

Automated Stupidity: Self-Driving Cars in Canadian Law

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Given recent technological advancements in artificial intelligence leading to the creation of autonomous systems including self-driving cars, philosophers and law theorists must ask the question of whether autonomous systems can be held morally or legally culpable in the event of an accident. Semi-self-driving cars, or autonomous vehicles (AVs), have exploded onto the market in recent years with the industry showing no signs of slowing down or losing interest. While AVs are designed to increase road safety and minimize accidents, self-driving car accidents still happen. Canada's *Motor Vehicle Safety Act* currently lacks the conceptual and judicial framework to determine blame in self-driving car accidents. I argue that judicial framework is urgently needed as cars become increasingly automated.

Framing the Problem

Unsurprisingly, traffic accidents are overwhelmingly caused by human error. The current held belief in autonomous vehicle manufacturing is that by implementing AVs and cars with autonomous systems, we can “solve traffic safety problems.”¹ Jianqiang Wang and colleagues define autonomous systems as “the ability of an intelligent system to achieve specific tasks under the uncertainty of the system itself and its environment.”²

These systems are gradually evolving towards complete automation and are doing so in roughly three different ways. Firstly, by introducing driving assistance systems while developing technology for driverless cars. Secondly, developing self-driving vehicles from scratch (companies such as Google Ford, and General Motors are working towards this). Finally, Tesla's strategy of equipping vehicles with “autonomous driving system hardware.” Gradually, “the autonomous driving system is improved through software upgrades,” until the car is completely automated.³

The Society of Automotive Engineers (SAE) has established a classification system to understand AVs and their degrees of automation. The SAE outlines six levels of automation, ranging from “No Driving Automation” to “Full Driving Automation.”⁴ Cars classified as level zero have no automation and the driver is always completely in control of the vehicle. Level one includes cars with little automation; the SAE classifies these cars as having “either the lateral or the longitudinal vehicle motor control” but “not both simultaneously”—like lane assist.⁵ Level two relates to cars with “Partial Driving Automation.” These cars have both longitudinal and lateral vehicle automation with the expectation that the driver “supervises the driving automation

system.”⁶ Level three or “Conditional Driving Automation,” is “the sustained and ODD-specific [operation design domain] by an ADS [automated driving system]” of an entire “dynamic driving task [DDT]”—completely automated parallel parking, for example.⁷ But, for level three cars, the user is still expected to intervene in the case of “performance-relevant system failures.”⁸ Level four cars have “ODD-specific performance by an ADS of an entire DDT [dynamic driving task] and DDT fallback without any expectation that a user” needs to intervene.⁹ In other words, the car is both capable of driving tasks and self-correcting should something go wrong. Finally, level five is “Full Driving Automation,” consisting of “sustained and unconditional” automation, without any expectation that the “user will respond to a request to intervene.”¹⁰ Level five is commonly thought of when one pictures self-driving cars. As of now, there are no level five autonomous vehicles available for consumer purchase.¹¹ Cars with level three automation and below are widely produced and cars with level four systems are developing to be deployed in specific scenarios.¹²

As Jianqiang Wang and colleagues assert, several problems arise when designing completely automated vehicles. AVs may violate or ignore traffic rules, their algorithm may have insufficient information about external and environmental factors, and they may become easily confused or unable to make a decision in certain situations due to their lack of “comprehensive judgment.”¹³ As such, AVs can still cause accidents.

When it comes to vehicles levels zero to two, the driver is responsible for the vehicle at all times. Whereas in level three vehicles, the driver cedes control only in very specific circumstances while still being expected to monitor the car’s movements and take control if and when it is necessary to do so.¹⁴ For level three and below the driver is legally responsible and liable for law violations. When it comes to level four and five vehicles however, there are no regulations to establish responsibility or liability in the event of a law violation. It follows that AVs represent a unique challenge when it comes to law and establishing responsibility.¹⁵

AV Accidents

Though there are no Canadian statistics for AV accidents, the United States National Highway Traffic Safety Administration (NHTSA) has been collecting data on self-driving car accidents to inform future policy.¹⁶ Between July 2021 and May 2022, there were nearly four hundred crashes involving “semi-autonomous vehicles,” 273 of those were cars manufactured by Tesla.¹⁷ As of June 17, 2024, the NHTSA reported that there has been a total of 3,979 accidents involving AVs since August 2019.¹⁸

Automation, unfortunately, does not stave off stupidity. Elon Musk’s Tesla is under scrutiny by the NHTSA because of a recently reintroduced AV feature, “Mad Max mode.”¹⁹ In Mad Max mode, the car autonomously “speeds and swerves through traffic,” like an over-caffeinated 16-year-old boy with a graduated driver’s licence.²⁰ Tesla is often in hot water when

it comes to their self-driving systems. Earlier this year, NHTSA started investigating around 2.9 million Tesla made vehicles equipped with self-driving technology, citing a whopping “[fifty-eight] reports of potential safety issues—including [fourteen] crashes and [twenty-three] injuries—involving red-light violations and erratic lane behavior.”²¹ In 2022, Tesla had to recall over fifty thousand vehicles due to their “rolling-stop” feature which violated traffic laws.²² This further prompts the question, how do we determine liability in self-driving car crashes?

The Moral Crumple Zone

Madeleine Clare Elish, writing in the American context, introduces ‘the moral crumple zone’ to examine how responsibility or blame can be assigned when it comes to incidents involving intelligent or autonomous systems. ‘The moral crumple zone’, Elish espouses, refers to the idea that when it comes to autonomous systems, “responsibility for an action may be misattributed to a human actor who had limited control over the behaviour of an automated or autonomous system.”²³ Fittingly, Elish uses the analogy of the crumple zone in a car. Cars are designed to crumple thus absorbing most of the impact in a crash. Similarly, the human may bear the majority of “the moral and legal responsibilities” when an automated system fails.²⁴ Elish argues that when it comes to autonomous systems, blame is deflected onto the nearest human actor to protect the integrity and ‘faultlessness’ of the system.²⁵ Culturally,

automated systems are viewed as infallible. There is a tendency to be over-confident in the abilities of machines while simultaneously underestimating the abilities of human actors.²⁶ In other words, human beings are seen as moral actors commanded by law and capable of making mistakes while autonomous systems are seen as above the law and incapable of the same level of stupidity.

To illustrate this, I offer the recent outcome from a 2019 case involving a Tesla car which failed to detect both that the road was ending and that there was a young couple standing just off the road.²⁷ The driver, George McGee, momentarily took his eyes off of the road and Tesla’s driving assistance failed to warn him that the road was ending. The driving assistance failure resulted in the death of the twenty-two-year-old woman and severely injured her boyfriend.²⁸ Tesla’s attorney argued that they were not liable because both the driver’s manual and traffic law state that the driver must always be in control of the vehicle regardless of if drivers’ assistance is engaged.²⁹ Tesla’s lawyer argued that the isolated cause of the accident was McGee having dropped his phone.³⁰ The plaintiff’s attorney rebutted that Tesla “promoted the autopilot feature knowing it increased the likelihood of distracting drivers,” citing systematic failure as the cause, i.e. failure to recognize that the road was ending and that people were standing there.³¹ The court ruled that the driver was two-thirds responsible for the accident,³² illustrating Elish’s point that in penumbral cases, where the accident was primarily caused by the interaction between a human actor and an automated system, the human operators

tend to ‘absorb’ the majority of responsibility because the current models of law fail to account for the interaction between human agents and technology.³³ Unfortunately, given the increasing complexity and implementation of automated systems, there is seldom only one cause of an accident.

To further illustrate this point, Elish looks at autonomous systems in planes. As Elish asserts, Airbus planes have autopilot, meaning that in these airplanes, the flight controls are completely automated.³⁴ Airbus prioritizes “the computational capacities of on-board computers over human mechanic control” and they characterize automated flight controls as ‘foolproof’ systems.³⁵ Though autopilot is by no means new to the aviation industry, these autonomous systems can never be fully programmed to predict or plan for every possible thing that could go wrong on the ground or in the air. Due to this, most aviation accidents can be characterized as “edge cases” because the combination of factors leading to an incident could not have been predicted or anticipated by autopilot systems.³⁶

Current framework surrounding autopilot and culpability limits responsibility to system failure alone, once again overlooking complex interactions between machine and human agents.³⁷ As mentioned earlier, accidents are rarely caused by one thing. When it comes to autonomous system-human interaction, we encounter “the problem of many hands.”³⁸ In other words, responsibility becomes obscured by the sheer number of actors that played a part in an accident: the engineers, designers, corporate executives,

the autonomous system itself, and the pilot all share some degree of responsibility. In most cases, responsibility cannot be attributed to one actor alone, but the cogs of justice demand that someone take the blame.³⁹ According to Elish, human error—the owner/operator—continues to be the “consistent catch-all” when it comes to assigning responsibility in aircraft accidents.⁴⁰

Moral and Legal Responsibility

To understand the moral crumple zone and why we so desperately need laws around self-driving cars, we need to understand that law has a dimension of morality and hinges, to some degree, on human vulnerability. Ronald Dworkin asserts that there is a dimension of morality in law in the form of morally weighty principles employed by judges to determine the outcome of hard or penumbral cases.⁴¹ David Hume likewise asserts that there is a moral dimension to law, laws “being founded on rewards and punishments.”⁴² For him, morality is intimately connected to praise and blame insofar “as actions are objects of our moral sentiment.”⁴³ From this, it can be deduced that laws command moral agents. H.L.A. Hart further suggests that human vulnerability underscores law, in that if humans were “like giant land crabs” invulnerable to attack, laws forbidding violence and murder would be superfluous.⁴⁴ It follows that laws can be characterized as commanding *vulnerable* moral agents. Further, John Dorsch and colleagues argue that vulnerability is an important aspect of morality.⁴⁵ They say that autonomous systems are invulnerable

and cannot be construed as moral agents,⁴⁶ meaning that autonomous systems cannot be held legally responsible or brought to justice in the same way. Law commands human actions, but, “human error,” once again, tends to refer to operator error, not errors on the part of the designers, companies, or engineers.⁴⁷ In fact, according to *Canadian Jurisdictional Guidelines*, when it comes to the data needed to help determine the cause of an accident, manufacturers are likely to oppose handing over information to the investigators as it may be “perceived as an unwarranted overreach of government authority.”⁴⁸ This means, that the registered owners of AVs will take on the brunt of legal responsibility in the event of a crash regardless of if it was actually their fault. For this reason, new laws and statutes recognizing the levels of moral implication and the moral crumple zone—that human actors are likely to take on the brunt of responsibility when it comes to AVs—must be written and implemented before fully automated vehicles hit the roads.

Self-Driving Cars in the Canadian Context

As I have noted, when it comes to human-agent and autonomous-system interactions, human actors usually take on the brunt of the moral and legal responsibility, and this is concerning when it comes to the move towards self-driving cars. In the Canadian context, the Canadian Council for Motor Transport Administrators released *Canadian Jurisdictional Guidelines for the safe*

Testing and Deployment of Vehicles Equipped with Automated Driving Systems in 2022, in order to “create consistency across jurisdictions,” encourage the “safe introduction” of autonomous driving technology, “clarify roles and responsibilities” at the municipal, provincial, and federal level, and “demonstrate jurisdictional awareness and understanding” of new technologies.⁴⁹ Despite the recent interest in AVs in Canadian law, there is still a glaring lack of legislature to determine liability in the event of an accident.

The *Canadian Jurisdictional Guidelines* outlines jurisdictional and law enforcement considerations and concerns when it comes to AVs and cars equipped with automated driving systems (ADS). It highlights the renewed importance of incident reports in determining responsibility when it comes to AVs or vehicles equipped with ADS technology and collisions with other non-automated vehicles, people, objects, or animals.⁵⁰ The guidelines suggest that manufactures and AV companies “should submit to the jurisdiction incident and collision related information to expand ADS data and research,” including information such as “instances of collision/incident when ADS-equipped vehicles are operating in automated mode or disengaged” as well as data surrounding ADS failure or when the ADS-equipped vehicle breaks a traffic law such as speeding or running a red light.⁵¹ However, given the multi-national and proprietary nature of the automotive industry, manufacturers may object to forking over the above information and the

limited scope of Canadian law cannot make them.⁵²

The *Canadian Jurisdictional Guidelines* further note that Canadian jurisdictions only hold legal authority over vehicles operated by humans not non-operators and automated systems and this ‘void’ in law, presents challenges when it comes to enforcing traffic law and “establishing legal responsibility when ADS-equipped vehicles are involved in motor vehicle collisions on public roads.”⁵³ Therefore, when it comes to legal responsibility, we have to ask if the driver of the ADS-equipped vehicle is still responsible for its operation and to what degree? As Elish notes, while it is reasonable to hold humans morally and legally accountable for their actions, “non-human entities cannot be held as accountable to society in ways that contribute to justice and the greater public

good.”⁵⁴ Put plainly, new legislation is urgently so that we can establish legal responsibility when it comes to vehicles equipped with high automation (levels four and five).

Conclusion

When it comes to self-driving cars in Canadian law, there is no judicial framework to help determine blame regarding accidents involving AVs. Human actors are overwhelmingly saddled with most of the blame when accidents are caused by the interaction between autonomous systems and human agents. It is imperative that legislation is developed to account for ‘the moral crumple zone,’ and employ new ways of establishing blame that recognize multiple actors, both human and non-human, as all contributing to causes of accidents.

Endnotes

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2. Ibid, 1313.

3. Ibid, 1314.

4. *Canadian Jurisdictional Guidelines for the Safe Testing and Deployment of Vehicles Equipped with Automated Driving Systems Version 2.0*, Canadian Council of Motor Transport Administrators, 2022, 15.

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6. Ibid.

7. Ibid.

8. Ibid.

9. Ibid.

10. Ibid.

11. “Automated Vehicles for Safety,” National Highway Traffic Safety Administration, accessed November 15, 2025, <https://www.nhtsa.gov/vehicle-safety/automated-vehicles-safety>.

12. Jianqiang Wang et al., “Towards the Unified Principles.”

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16. “Accidents in Self-Driving Cars,” *Sharma Law*, February 21, 2023,

<https://vsharmalaw.ca/accidents-in-self-driving-cars/>.

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18. "Data Analysis: Self-Driving Car Accidents [2019-2024]," Craft Law Firm, accessed November 15, 2025, <https://www.craftlawfirm.com/autonomous-vehicle-accidents-2019-2024-crash-data/>.

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22. Ibid.

23. Madeleine Clare Elish, "More Crumple Zones: Cautionary Tales in Human Robot Interaction," *Engaging Science, Technology, and Society* 5 (March 2019): 41, <https://doi.org/10.17351/ests2019.260>.

24. Ibid, 40.

25. Ibid, 51-2.

26. Ibid, 49.

27. Trisha Thadani and Francisco Alvarado, "Tesla Found Partially Liable for Fatal 2019 Crash, Hit with \$243 Million in Damages," The Washington Post, last modified August 1, 2025, [https://www.washingtonpost.com/technology/2025/08/01/tesla-found-partially-](https://www.washingtonpost.com/technology/2025/08/01/tesla-found-partially-liable-fatal-2019-crash-involving-driver-assistance-technology-jury-orders-200-million-damages/)

[liable-fatal-2019-crash-involving-driver-assistance-technology-jury-orders-200-million-damages/](https://www.washingtonpost.com/technology/2025/08/01/tesla-found-partially-liable-fatal-2019-crash-involving-driver-assistance-technology-jury-orders-200-million-damages/).

28. Ibid.

29. Ibid.

30. Ibid.

31. Ibid. Interestingly, Tesla's Elon Musk has recently been quoted saying, "we are getting to the point where we almost feel comfortable allowing people to text and drive" (Rogelberg 2025), all but expressly promoting distracted driving." Despite only being deemed one-third responsible for the crash, Tesla issued a statement declaring that the verdict was wrong, serving only to "set back automotive safety" (as quoted in Thadani and Alvarado).

32. Ibid.

33. Elish, "Moral Crumple Zones," 50.

34. Ibid, 46.

35. Ibid.

36. Ibid, 47.

37. Ibid, 50.

38. Ibid.

39. Ibid, 54.

40. Ibid, 49.

41. Ronald Dworkin, "The Model of Rules," *University of Chicago Law Review* 35, no. 1 (1967): 22. <https://chicagounbound.uchicago.edu/uclrev/vol35/iss1/3>.

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46. Ibid.

47. Elish, "Moral Crumple Zones," 49.

48. *Canadian Jurisdictional Guidelines*, 137.

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50. Ibid, 112.

51. Ibid, 113.

52. Ibid, 116.

53. Ibid, 123.

54. Elish, "Moral Crumple Zones," 49.

