicles and AI

AI is a machine's ability to simulate human intelligence.[21] The ability for AI to learn and evolve based on experience distinguishes it from other technologies.[22] Semi-autonomous and autonomous vehicles use AI to perform certain driving functions without human intervention.[23] There are five levels of autonomy for semi-autonomous and autonomous vehicles.[24]

> "Level 0: Many of the cars available today are Level 0, as they lack any autonomous driving functions. . . ."[25]

> "Level 1: Level 1 autonomous vehicles have one or more systems that can intervene to brake, steer, or accelerate the car, but the systems

18. *Contract*, CORNELL L.: LEGAL INFO. INST., https://www.law.cornell.edu/wex/contract (last visited Nov. 4, 2021).

19. Florida law permits contractual limitation of liability clauses. *See* Van Tuyn v. Zurich Am. Ins. Co., 447 So. 2d 318, 320 (Fla. Dist. Ct. App. 1984).

20. For a general discussion on different state's laws regarding contractual limitation of liability clauses see K.A. Drechsler, Annotation, *Validity of Contractual Provision by One Other Than Carrier or Employer for Exemption from Liability, or Indemnification, for Consequences of Own Negligence*, 175 A.L.R. § 8 (1948). Tesla ensures its contractual limitation of liability clause is only applicable in states where contractual limitation of liability clauses is permitted. TESLA, NEW VEHICLE LIMITED WARRANTY 11 (Mar. 22, 2021), https://www.tesla.com/sites/default/files/downloads/tesla-new-vehicle-limited-warranty-en-us.pdf [hereinafter NEW VEHICLE LIMITED WARRANTY] ("In jurisdictions that do not allow the exclusion or limitation of indirect, direct, special, incidental or consequential damages, the above limitations or exclusions may not apply to you.").

21. *Artificial Intelligence News*, BUS. INSIDER, https://www.businessinsider.com/artificial-intelligence (last visited Nov. 4, 2021).

22. *Id.*

23. Lance Eliot, *Start the Year By Learning These Essential AI Self-Driving Car Industry Acronyms*, FORBES (Jan. 2, 2020), https://www.forbes.com/sites/lanceeliot/2020/01/02/start-the-year-by-learning-these-essential-ai-self-driving-car-industry-acronyms/#187b41aa3b99.

24. *See* John M. Vincent, *Cars That Are Almost Self-Driving in 2018*, U.S. NEWS & WORLD REP. (Oct. 23, 2018), https://cars.usnews.com/cars-trucks/cars-that-are-almost-self-driving-2018.

25. *Id.*

> do not work in tandem with one another. Examples of Level 1 features include adaptive cruise control, automatic emergency braking, and lane keeping assist."[26]
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> "Level 2: Vehicles with Level 2 autonomous technology can simultaneously control steering and speed at the same time, without driver intervention for short periods. They cannot perform autonomously under all conditions. The driver is required to stay attentive and be able to regain control of the car at any time. . . ."[27]
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> "Level 3: Level 3 vehicles have full autonomous functions in all driving conditions but need to shift control back to the driver if they are unable to perform. . . ."[28]
>
> "Level 4: Fully autonomous vehicles can operate with no intervention from the driver other than the entry of the destination. They are designed to operate under any condition. . . ."[29]
>
> "Level 5: Level 5 autonomous vehicles are designed from the ground up to operate entirely autonomously. . . ."[30]

Currently, only Level 2 cars, such as the Tesla Model S,[31] and Level 3 cars, such as the Audi A8[32] and the Honda Legend,[33] are available for purchase.[34] While society is likely far from full Level 5 autonomy,[35] it is not hard to imagine a world where every car is fully autonomous

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26. *Id.*
27. *Id.* The Tesla Model S is a Level 2 autonomous car. *Id.*
28. *Id.* "Several of the autonomous cars currently being tested on public roads by companies such as Waymo . . . feature Level 3 technology." *Id.*
29. *Id.*
30. *Id.*
31. *A Brief History of Autonomous Vehicle Technology*, WIRED, https://www.wired.com/brandlab/2016/03/a-brief-history-of-autonomous-vehicle-technology/ (last visited Nov. 4, 2021).
32. *See* Kathleen Walch, *The Future with Level 5 Autonomous Cars*, FORBES (June 20, 2019), https://www.forbes.com/sites/cognitiveworld/2019/06/20/the-future-with-level-5-autonomous-cars/?sh=c146be04382b.
33. *Honda Says Will Be First to Mass Produce Level 3 Autonomous Cars*, REUTERS (Nov. 11, 2021), https://www.reuters.com/article/honda-autonomous-level3/honda-says-will-be-first-to-mass-produce-level-3-autonomous-cars-idUSKBN27R0M7; *Honda to Begin Sales of Legend with New Honda Sensing Elite*, HONDA (Mar. 4, 2021), https://global.honda/newsroom/news/2021/4210304eng-legend.html.
34. *See* Walch, *supra* note 32. Tesla Autopilot was limited and designed for highway driving only. *Autopilot and Full Self-Driving Capability Features*, TESLA, https://www.tesla.com/support/autopilot (last visited Nov. 4, 2021). According to Tesla's website, Autopilot will be able to navigate city streets and recognize and respond to traffic lights and stop signs. *Design Your Model 3*, TESLA, https://www.tesla.com/model3/design#battery (last visited Nov 4, 2021). The feature is available for purchase now for $7,000. *Id.*
35. Vincent, *supra* note 24.

without the need for any human control. Tesla's founder and CEO, Elon Musk, said at his 2019 "Autonomy Day" presentation that he intends to have fully autonomous cars on the road within the next few years.[36] AI brings forward unique and complex issues not yet considered in the law, but the time has come to consider AI's legal implications.[37] Despite this impending need, as of 2015, only eight states have enacted legislation addressing insurance and liability for semi-autonomous and autonomous vehicle incidents.[38]

B. Contractual Limitation of Liability Clauses

Courts consider two elements to determine if a contractual limitation of liability clause is enforceable: the clause must be (1) facially enforceable and (2) not contrary to public policy.[39] The most common contractual limitation of liability clauses are indemnity clauses[40] and exculpatory clauses.[41] The law governing facial enforceability of each clause is evaluated in turn below, followed by a discussion on the standard for determining if a clause is contrary to public policy.

1. Indemnity Clauses

Parties use indemnity clauses to shift the burden of compensation from one party to another.[42] Typically, an indemnity clause involves a contracting party (the protected party) stipulating that the other contracting party (the compensating party) shall pay the protected party

36. Andrew J. Hawkins, *Here Are Elon Musk's Wildest Predictions About Tesla's Delf-Driving Cars*, THE VERGE (Apr. 22, 2019), https://www.theverge.com/2019/4/22/18510828/tesla-elon-musk-autonomy-day-investor-comments-self-driving-cars-predictions/.

37. *See* Colonna, *supra* note 15, at 104; Geistfeld, *supra* note 15, at 1650; Kowert, *supra* note 10, at 199. Issues regarding the applicability of legal doctrines to AI are not unique to contract law. *See generally* Sandra L. J. Johnson, *AI, Machine Learning, and Ethics in Health Care*, 39 J. LEGAL MED. 427, 428 (2020) (AI and healthcare); Jeannie Suk Gersen, *Sex Lex Machina: Intimacy and Artificial Intelligence*, 119 COLUM. L. REV. 1793 (2019) (AI and sex-work); Tom C.W. Lin, *Artificial Intelligence, Finance, and the Law*, 88 FORDHAM L. REV. 531 (2019) (AI and finance); Victor M. Palace, *What if Artificial Intelligence Wrote This? Artificial Intelligence and Copyright Law*, 71 FLA. L. REV. 217 (2019) (AI and copyright); Madison E. Wahler, *A Word is Worth a Thousand Words: Legal Implications of Relying on Machine Translation Technology*, 48 STETSON L. REV. 109, 137 (2018) (AI and machine translation).

38. *Autonomous Vehicle State Bill Tracking Database*, NAT'L CONF. STATE LEGISLATURES, https://www.ncsl.org/research/transportation/autonomous-vehicles-legislative-database.aspx (filtering searchable database by "Insurance and Liability," "All States," "Enacted," and "All Years") (last visited Nov. 4, 2021).

39. *See* Sanislo v. Give Kids the World, Inc., 157 So. 3d 256, 260–61, 270 (Fla. 2015); Applegate v. Cable Water Ski, L.C., 974 So. 2d 1112, 1114–15 (Fla. Dist. Ct. App. 2008).

40. RESTATEMENT (THIRD) OF TORTS: APPORTIONMENT LIAB. § 22 (AM. L. INST. 2000).

41. RESTATEMENT (SECOND) OF CONTS. § 195 (AM. L. INST. 1981).

42. 41 AM. JUR. 2D *Indemnity* § 1 (2021).

for any liability arising out of injury to a third party.[43] An indemnity clause may also protect against compensating the other contracting party.[44] In this scenario, the protected party is not liable to the compensating party for any damages, even if the damages arise from the protected party's negligence.[45] Insurance policies are a common example of these indemnity agreements.[46] An indemnity clause used to indemnify the protected party's own negligence can only be enforceable against the compensating party if the intention of the parties is clear in the contract.[47] General language such as "against any and all claims" will not suffice.[48] A downside to indemnity agreements is that if the compensating party is insolvent, the effect of the indemnity clause is negated.[49]

2. Exculpatory Clauses

An exculpatory clause seeks to absolve a party of liability[50] and is considerably more powerful than an indemnity clause due to its ability to prevent a party from bringing certain claims against other parties to the contract.[51] Additionally, the risk of an insolvent party failing to fulfill a judgment is extinguished.[52] The desire for exculpatory clauses is easily understood for businesses that offer high-risk services and activities, such as bull riding,[53] fitness centers,[54] and wakeboarding.[55] Such

43. *Id.*

44. *See* Univ. Plaza Shopping Ctr. v. Stewart, 272 So. 2d 507, 511 (Fla. 1973).

45. *See id.* at 508, 511–12 (holding that a landlord is not liable when a tenant was injured after a pipe burst under the landlord's property even though the incident was caused by the landlord's negligence because the tenant signed an indemnity agreement).

46. 175 A.L.R. § 8 (originally published in 1948).

47. *Univ. Plaza Shopping Ctr.*, 272 So. 2d at 511–12. *See also* United States v. Seckinger, 397 U.S. 203, 211 (1970) ("[W]e agree . . . that a contractual provision should not be construed to permit an indemnitee to recover for his own negligence unless the court is firmly convinced that such an interpretation reflects the intention of the parties. This principle, though variously articulated, is accepted with virtual unanimity among American jurisdictions.").

48. *Univ. Plaza Shopping Ctr.*, 272 So. 2d at 511–12 (requiring a specific provision protecting the protected party from liability caused by his or her own negligence).

49. *See* E. L. White, Inc. v. City of Huntington Beach, 138 Cal. App. 3d 366, 373–74 (1982).

50. RESTATEMENT (SECOND) OF CONTS. § 195 (AM. L. INST. 1981). *See* Sanislo v. Give Kids the World, Inc., 157 So. 3d 256, 265 (Fla. 2015) ("An exculpatory clause . . . shifts the risk of injury and deprives one of the contracting parties of his or her right to recover damages suffered due to the negligent act of the other contracting party.").

51. *See Sanislo*, 157 So. 3d at 265–66.

52. *See id.* ("[B]ecause indemnification agreements allocate the risk of liability for injuries to an unknown third party, specificity is required so that the indemnitor is well aware that it is accepting liability for both its negligence and the negligence of the indemnitee. Exculpatory clauses, however, primarily release a party from liability for its own negligence and not vicarious liability.").

53. Van Tuyn v. Zurich Am. Ins. Co., 447 So. 2d 318, 320 (Fla. Dist. Ct. App. 1984).

54. Locke v. Life Time Fitness, Inc., 20 F. Supp. 3d 669, 676 (N.D. Ill. 2014).

55. Applegate v. Cable Water Ski, L.C., 974 So. 2d 1112, 1114 (Fla. Dist. Ct. App. 2008).

businesses would likely fail if constantly held liable for their services. Yet, due to their power, courts examine exculpatory clauses closely.[56]

To be facially enforceable, an exculpatory clause must be "so clear and understandable that an ordinary and knowledgeable person will know what he [or she] is contracting away."[57] However, courts recognize that "the ability to predict each and every potential injury is unattainable and is not required to uphold an exculpatory provision within a release."[58] While it is not required that the exculpatory clause expressly refer to "negligence" or "negligent acts," using these terms is recognized as best practice.[59] Courts strictly construe all exculpatory clauses against the party seeking relief from liability.[60]

3. Public Policy

Conflicting public policy concerns arise with both indemnity and exculpatory clauses. These policies include: (1) freedom of contract,[61] and (2) shifting the risk of injury or loss to the party least equipped to take the necessary precautions to avoid injury and bear the risk of loss.[62] Indemnity and exculpatory clauses limiting ordinary negligence are enforceable if they are facially enforceable and not contrary to public policy.[63] For public policy reasons, an indemnity or exculpatory clause is never enforceable if the clause limits liability for intentional or reckless conduct.[64]

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56. *See Sanislo*, 157 So. 3d at 265.

57. UCF Athletics Ass'n Inc. v. Plancher, 121 So. 3d 1097, 1110 (Fla. Dist. Ct. App. 2013), *approved in part, quashed in part*, 175 So. 3d 724 (Fla. 2015) (quoting Gayon v. Bally's Total Fitness Corp., 802 So.2d 420, 421 (Fla. Dist. Ct. App. 2001)) (internal quotations omitted).

58. *Id.* (quoting *Sanislo*, 98 So.3d at 759) (internal quotations omitted).

59. *See Sanislo*, 157 So. 3d at 260.

60. *See, e.g.*, Pier 1 Cruise Experts v. Revelex Corp., 929 F.3d 1334, 1344 (11th Cir. 2019); *UCF Athletics Ass'n Inc.*, 121 So. 3d at 1101; RESTATEMENT (THIRD) OF TORTS: APPORTIONMENT LIAB. § 2 (AM. L. INST. 2000).

61. *Sanislo*, 157 So. 3d at 260 ("[A] countervailing policy that favors the enforcement of contracts. . . ."); W. Coast Hotel Co. v. Parrish, 300 U.S. 379, 392 (1937) ("[F]reedom of contract is a . . . right.").

62. *Sanislo*, 157 So. 3d at 270 ("Public policy disfavors exculpatory contracts because they . . . shift the risk of injury to the party who is probably least equipped to take the necessary precautions to avoid injury and bear the risk of loss."); *UCF Athletics Ass'n Inc.*, 121 So. 3d at 1101. *See also Sanislo*, 157 So. 3d at 264–65 (discussing the shifting burden of loss in indemnity agreements).

63. *Sanislo*, 157 So. 3d at 260; Northland Cas. Co. v. HBE Corp., 160 F. Supp. 2d 1348, 1361 (M.D. Fla. 2001) (holding indemnity clauses cannot be contrary to public policy).
For example, Florida's Fourth District Court of Appeals has held that an exculpatory agreement is not enforceable when it involves a commercial enterprise and a minor. Applegate v. Cable Water Ski, L.C., 974 So. 2d 1112, 1115 (Fla. Dist. Ct. App. 2008).

64. *See Sanislo*, 157 So. 3d at 271; *Northland Cas. Co.*, 160 F. Supp. 2d at 1361; RESTATEMENT (SECOND) OF CONTS. § 195 (1981) ("A term exempting a party from tort liability for harm caused intentionally or recklessly is unenforceable on grounds of public policy.").

While indemnity and exculpatory clauses are similar, courts have provided greater clarity regarding when exculpatory clauses violate public policy than when indemnity clauses violate public policy.[65] Courts use several factors to determine if an exculpatory clause is contrary to public policy and thus unenforceable.[66] The factors "depend[] on the nature of the parties and their relationship to each other."[67] Some of these factors include: (1) "the nature of the conduct or service provided by the party seeking exculpation"; (2) "whether the conduct or service is laden with 'public interest'"; (3) "the extent of the exculpation"; (4) "whether the party seeking exculpation was willing to provide greater protection . . . for a reasonable, additional fee";[68] (5) "bargaining power";[69] and (6) whether the clause is "clear and unambiguous."[70] The final factor is often litigated in Florida[71] and other states.[72]

III. ENFORCEABILITY OF LIMITED LIABILITY CLAUSES AND AI

Part III illustrates the difficulties that arise when applying our current contractual limitation of liability doctrine to semi-autonomous vehicles. An analysis of Tesla's contractual limitation of liability clause provides a prime example of a likely enforceable contractual limitation of liability clause on its face but unenforceable on grounds of public policy.

65. Courts and legislatures in Florida have held indemnification clauses contrary to public policy in very specific and limited circumstances. *See* Fla. Stat. § 725.06 (2021) (limiting indemnity clauses in the construction context); Claire's Boutiques v. Locastro, 85 So. 3d 1192, 1196 (Fla. Dist. Ct. App. 2012) (holding indemnification agreement between commercial activity provider and a parent, requiring the parent to indemnify the commercial entity for its own negligence, contrary to public policy); *Northland Cas. Co.*, 160 F. Supp. 2d at 1361 ("[P]ublic policy is generally only implicated when the insured seeks indemnification for injuries that it intended to cause.").

66. *See* RESTATEMENT (SECOND) OF CONTS. § 208 (AM. L. INST. 1981).

67. RESTATEMENT (THIRD) OF TORTS: APPORTIONMENT LIAB. § 2 (AM. L. INST. 2000).

68. *See id.*; *see also* TYR Tactical, LLC v. Protective Prod. Enters., LLC, No. 15-CV-61741, 2016 WL 10647315, at *7 (S.D. Fla. Oct. 13, 2016), *aff'd*, 711 F. App'x 968 (11th Cir. 2017) (adopting a similar factor test to the Restatement); Banfield v. Louis, 589 So. 2d 441, 446 (Fla. Dist. Ct. App. 1991) (same).

69. Pier 1 Cruise Experts v. Revelex Corp., 929 F.3d 1334, 1344 (11th Cir. 2019).

70. *Id.*

71. *Id.*; Sanislo v. Give Kids the World, Inc., 157 So. 3d 256, 260, 270 (Fla. 2015); UCF Athletics Ass'n Inc. v. Plancher, 121 So. 3d 1097, 1101–02 (Fla. Dist. Ct. App. 2013).

72. *See, e.g.*, Stone v. Life Time Fitness, Inc., 411 P.3d 225, 229 (Colo. App. 2016); Alack v. Vic Tanny Int'l of Mo., Inc., 923 S.W.2d 330, 334 (Mo. 1996); Martin v. A.C.G., Inc., 965 P.2d 995, 997 (Okla. Civ. App. 1998).

A. Tesla's Contractual Limitation of Liability Clause

Currently, purchasers of new Tesla vehicles sign two contracts.[73] The first contract is an order agreement[74] ("Order Agreement") signed when the purchaser orders the vehicle.[75] The Order Agreement contains its own contractual limitation of liability clause;[76] however, the Order Agreement only considers activities before delivery.[77] The second contract is a New Vehicle Limited Warranty ("Warranty Contract").[78] Because the Warranty Contract contemplates circumstances after delivery,[79] this Article considers only the Warranty Contract when evaluating claims arising out of Tesla vehicle accidents. The Warranty Contract provided to purchasers of new Tesla vehicles contains, in part, the following contractual limitation of liability clause: [80]

> Tesla hereby *disclaims any and all indirect, incidental, special and consequential damages* arising out of or relating to your vehicle . . . . Tesla *shall not be liable* for any *direct damages* in an amount that exceeds the fair market value of the vehicle at the time of the claim. The above limitations and exclusions *shall apply whether your claim is in contract, tort (including negligence and gross negligence)*, breach of warranty or condition, misrepresentation (whether negligent or otherwise) *or otherwise at law or in equity* . . . .[81]

Even if a customer accepts the terms of the Warranty Contract with this limitation of liability clause, a court could still refuse to enforce the

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73. TESLA, MOTOR VEHICLE ORDER AGREEMENT 2 (2021), https://www.tesla.com/order/download-order-agreement?country=US [hereinafter MOTOR VEHICLE ORDER AGREEMENT]; *see* NEW VEHICLE LIMITED WARRANTY, *supra* note 20.

74. MOTOR VEHICLE ORDER AGREEMENT, *supra* note 73.

75. *Id.*

76. *Id.* ("We are not liable for any incidental, special or consequential damages arising out of this Agreement. Your sole and exclusive remedy under this Agreement will be limited to reimbursement of your Order fee, Order Deposit and Transportation Fee.").

77. *Id.* ("Terms & Conditions: These Terms & Conditions are effective as of the date you place your order and make your Order Fee . . . .").

78. NEW VEHICLE LIMITED WARRANTY, *supra* note 20.

79. *See* MOTOR VEHICLE ORDER AGREEMENT, *supra* note 73, at 2 ("You will receive the Tesla New Vehicle Limited Warranty . . . at or prior to the time of Vehicle delivery or pickup.").

80. This Article will only be discussing the New Vehicle contract. The used vehicle contract contains additional checks due to the possibility of misuse by prior owners. TESLA, USED VEHICLE LIMITED WARRANTY 6–7 (Oct. 15, 2020), https://www.tesla.com/sites/default/files/downloads/tesla-used-vehicle-limited-warranty-en-us.pdf.

81. NEW VEHICLE LIMITED WARRANTY, *supra* note 20, at 11 (emphasis added).

clause.[82] To enforce Tesla's clause, it must be both facially enforceable and not contrary to public policy.

B. Facial Enforceability

Tesla's contractual limitation of liability clause is likely enforceable on its face despite not being an obvious indemnity clause or exculpatory clause.[83] An indemnity clause must clearly state the intention of the parties.[84] General language does not suffice to indemnify against the protected party's own negligence.[85] Here, Tesla is the protected party[86] because it is the party that would be indemnified.[87] Tesla's clause never references indemnification for its own negligence.[88] The clause merely states that the damages limitation applies to all claims in "tort (including negligence and gross negligence),"[89] without clarifying whose negligence the clause is referencing.[90] Contractual limitation of liability clauses are always strictly construed against the drafter;[91] therefore, a court would likely hold that Tesla's clause is not an indemnification clause because the contract does not clarify the parties' intentions.

However, Tesla's clause is likely an exculpatory clause. An exculpatory clause "must be so clear and understandable that 'an ordinary and knowledgeable person will know what he [or she] is contracting away.'"[92] Here, the purchaser waives significant rights under the clause.[93] The injured party can only recover up to the amount of their vehicle and cannot claim any other types of damages.[94] The clause also makes clear that these waivers apply to all claims an injured party might

82. *See* Applegate v. Cable Water Ski, L.C., 974 So. 2d 1112, 1114 (Fla. Dist. Ct. App. 2008) (holding that the exculpatory clause was unambiguous but that the clause was unenforceable on grounds of public policy because the defendant was attempting to waive liability for injury to a child).

83. Tesla's clause does not use the words "exculpate" or "indemnify." NEW VEHICLE LIMITED WARRANTY, *supra* note 20, at 11.

84. Univ. Plaza Shopping Ctr. v. Stewart, 272 So. 2d 507, 511 (Fla. 1973).

85. *Id.*

86. *See* 41 AM. JUR. 2D *Indemnity* § 1.

87. NEW VEHICLE LIMITED WARRANTY, *supra* note 20, at 8–9.

88. *Id.*

89. *Id.*

90. *Id.*

91. *See* Pier 1 Cruise Experts v. Revelex Corp., 929 F.3d 1334, 1344 (11th Cir. 2019) (quoting Cain v. Banka, 937 So. 2d 575, 580 (Fla. Dist. Ct. App. 2006)).

92. UCF Athletics Ass'n v. Plancher, 121 So. 3d 1097, 1101 (Fla. Dist. Ct. App. 2013) (quoting Tatman v. Space Coast Kennel Club, Inc., 27 So. 3d 108, 110 (Fla. Dist. Ct. App. 2009)).

93. NEW VEHICLE LIMITED WARRANTY, *supra* note 20, at 11 (stating phrases such as: "disclaims any and all . . . ." and "shall apply whether your claim is . . . otherwise at law or in equity").

94. *Id.* ("Tesla hereby disclaims any and all indirect, incidental, special and consequential damages arising out of or relating to your vehicle . . . .").

bring.[95] The clause does not have to reference "negligence" or "negligent acts,"[96] but Tesla's clause does so clearly.[97] Because Tesla's contractual limitation of liability clause is "so clear and understandable that 'an ordinary and knowledgeable person will know what he [or she] is contracting away,'"[98] Tesla's clause is likely an enforceable exculpatory clause on its face.

C. Not Contrary to Public Policy

Nevertheless, Tesla's exculpatory clause would likely be held unenforceable on grounds of public policy. First, the clause is not clear as to whether it is waiving claims against Tesla for intentional and reckless conduct. Tesla's clause fails to state that the clause only excludes claims of negligence.[99] The statement "limitations and exclusions shall apply whether your claim is in . . . tort (*including negligence and gross negligence*)"[100] is ambiguous because it has two possible meanings.[101] The above statement could be interpreted as either (1) an exhaustive list, meaning negligence and gross negligence are the only claims covered, or (2) a non-exhaustive list, meaning negligence and gross negligence claims are just some examples of a longer list of claims covered. If a court adopted the latter, the clause would likely violate public policy because exculpatory clauses waiving liability for intentional or reckless conduct are almost always held unenforceable on grounds of public policy.[102] If a court finds this clause to be ambiguous, it will likely adopt the first interpretation because exculpatory clauses are "strictly construed against the [drafter]."[103]

Second, several of the public policy factors are implicated in Tesla's exculpatory clause. The first two factors—first, the nature of the conduct or service and, second, whether it is laden with public interest—are implicated because light-duty vehicles are an extremely popular mode

95. *Id.* at 11 ("The above limitations and exclusions shall apply whether your claim is in contract, tort (including negligence and gross negligence), breach of warranty or condition, misrepresentation (whether negligent or otherwise) or otherwise at law or in equity . . . .").

96. *See* Sanislo v. Give Kids the World, Inc., 157 So. 3d 256, 270 (Fla. 2013).

97. *See* NEW VEHICLE LIMITED WARRANTY, *supra* note 20, at 11 (stating "limitations and exclusions shall apply whether your claim is in . . . tort (including negligence and gross negligence)").

98. *See* UCF Athletics Ass'n Inc. v. Plancher, 121 So. 3d 1097, 1110 (Fla. Dist. Ct. App. 2013) (quoting Tatman v. Space Coast Kennel Club, Inc., 27 So. 3d 108, 110 (Fla. Dist. Ct. App. 2009)).

99. NEW VEHICLE LIMITED WARRANTY, *supra* note 20, at 11.

100. *Id.* (emphasis added).

101. *See, e.g.*, State Farm Fire & Cas. Co. v. Ackerman, 280 N.E.2d 332, 334 (Ind. App. 1972); State v. Pakhnyuk, 926 N.W.2d 914, 920 (Minn. 2019).

102. *See* RESTATEMENT (SECOND) OF CONTS. § 195 (AM. L. INST. 1981).

103. *See* Pier 1 Cruise Experts v. Revelex Corp., 929 F.3d 1334, 1344 (11th Cir. 2019).

of transport with over 193 million personal passenger trucks and cars, like Tesla cars, on the road.[104] The popularity of light-duty vehicles indicates that their production is likely considered an industry "laden with 'public interest.'"[105] The third factor—the extent of the exculpation—is likely implicated because Tesla's exculpatory clause, at the very least, exculpates Tesla of claims arising from any kind of negligence or gross negligence.[106] However, Tesla's clause does not limit itself to one or two specific scenarios; thus, the extent of the exculpation is quite large.

The next two factors—willingness to provide greater protection and bargaining power—are also implicated. Tesla likely does not provide an opportunity for the purchaser to bargain for their rights or offer additional consideration for more protection because the contract is delivered when the car is dropped off.[107] Tesla has greater bargaining power as evidenced by the "take-it-or-leave-it" nature of purchase agreements: the consumer can either accept the contract or give up the car.[108] Historically, Tesla has had a waitlist for its popular cars,[109] so if a customer gave up their car they could face a significant delay in receiving another. Finally, the sixth factor—whether the clause is clear and unambiguous—is the only factor in this list that raises no concerns. As discussed above, Tesla's exculpatory clause makes it clear to the customer that the customer is waiving significant rights.[110]

IV. A BETTER BALANCING OF RISK AND LIABILITY

Contractual limitation of liability clauses present an opportunity to encourage innovation in AI while not sacrificing justice and fairness. Under Florida's current contractual limitation of liability doctrine, Tesla's clause would likely be held unenforceable on grounds of public

104. *Number of U.S. Aircraft, Vehicles, Vessels, and Other Conveyances*, U.S. DEPT. OF TRANSP., https://www.bts.gov/content/number-us-aircraft-vehicles-vessels-and-other-conveyances (last visited Nov. 3, 2021) (reporting 193,672,370 light duty vehicles with short wheelbases in 2017); s*ee also Fast Facts: U.S. Transportation Sector Greenhouse Gas Emissions, 1990-2019*, U.S. DEPT. OF TRANSP. (June 2021), https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P10127TU.pdf

105. *See* RESTATEMENT (THIRD) OF TORTS: APPORTIONMENT LIAB. § 2 (AM. L. INST. 2000).

106. NEW VEHICLE LIMITED WARRANTY, *supra* note 20, at 11 ("[L]imitations and exclusions shall apply whether your claim is in . . . tort (including negligence and gross negligence) . . . .").

107. MOTOR VEHICLE ORDER AGREEMENT, *supra* note 73, at 2.

108. *See* Lewis Tree Serv., Inc. v. Lucent Techs. Inc., 239 F. Supp. 2d 322, 329 (S.D.N.Y. 2002).

109. Mark Matousek, *Tesla Told Some $35,000 Model 3 Customers They Were Days Away from Getting Their Cars. Now, Those Customers Don't Know When Their Orders Will Arrive.*, BUS. INSIDER (Apr. 11, 2019), https://www.businessinsider.com/tesla-standard-range-model-3-customers-face-extended-wait-2019-4.

110. *See supra* pt. II.A.

policy, despite being facially enforceable.[111] AI manufacturers will likely run into the same issues with their contractual limitation of liability clauses as Tesla because they too are, or will be, working with popular products that are increasingly prevalent and intertwined in our lives. Because contractual limitation of liability clauses of this nature will likely often be found unenforceable on grounds of public policy,[112] this Part argues that a sliding scale of liability reframing the interpretation of public policy should be adopted for AI manufacturers to determine the enforceability of these clauses.

This Part begins by discussing the key tradeoffs that would accompany the enforcement of contractual limitation of liability clauses concerning AI products. By conveying the argument that these tradeoffs ultimately weigh in favor of enforcing these clauses, this Part thus argues for a sliding scale of liability. Under this sliding scale proposal, AI manufacturers would conceivably enjoy the strongest enforcement of these contracts when the technology is the newest. But as the technology develops, the enforceability of these contracts would arguably wane, enabling innovation when it is most needed and remedies where they are most deserved. This Article focuses on the tradeoffs and applicability of the sliding scale of liability to semi-autonomous vehicles; however, these principles could apply to any AI products or services.

A. Key Tradeoffs

There are many tradeoffs when considering the enforceability of AI manufacturers' contractual limitation of liability clauses, and this discussion by no means addresses all of them. Instead, this discussion focuses on three key tradeoffs: (1) innovation vs. compensation, (2) efficiency and safety vs. control, and (3) positive vs. negative environmental impacts.

1. Innovation vs. Compensation

"Technology presents the challenge of balancing its costs against its benefits."[113] Currently, if a standard accident occurs involving a self-

111. For a similar case where a clause was held unenforceable on grounds of public policy, see Applegate v. Cable Water Ski, L.C., 974 So. 2d 1112, 1114 (Fla. Dist. Ct. App. 2008) (holding that the exculpatory clause was unambiguous but that the clause was unenforceable on grounds of public policy).

112. *See supra* pt. II.A.

113. Hubbard, *supra* note 14, at 1809–10 (asking "[i]s society paying too high a price in foregone benefits for this level of protection?").

driving feature in a semi-autonomous car, the injured parties sue the manufacturer.[114] Should a court not enforce these clauses, liability will likely fall on the manufacturer to compensate the injured parties, but possibly at the expense of innovation. For example, in California, if a manufacturer wants to deploy autonomous or semi-autonomous vehicles on public roads, the manufacturer must first meet one of several requirements.[115] One of the requirements is that the manufacturer:

> provides the department with evidence of the manufacturer's ability to respond to a judgment or judgments for damages for personal injury, death, or property damage arising from collisions or accidents caused by the autonomous vehicles produced by the manufacturer in the form of an instrument of insurance, a surety bond, or proof of self-insurance.[116]

The other options include positing a five-million-dollar surety bond, or, with prior approval from the California Department of Motor Vehicles, providing sufficient evidence of insurance.[117] These hurdles likely prevent many manufacturers from ever deploying autonomous and semi-autonomous vehicles on public roads. As noted by Professor Hubbard while discussing "sophisticated robots" and the high price of protection at the expense of innovation: "[s]afety is, of course, important, but it is just one social value. A liability shield would allow companies to use AI technology without worrying about detrimental litigation costs."[118] AI malfunctions often arise due to a lack of technological development[119] rather than the manufacturer's wrongdoing.

The 2016 Tesla crash exemplifies this issue. The crash occurred because Tesla's autopilot feature failed to recognize a white truck against the bright sky.[120] After the crash, the National Highway Traffic Safety Administration (NHTSA) determined that there was no defect in the system but also warned that "[t]here are driving scenarios that

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114. This is true even when the consumer might have been partially at fault for using the self-driving feature in an area they were not supposed to, or not being attentive while the self-driving feature was activated. Davies, *supra* note 1; Boudette, *supra* note 1; *see also* Neal E. Boudette, *Tesla Says Autopilot Makes Its Cars Safer. Crash Victims Say It Kills.*, N.Y. TIMES (Sept. 1, 2021), https://www.nytimes.com/2021/07/05/business/tesla-autopilot-lawsuits-safety.html.

115. CAL. CODE REGS. tit. 13, § 228.04 (2021), https://www.dmv.ca.gov/portal/file/adopted-regulatory-text-pdf

116. *Id.*

117. *Id.*; *see also id.* § 227.10.

118. *See* Boudette, *supra* note 1.

119. *Id.*

120. *Id.*

automatic emergency braking systems are not designed to address."[121] Companies like Tesla seek to roll-out AI technology before it reaches Level 5 autonomy because they understand the benefits of AI for individuals and society.[122] Level 2 and 3 AI is not perfect and is often very limited in its capabilities.[123]

These manufacturers will be pressured into settling suits merely because their technology reached its inevitable limit, without any evidence of wrongdoing on the part of the manufacturer.[124] The most obvious benefit of enforcing contractual limitation of liability clauses is that it would incentivize semi-autonomous vehicle manufacturers to develop AI technology. Granting these companies a shield from liability would allow them to dismiss cases earlier without incurring significant litigation expenses, such as attorneys' fees and large settlements.[125] However, a temporary liability shield, as recommended by this Article,[126] would encourage these companies to further develop the technology as the market share for semi-autonomous vehicles grows.[127] With the fixed time window, current and new manufacturers would be incentivized to continue to develop the technology until it is safe in most circumstances or they will be forced to face the consequences of liability.

While enforcing these clauses would hinder a plaintiff's chances of receiving compensation from the manufacturer for their injuries, plaintiffs might financially benefit in the end. Enforcing a contractual

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121. *Id.*

122. *Tesla's Mission Is to Accelerate the World's Transition to Sustainable Energy*, TESLA, https://www.tesla.com/about (last visited Nov. 4, 2021).

123. Vincent, *supra* note 24; *see also A Tragic Loss*, TESLA (June 30, 2016), https://www.tesla.com/blog/tragic-loss ("It is important to note . . . *that the system is new technology and still in a public beta phase before it can be enabled*. When drivers activate Autopilot, the acknowledgment box explains, among other things, that Autopilot is an *assist feature* that *requires you to keep your hands on the steering wheel at all times*, and that you need to maintain control and responsibility for your vehicle while using it.") (emphasis added) (internal quotations omitted).

124. We have no information as of now as to if Tesla has offered to settle (or if they have already settled) with the victims of the Autopilot accidents. *But see* Mark Matousek, *Tesla Reached a $13 Million Settlement with a Former Contract Worker Who Was Left Permanently Disabled After Being Struck by a Model S While on The Job*, BUS. INSIDER (May 14, 2019), https://www.businessinsider.com/tesla-reaches-13-million-settlement-with-former-contract-worker-2019-5 (discussing how Tesla settled with a contract worker after he was hit on the job by a Tesla Model S).

125. A similar problem arises in class action suits. *See* Markham R. Leventhal, *Class Actions: Fundamentals of Certification Analysis*, 72 FLA. B.J. 10, 10 (1998) ("Critics of the class action device describe it as a means of corporate blackmail, plagued by improper class certifications, inequitable settlements, and unjustifiable fee awards.").

126. *See infra* pt. III.B.

127. *See* M. Ryan Calo, *Open Robotics*, 70 MD. L. REV. 571, 576 (2011) (arguing that "Congress should shield manufacturers and distributors of open robotic platforms from suit . . . ."); Hubbard, *supra* note 14, at 1870 ("Because of the transformative benefits of sophisticated robots, the legal system might foster innovation (or a particular approach to innovation) in robot development by adopting immunity for sellers of these robots from liability under the current fault-based system.").

limitation of liability clause against a plaintiff would shift the burden of loss from the manufacturer to the plaintiff.[128] This burden shift would place plaintiffs in a worse position to bear the loss because even if the plaintiff recovers the bulk of the loss from insurance, the coverage would likely come at a cost of increased premiums.[129] However, enforcing such limitation of liability clauses would likely decrease the price of semi-autonomous vehicles, and would save plaintiffs money in the future. With a liability shield, manufacturers would have the opportunity to develop the technology, and presumably companies would work to make their vehicles cheaper for consumers in order to increase demand.[130] In addition to saving on litigation costs,[131] manufacturers can also make money by charging extra for the ability to sue the manufacturer in the case of technological malfunctions.[132] Similar to how insurance companies pool risks to save money because not everyone will need that protection, the company can in turn save money and lower prices.[133]

While enforcing contractual limitation of liability clauses may be unsettling because it appears to favor large companies over individuals, the benefits to innovation outweigh the burdens on plaintiffs. Notably, consumers have a choice in whether to purchase these cars, just as they have a choice in engaging in other dangerous activities.[134] If a consumer does not wish to accept this risk, they can pay more for additional protection, or they can wait to purchase a semi-autonomous vehicle until the technology has been safely developed.

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128. *See* Sanislo v. Give Kids the World, Inc., 157 So. 3d 256, 270 (Fla. 2013) ("Public policy disfavors exculpatory contracts because they . . . shift the risk of injury to the party who is probably least equipped to take the necessary precautions to avoid injury and bear the risk of loss."). Some consumers may have insurance that covers these expenses.

129. *See* Ke Steven Wan, *Gatekeeper Liability Versus Regulation of Wrongdoers*, 34 OHIO N.U. L. REV. 483, 493 (2008) (generally discussing different approaches insurance companies take to account for risk; one approach is to increase premiums after a claim is filed).

130. *See* Jason Fernando, *Law of Supply and Demand*, INVESTOPEDIA (Sept. 29, 2019), https://www.investopedia.com/terms/l/law-of-supply-demand.asp ("The law of demand says that at higher prices, buyers will demand less of an economic good.").

131. For a list of litigation costs for major companies see Searle Civ. Just. Inst., *Litigation Cost Survey of Major Companies*, U.S. CTS. 1, 2 (2010), https://www.uscourts.gov/sites/default/files /litigation_cost_survey_of_major_companies_0.pdf (last visited Nov. 4, 2021).

132. *See infra* pt. III.B.2.

133. *See* Sean Ross, *What Is the Main Business Model for Insurance Companies*, INVESTOPEDIA (July 28, 2021), https://www.investopedia.com/ask/answers/052015/what-main-business-model-insurance-companies.asp.

134. For discussions regarding express assumption of the risk of dangerous activities, see Van Tuyn v. Zurich Am. Ins. Co., 447 So. 2d 318, 320 (Fla. Dist. Ct. App. 1984) (bull-riding); Applegate v. Cable Water Ski, L.C., 974 So. 2d 1112, 1114 (Fla. Dist. Ct. App. 2008) (wakeboarding).

2. Efficiency and Safety versus Control

Another key tradeoff would be control in exchange for better safety and efficiency. Currently, humans are the key operators of motor vehicles.[135] With increasing automation, humans will have to become comfortable with allowing the car to take over. While people are often uncomfortable with the thought of machines driving their lives,[136] the sad truth is that 94% of serious vehicle accidents are due to human error.[137] With more semi-autonomous and autonomous vehicles on the road, the margin for human error decreases significantly.[138]

Society tends to focus on the few bad accidents featuring self-driving features[139] instead of focusing on the larger benefits of semi-autonomous and autonomous vehicles. For example, despite Tesla's heavily publicized accidents involving Autopilot, Tesla claims Autopilot is safer than ordinary vehicle operation.[140] According to Tesla's own Vehicle Safety Report, in the second quarter of 2020: "[Tesla] registered one accident for every 4.53 million miles driven in which drivers had Autopilot engaged."[141] Based on this data, all of Tesla's accidents-to-miles-driven ratios are much lower than the average number of accidents-per-miles-driven in the United States.[142] In addition, autonomous vehicle development would also increase efficiency on the road[143] and provide independence to those who can no longer drive

135. *See* Bryant Walker Smith, *Automated Vehicles Are Probably Legal in the United States*, 1 TEX. A&M L. REV. 411, 458 (2014) (citing 49 C.F.R. § 571.101) (stating that Federal Motor Vehicle Safety Standards and NHTSA's rules "assume but do not expressly require the presence of a driver").

136. *See* Tanya Mohn, *Most Americans Still Afraid to Ride in Self-Driving Cars*, FORBES (Mar. 28, 2019), https://www.forbes.com/sites/tanyamohn/2019/03/28/most-americans-still-afraid-to-ride-in-self-driving-cars/#4d655d2432da ("Automated vehicle technology is evolving on a very public stage and, as a result, it is affecting how consumers feel about it . . . .").

137. *Automated Vehicles for Safety*, *supra* note 17 ("Automated vehicles' potential to save lives and reduce injuries is rooted in one critical and tragic fact: *94% of serious crashes are due to human error*.") (emphasis added).

138. *Id.* ("Automated vehicles have the potential to remove human error from the crash equation, which will help protect drivers and passengers, as well as bicyclists and pedestrians.").

139. *See* Mohn, *supra* note 136.

140. *Tesla Vehicle Safety Report*, TESLA, https://www.tesla.com/VehicleSafetyReport (last visited Nov. 4, 2021).

141. Joey Klender, *Tesla's Q2 Safety Report Continues Company's Trend of Safe Driving*, TESLARATI (July 31, 2020) https://www.teslarati.com/tesla-autopilot-safety-report-q2-2020/.

142. *Id*.

143. *Automated Vehicles for Safety*, *supra* note 17.

standard vehicles.[144] Studies have indicated that automated vehicles could free up as much as fifty minutes each day for the average person.[145]

One risk that arises with increased autonomy is the possibility of cyberattacks. Autonomous and semi-autonomous vehicles inherently require computerized technologies to operate, meaning they are riddled with attack vectors that could be exploited by future cybercriminals.[146] In 2015, a cybercriminal hacked into a Jeep Cherokee driving at seventy miles an hour and "took over vehicle functions as innocuous as the windshield wipers to disabling the accelerator, causing the vehicle to slow to a halt on a crowded interstate highway."[147] The hackers breached the car's onboard computer system which was intended only to control navigation and entertainment.[148] The attack prompted NHTSA to recall 1.4 million vehicles.[149] NHTSA assured the public that while this was the first and only cyber-attack on a vehicle, NHTSA and the Department of Transportation (DOT) are "focused on cybersecurity to ensure that these systems work as intended."[150] Admittedly, while standard vehicles are generally not at risk of cyberattacks because they do not require connections to any systems outside the vehicle, many modern non-autonomous vehicles on the road today could be attacked by cybercriminals because they use sensors and other computerized technologies.[151]

3. Positive vs. Negative Environmental Impacts

The environmental impacts of semi-autonomous vehicles cannot be ignored because almost all semi-autonomous vehicles on the market right now are electric or hybrid vehicles.[152] Semi-autonomous vehicles

144. *Id.* ("One study suggests that automated vehicles could create new employment opportunities for approximately 2 million people with disabilities.").

145. Michele Bertoncello & Dominik Wee, *Ten Ways Autonomous Driving Could Redefine the Automotive World*, MCKINSEY & CO.: AUTO. AND ASSEMBLY (June 2015), https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/ten-ways-autonomous-driving-could-redefine-the-automotive-world.

146. *See id.*

147. Caleb Kennedy, *New Threats to Vehicle Safety: How Cybersecurity Policy Will Shape the Future of Autonomous Vehicles*, 23 MICH. TELECOMM. & TECH. L. REV. 343, 344, http://www.mttlr.org/wp-content/journal/voltwentythree/kennedy.pdf.

148. *Id.*

149. *Vehicle Cybersecurity*, U.S. DEP'T OF TRANSP.: NHTSA, https://www.nhtsa.gov/technology-innovation/vehicle-cybersecurity (last visited Nov. 4, 20201).

150. *Id.*; *Automated Vehicles for Safety*, *supra* note 17.

151. Kennedy, *supra* note 147, at 344.

152. *See generally* Amy L. Stein & Joshua P. Fershée, *Decarbonizing Light-Duty Vehicles,* LEGAL PATHWAYS TO DEEP DECARBONIZATION IN THE UNITED STATES (ELI Press, Michael B. Gerrard and John C. Dernbach eds., 2019) (arguing that one path the United States can take to begin the process of deep decarbonization is encouraging an increase in autonomous vehicles).

are particularly suited to be electric vehicles, and manufacturers have taken advantage of this opportunity.[153] Tesla is well-known for its commitment to the production of electric vehicles and the reduction of environmental impacts.[154]

The transportation sector accounts for approximately 29% of greenhouse gas emissions.[155] Passenger cars and trucks account for about 58% of those emissions.[156] Electric plug-in vehicles produce significantly less greenhouse gas emissions than traditional gas vehicles,[157] mostly because electric vehicles produce no direct greenhouse gas emissions.[158] Electric vehicles also typically create less life cycle greenhouse gas emissions[159] when compared to traditional gas vehicles.[160] Greenhouse gases have already caused significant changes to our environment by causing air pollution, rising temperatures, and extreme weather.[161] Each generation has become more aware of climate change and the devastation it can cause.[162]

AI negatively impacts the environment as well. For example, the extraction of nickel, cobalt, and graphite have already damaged the

153. *See* Greg Gardner, *Why Most Self-Driving Cars Will Be Electric*, USA TODAY (Sept. 19, 2016) https://www.usatoday.com/stor/money/cars/2016/09/19/why-most-self-driving-cars-electric/90614734/.

154. *Tesla 2019 Impact Report*, TESLA, https://www.tesla.com/ns_videos/tesla-impact-report-2019.pdf (last visited Nov. 4, 2021) ("We believe the faster the world stops relying on fossil fuels and moves towards a zero-emissions future, the better. Tesla's products offer a complete solution – sustainable generation, storage and usage – all capable of being powered by the sun. We envision a world powered by solar energy, running on batteries and transported by all-electric cars.").

155. *Sources of Greenhouse Gas Emissions*, U.S. EPA, https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions (last visited Nov. 4, 2021) (Transportation is the largest source of greenhouse gas emissions; electricity, which accounts for 25% of emissions, comes in second.).

156. *Fast Facts on Transportation Greenhouse Gas Emissions*, U.S. EPA, https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions (last visited Nov. 4, 2021).

157. James Ellsmoor, *Are Electric Vehicles Really Better for the Environment*, FORBES (May 20, 2019), https://www.forbes.com/sites/jamesellsmoor/2019/05/20/are-electric-vehicles-really-better-for-the-environment/#57c7626676d2 ("Electric vehicles as they currently stand are far less polluting than their combustion engine counterparts. As the technology becomes more mainstream, it is likely to become even more efficient and sustainable.").

158. *The Rise of Elective Vehicles: Exploring the Possible Future of the Automotive Industry*, LEVITON (Dec. 2020) https://www.leviton.com/en/products/brands/evrgreen/article-the-rise-of-electric-vehicles [hereinafter *The Rise of Elective Vehicles*].

159. Life cycle emissions account for the emissions created at each stage of production and use. *Lifecycle Analysis of Greenhouse Gas Emissions Under Renewable Fuel Standard*, U.S. EPA, https://www.epa.gov/renewable-fuel-standard-program/lifecycle-analysis-greenhouse-gas-emissions-under-renewable-fuel (last visited Nov. 4, 2021).

160. *The Rise of Elective Vehicles, supra* note 158.

161. *See* Christina Nunez, *Carbon Dioxide Levels Are At a Record High. Here's What You Need to Know.*, NAT'L GEOGRAPHIC (May 13, 2019), https://www.nationalgeographic.com/environment/global-warming/greenhouse-gases/.

162. *See id.*

environment in other parts of the world.[163] Even after the extraction of the raw materials, programing AI can lead to emissions almost five times that of a standard U.S. vehicle.[164] These facts are no doubt concerning for the sustainability of AI, but mostly they inform us that we need to consider the full lifecycle impacts of AI when developing the technology. By encouraging the development of AI products, steps can be taken to develop more sustainable semi-autonomous electric vehicles and AI, so that society can reap the benefits from the reduction in greenhouse gas emissions and the improvement of our natural environment.[165]

B. Sliding Scale of Liability

Despite possible issues, on balance, these tradeoffs favor enforcing contractual limitation of liability clauses for a limited amount of time and a limited purpose. This Article thus proposes a sliding scale of liability that considers three factors to determine the enforceability of these clauses, and ultimately liability. The factors include (1) whether the injury to the consumer was largely caused by a malfunction of the AI technology; (2) whether the injured consumer had the opportunity to pay or exchange some other form of consideration for additional protection; and (3) whether more new non-autonomous vehicles were sold in the previous year than new Level 2 and above semi-autonomous vehicles. Once met, the court should hold that the contractual limitation of liability clause does not conflict with public policy and should dismiss the claim against the semi-autonomous vehicle manufacturer. This sliding scale would only apply when the vehicle's purchaser is the injured party because they are the only party that signed the clause.[166] These factors are intended to encourage courts to take a holistic view of society and AI technology. Taking a step back, the essence of this sliding

163. *See* Shay Meinecke, *AI Could Help Us Protect the Environment — Or Destroy It*, DW (July 16, 2018), https://www.dw.com/en/ai-could-help-us-protect-the-environment-or-destroy-it/a-44694471.

164. Jessica Miley, *Training AI Is Shockingly Costly to the Environment*, INTERESTING ENG'G (June 11, 2019) https://interestingengineering.com/training-ai-is-shockingly-costly-to-the-environment (citing Emma Strubell, Ananya Ganesh, & Andrew McCallum, *Energy and Policy Considerations for Deep Learning in NLP*, 57TH ANNUAL MEETING OF THE ASS'N FOR COMPUTATIONAL LINGUISTICS (June 5, 2019), https://arxiv.org/abs/1906.02243).

165. *See generally* Amy L. Stein, *Artificial Intelligence and Climate Change*, 37 YALE J. ON REG. 890 (2020) (proposing the use of AI to assist in the fight against climate change but acknowledging we must develop sustainable AI before our environment will benefit).

166. Indirect parties are not in privity with the manufacturers. Hubbard, *supra* note 14, at 1812.

scale is to weigh the costs and the benefits of imposing liability on AI manufacturers to achieve an optimal result.[167]

1. AI Technology Malfunction

The first factor is whether the malfunction of the AI technology caused the incident. If the malfunction of the AI was the leading cause of the incident, this factor should be considered satisfied. A standard but-for causation analysis would suffice.[168]

This factor is to ensure that emerging technologies, such as AI, are protected by a liability shield, compared to other more established technologies that do not need this additional protection. The remaining aspects of the car are extensively researched and are not emerging technologies.[169] For example, a malfunction in Tesla's self-driving-feature would constitute an AI technology malfunction, however; [170] an airbag malfunction, which has no implications with AI technology, would not enjoy the rule's protection.[171] This sliding scale is not intended to excuse manufacturers from liability for failing to use and maintain existing technology.

2. Additional Protection for Additional Consideration

The second factor is whether the injured consumer had the opportunity to pay or exchange some other form of consideration for additional protection.[172] If the consumer was presented with this opportunity, the second factor is met. For example, a consumer could buy a Tesla Model 3 for $35,000[173] with a contractual limitation of

167. A traditional cost-benefit analysis might suffice, however, encouraging courts to consider specific factors increases consistency and predictability, two common goals of our legal system. *See* Jonathan A. Marcantel, *Because Judges Are Not Angels Either: Limiting Judicial Discretion by Introducing Objectivity into Piercing Doctrine*, 59 U. KAN. L. REV. 191, 193 (2011); Tanya Pierce, *Improving Predictability and Consistency in Class Action Tolling*, 23 GEO. MASON L. REV. 339, 347–48 (2016).

168. "But-for" causation generally requires a party to show that the injury would not have occurred but-for the other party's negligent act or omission. *See*, *e.g.*, Burrage v. United States, 571 U.S. 204, 213 (2014); Wilcox v. Homestake Mining Co., 619 F.3d 1165, 1167 (10th Cir. 2010).

169. *See* Alison DeNisco Rayome, *Top 10 Emerging Technologies of 2019*, TECHREPUBLIC (June 24, 2019), https://www.techrepublic.com/article/top-10-emerging-technologies-of-2019/ (discussing examples of emerging technology which include drones, AI, and biometrics).

170. *See* Boudette, *supra* note 1.

171. *See Model S Safety Update*, TESLA, https://www.tesla.com/support/model-s-safety-update (last visited Nov. 4, 2021).

172. This factor mirrors aspects of the factor test laid out in the Restatement. *See* RESTATEMENT (THIRD) OF TORTS: APPORTIONMENT LIAB. § 2 (AM. L. INST. 2000).

173. The starting price of a Tesla Model 3 is approximately $35,000. *Model 3*, TESLA, https://www.tesla.com/model3/design#battery (last visited Nov 4, 2021).

liability clause, but another consumer could purchase the Model 3 for $45,000 with no contractual limitation of liability clause.[174] If a consumer has the opportunity to purchase protection, the consumer would be well aware of what they are signing and agreeing to, and the consumer could perform their own cost-benefit analysis that accompanies any product purchase.[175] A person who wishes to save money could sign the limitation agreement for less money and choose to use the self-driving feature carefully and at their own risk. This contractual practice is widespread; for instance, it is demonstrated when purchasing insurance policies. A person who wishes to push the boundaries of the self-driving vehicle or to use the feature continuously may find that the additional protection is worth the increased price. This factor removes the risk of the contract being a true take-it-or-leave-it contract because the consumer has the opportunity to bargain for their rights.

3. Number of Semi-Autonomous Vehicles Sold

The final factor takes a broader look and asks whether more Level 2 and above semi-autonomous vehicles[176] were sold in the previous year than traditional gas vehicles. To meet this factor, sales of non-autonomous vehicles (Level 1 and lower) must exceed sales of semi or fully autonomous vehicles (Level 2 and above). This factor is intended to ensure that these exculpatory contracts are only found to be not contrary to public policy for as long as semi-autonomous and autonomous vehicles remain uncommon luxury goods and not common normal goods. A normal good is a necessary good, while a luxury good is a product that is not needed but is desired due to other qualities of a product.[177] Like smartphones were in the 2000s, semi-autonomous vehicles are highly desired by some, but few would deem them

174. This Article acknowledges the potential issues in differential treatment between incomes. However, at this moment, semi-autonomous vehicles are a luxury good, not a necessity, making the purchase of the vehicles a choice. Luxury products are less important to public policy issues relating to income disparities. See *infra* note 177 for a discussion on the differences between luxury and normal goods.

175. *See* Vincent, *supra* note 24.

176. Level 1 technology is often found in vehicles on the road today. *Id.*

177. For example, a normal good would be a basic coat from Wal-Mart and a luxury good would be a Canadian Goose coat. *See* Catherine Rampell, *Luxury, or Necessity*, N.Y. TIMES (Feb. 9, 2009) https://economix.blogs.nytimes.com/2009/02/09/luxury-or-necessity/; Pamela Danziger, *Luxury Brands: Innovation is No Luxury, but a Necessity*, FORBES (Aug. 8, 2017), https://www.forbes.com/sites/pamdanziger/2017/08/08/luxury-brands-innovation-is-no-luxury-but-a-necessity/#f4a1439303a7.

necessary today.[178] However, within a decade, smartphones quickly transitioned into normal, necessary, goods, and it is conceivable that semi-autonomous and autonomous vehicles will do the same.[179]

Similar to the second factor, choice underpins the third factor. Once semi-autonomous and autonomous vehicles become necessary normal goods, individuals will naturally have less of a choice in deciding whether to purchase one.[180] Mirroring the underlying principles of corporate and contract law,[181] if a consumer has a choice in purchasing the product and the corresponding rights, the consumer and the company should have the opportunity to contract for these rights and the price.

This factor dictates the temporal nature of the sliding scale. As soon as Level 2 (or higher) semi-autonomous vehicles outnumber the number of traditional vehicles sold, the clauses should be considered contrary to public policy. In the first quarter of 2019, about 7% of all new vehicles sold were semi-autonomous.[182] While it is likely that new semi-autonomous and autonomous vehicles will outnumber new non-autonomous vehicles eventually,[183] that day is still in the somewhat distant future.

V. CONCLUSION

Contractual limitation of liability clauses are tools in our legal arsenal that can both foster innovation in AI technology and protect the integrity of our legal system. This Article examines the issues that arise when exculpatory provisions concerning AI are assumed to be enforceable. Despite these issues, this Article proposes a reframing of

178. *See* Steve Lohr, *Smartphone Rises Fast from Gadget to Necessity*, N.Y. TIMES (June 9, 2009), https://www.nytimes.com/2009/06/10/technology/10phone.html.

179. *See e.g.*, Emily Dreyfuss, *No, iPhones Aren't Luxury Items. They're Economic Necessities*, WIRED (Mar. 7, 2017), https://www.wired.com/2017/03/no-iphones-arent-luxury-items-theyre-economic-necessities/; Larry Alton, *One Decade Later: Are Smartphones All Good for the Workplace?*, FORBES (June 22, 2017), https://www.forbes.com/sites/larryalton/2017/06/22/one-decade-later-are-smartphones-all-good-for-the-workplace/?sh=2f8ec18958eb ("Here we are, a decade later, and smartphones are no longer regarded as revolutionary gadgets. Instead, they're viewed as necessary tools.").

180. *See supra* note 177.

181. *See* Miller v. HCP & Co., No. CV 2017-0291-SG, 2018 WL 656378, at *2 (Del. Ch. Feb. 1, 2018), *aff'd sub nom*., Miller v. HCP Trumpet Investments, LLC, 194 A.3d 908, 908 (Del. 2018).

182. *Canalys: US Sales of Cars with Level 2 Driving Automation Features Grow 322% in Q1 2019*, CANALYS NEWSROOM (May 28, 2019), https://www.canalys.com/newsroom/canalys-us-sales-ofcars-with-level-2-driving-automation-features-grow-322-in-q1-2019.

183. Phil LeBeau, *Relax, Experts Say It's at Least a Decade Before You Can Buy a Self -Driving Vehicle*, CNBC (July 30, 2019), https://www.cnbc.com/2019/07/29/experts-say-its-at-least-a-decade-before-you-can-buy-a-self-driving-car.html (discussing that by 2034 it is predicted that autonomous vehicles will make up just 10% of all vehicles being bought and sold).

the public policy rationales by adopting a sliding scale of liability to allow the enforcement of contractual limitation of liability clauses when certain factors are met. The factors include (1) whether the injury to the consumer was largely caused by a malfunction of the AI technology, (2) whether the injured consumer had the opportunity to pay or exchange some other form of consideration for additional protection, and (3) whether more new non-autonomous vehicles were sold in the previous year than new Level 2 and above semi-autonomous vehicles. If these contractual limitation of liability clauses are held enforceable according to a sliding scale of liability, technology could flourish as manufacturers develop the technology without fear of excessive litigation costs; society could benefit from the efficiency and safety that results from an increased number of semi-autonomous vehicles; and the increased number of zero-emissions vehicles would promote a cleaner environment.

The principles behind the sliding scale of liability are not limited to semi-autonomous vehicles. If consumers truly can choose whether to buy the product, are aware of the risks, and have some say in their contractual rights, AI manufacturers should have the ability to shield themselves from liability for a portion of time. This sliding scale could be adopted with AI robots,[184] drones,[185] and any other product that utilizes AI technology. AI may be daunting to many people, [186] but most accept that AI is the way of the future.[187] Our legal system is often criticized for being behind the times.[188] By adopting laws that address these issues now, the technology will have the opportunity to grow, but not at the expense of justice and fairness.

184. *See Sophia*, HANSON ROBOTICS, https://www.hansonrobotics.com/sophia/ (last visited Nov. 4, 2021).

185. *See Skydio2*, SKYDIO, https://www.skydio.com/ (last visited Nov. 4, 2021).

186. Kowert, *supra* note 10, at 199.

187. *The State of AI in 2020*, MCKINSEY & COMPANY (Nov. 17, 2020), https://www.mckinsey.com/business-functions/mckinsey-analytics/our-insights/global-survey-the-state-of-ai-in-2020.

188. *See* Richard S. Kay, *Retroactivity and Prospectivity of Judgments in American Law*, 62 AM. J. COMP. L. 37, 37 (2014) ("In every American jurisdiction, new rules of law announced by a court are presumed to have retrospective effect—that is, they are presumed to apply to events occurring before the date of judgment.").