

ARTICLE

The Road to Realising Modern Vehicular Responsibility: How Should New Zealand Respond to Criminal Liability Issues Related to Driverless Vehicles?

KEEHA OH*

Driverless vehicles have already begun to revolutionise road transport; however, they also present novel risks to which our laws must adapt. Motivated by these inevitabilities, this article explores the question of how New Zealand should respond to criminal liability issues in situations involving driverless vehicles. This article argues that the offences created under the Land Transport Act 1998 currently do not accommodate for the potential harm able to be caused by driverless vehicles. The wording of the statute, based on a traditional understanding of vehicular responsibility, may expose driverless vehicle passengers to undue conviction for driving offences. As a corollary, this article proposes that the current land transport legislation will need to be amended. This article further argues that malfeasant manufacturers of driverless vehicles that cause injury or death should be subject to criminal liability for the protection of public safety. However, there are long recognised challenges to the formulation of corporate criminal liability. This article favours a framework based on corporate culture, adopting the approach in the Criminal Code Act 1995 of Australia. Particular regard must be considered as to whether and how manufacturers should be convicted of corporate manslaughter where a driverless vehicle causes death due to their gross malfeasance. This article argues that, with the imminent rise of autonomous vehicles and advancing technological products generally, the New Zealand Legislature should introduce a corporate

* BCom/LLB(Hons) student at the University of Auckland. This article closely follows a research paper written by the author for the Criminal Law and Policy (Honours) course she undertook in 2019. The author would like to gratefully acknowledge Associate Professor Scott Optican and Professor Julia Tolmie for sharing their expertise in criminal law and policy and for their helpful direction throughout this course. Lastly, she would like to thank her friends and family for entertaining the various debates which have coloured the contents of this article.

manslaughter offence. The effect of censure and consequence of fines will likely be an adequate deterrent for such corporate culpability. Overall, this article highlights the need to reform New Zealand's understanding of and laws surrounding vehicular responsibility in light of the increasing presence of driverless vehicles.

I Introduction

The concept of driverless vehicles is no longer a figment of entrepreneurial imagination. Driverless vehicles exist and operate in the present and will only increase in prevalence going forward. On 5 December 2018, almost a decade after its inception, Waymo (previously known as the Google self-driving car project and a subsidiary of Alphabet Inc) launched the first commercial self-driving taxi service in Phoenix, Arizona.¹ On 28 August 2018, Uber Technologies Inc (Uber) and Toyota Motor Corporation announced an expansion of their partnership to launch a driverless ride-share service on Uber's existing network.² Other automotive giants, such as Tesla, also promise the release of fully autonomous vehicles and offer driverless features such as "Smart Summon".³ These driverless vehicles have the potential to be revolutionary. They will theoretically replace human error with robotic precision, reduce traffic congestion by "communicating" with surrounding driverless vehicles and allow equal accessibility of transport for the youth, elderly, disabled and other unlicensed persons. As the normative concepts of road transport undergo transformation, the law will also need to evolve to reflect contemporary realities. Against this background, this article will address the question of how the law should adapt to novel criminal liability issues arising from the introduction of driverless vehicles in New Zealand. Part II will provide a basic overview of autonomous and driverless vehicles. Part III will discuss the current approach to criminal vehicular liability manifested by the Land Transport Act 1998 (LTA), which has the potential for misapplication to driverless vehicle passengers. Part IV will conduct an inquiry into whether, and in what circumstances, driverless vehicle manufacturers should be held criminally liable. Part V will explore some of the major challenges to convicting and punishing companies such as driverless vehicle manufacturers. Ultimately, this article will provide recommendations towards reconfiguring the criminal landscape in New Zealand in light of the emergence of autonomous technologies and increasing corporate responsibility.

II Autonomous and Driverless Vehicles

Cross-faculty understanding of autonomous and driverless vehicles is becoming increasingly important as these products intersect with social, economic and legal domains. Thus, Part II provides a basic understanding of autonomous vehicles (and more specifically, driverless vehicles) as a necessary precursor to further discussion on how the

1 Russ Mitchell "Waymo One, the first commercial robotaxi service, is now picking up passengers in Arizona" *Los Angeles Times* (online ed, California, 5 December 2018).

2 Toyota "Toyota and Uber Extend Collaboration to Automated Vehicle Technologies" (press release, 28 August 2018).

3 The Tesla Team "Introducing Software Version 10.0" (26 September 2019) Tesla <www.tesla.com>. The "Smart Summon" feature allows the driver to summon or direct his or her car to a chosen destination without occupying the vehicle.

law should respond to their risks and capabilities. Part A entails an overview of the different levels of driving autonomy, which will construct a foundation for defining “driverless vehicles”. Part B will set out some assumptions clarifying the ambit of research for this article.

A Levels of driving autonomy

The label of an “autonomous vehicle” technically denotes a spectrum of automated driving capabilities. Thus, autonomous vehicles are an inhomogeneous category which encompasses varying levels of driving autonomy and human control over the vehicle’s behaviour.⁴ To enable categorisation within the broader class of autonomous vehicles, the independent Society of Automotive Engineers (SAE International) has constructed a taxonomy comprising six incremental levels (zero to five) of driving autonomy.⁵ Levels zero to two “driver support features” require a human in the driver’s seat to supervise the functioning of the vehicle.⁶ Common driver support features include blind spot warning (level zero), lane centring (level one) or concurrent lane centring and adaptive cruise control features (level two).⁷ SAE International provides (for non-legal purposes) that a human in the driver’s seat is “driving” the vehicle while such driver support features are engaged at these levels, even when the driver’s hands and feet are away from the controls.⁸ Levels three to five of driving autonomy comprise of “automated driving features” which allow greater independence of the vehicle’s movements.⁹ Level three features—for example, traffic jam chauffeuring—allow an autonomous vehicle to drive itself under limited conditions and only where all preordained conditions are met.¹⁰ At this level, the person in the driver’s seat must take over the vehicle’s driving function upon being requested to do so by the automated driving feature. Level four features (such as local driverless taxi services) also enable driverless operation conditional on the satisfaction of preset variables.¹¹ However, the human in the driver’s seat will never be requested to take over the driving function. Finally, level five features render autonomous vehicles capable of driverless operation in all conditions, without requiring a human to take over the driving function under any circumstance.¹² At levels three to five of driving autonomy, SAE International does not consider the human in the driver’s seat to be “driving” whilst these automated driving features are engaged (with the qualification that he or she must take over the driving function upon request of a level three feature). To the extent that these autonomous vehicles can be driven without any positive human effort, they may be appropriately characterised as being “driverless”.

Inevitably, there is a depth and diversity of issues spanning across the full spectrum of driving autonomy. A comprehensive discussion encompassing all of the relevant issues at

4 Damien O’Carroll and David Linklater “Car 101: the five Levels of autonomous driving” (22 August 2019) Stuff <www.stuff.co.nz>.

5 SAE International “Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles” (J3016_201806, 15 June 2018).

6 SAE International “SAE International Releases Updated Visual Chart for Its ‘Levels of Driving Automation’ Standard for Self-Driving Vehicles” (press release, 11 December 2018).

7 SAE International, above n 6.

8 SAE International, above n 6.

9 SAE International, above n 6.

10 SAE International, above n 6.

11 SAE International, above n 6.

12 SAE International, above n 6.

each and every level would be a gargantuan exercise, to the detriment of focusing on the legal substance of this topic. Therefore, this article will focus purely on vehicles equipped with level five features—that is, vehicles that are fully autonomous, herein referred to as “driverless vehicles”.

B Assumptions

Since most companies are still in the phase of researching and developing driverless vehicles at the time of writing, their exact capabilities are not completely certain. However, some basic assumptions about driverless vehicles will be made to clarify the parameters of this article.

(1) Absence of human control

The first assumption of this article reiterates the exclusive focus on level five driving autonomy. It will proceed on the basis that there is no action whatsoever required or expected of a human (if any) occupying the driverless vehicle to control its motions. Thus, the journey of the vehicle would have been no different if the human had acted differently in any way during his or her occupancy. A human being who occupies a driverless vehicle, including a person occupying the “driver’s seat”, will be herein referred to as a “passenger”.

(2) Improbability and disfavour of prohibition

The second assumption is that the continued existence of driverless vehicles is inevitable, and an outright prohibition on their continuance is not feasible due to social and commercial demand. It is argued that the development and widespread use of driverless vehicles will not be legally viable where they statistically cause more, or more severe, accidents than ordinary vehicles.¹³ As a result, their very existence is conditional on their social utility. This presents a strong prima facie reason to promote their acceptance and use.¹⁴ On the other hand, Michael Cameron suggests that whether or not driverless vehicles will have an overall net positive effect on society depends on how the law responds, since their benefits will not be inevitable.¹⁵ In any case, a prohibition of driverless vehicles by the New Zealand Government appears highly unlikely in the absence of any contrary empirical data. This is especially considering its active promotion of autonomous vehicle testing in New Zealand.¹⁶ For now, a progressive policy response appears generally favourable and it will be in the interest of the public for the law to adapt in order to accommodate for driverless vehicles.

13 Gary E Marchant and Rachel A Lindor “The Coming Collision Between Autonomous Vehicles and the Liability System” (2012) 52 Santa Clara L Rev 1321 at 1321.

14 Alexander Hevelke and Julian Nida-Rümelin “Responsibility for Crashes of Autonomous Vehicles: An Ethical Analysis” (2015) 21 Sci Eng Ethics 619 at 621.

15 Michael Cameron *Realising the Potential of Driverless Vehicles: Recommendations for Law Reform* (New Zealand Law Foundation, Wellington, 2018) at 3.

16 See, for example, Ministry of Transport *Intelligent Transport Systems Technology Action Plan 2014–18: Transport in the digital age* (May 2014) at 24.

(3) Programming limitations

The technological capabilities of driverless vehicles, however, are not without limits. Noah Goodall criticises the misconception that automated vehicles will never (or rarely) crash, and asserts the possibility that they harbour imperfect systems.¹⁷ In particular, collisions by autonomous robots may be caused by hardware failures, software bugs, perceptual errors or reasoning errors.¹⁸ Driverless vehicles are no exception to being vulnerable to these kinds of defects. This leads to the third assumption of this article: there is still a residual risk of defects in driverless vehicles which may eventuate prior to or following market release. Consequently, there is a possibility for driverless vehicles to malfunction despite the sophistication of their systems. That is, the risk of injury, death or endangerment of road users is not completely eliminated in the context of driverless vehicles. Where the defect is caused by the fault of a particular party, this will give rise to questions around liability—in some circumstances, criminal liability.

(4) The lack of moral agency of robots

Finally, this article will assume that a driverless vehicle itself is incapable of being recognised as a legal person or an eligible recipient of punishment. However, this article will take the opportunity to consider the perplexing case that there may be a future possibility of conceptualising robots as responsible moral agents. Since the concept of legal personhood is fictitious, it is not impossible to characterise sophisticated robots, such as driverless vehicles, as legal persons. The law is technically “a conventional tool of regulating social interactions and as such can accommodate various legislative constructs, including legal responsibility of autonomous artificial agents”.¹⁹ It is also of interest that corporations were once denied legal personhood but are now well established as legal persons. In the future, robots may be accredited with the same recognition in law. However, present ideologies seem distant from accepting robots as responsible moral agents.²⁰ This issue will need to be revisited when driverless vehicle software or other artificially intelligent machines become so sophisticated that their behaviour and decision-making transcends the responsibility of their creators. Such conceptual radicalisation seems distant in the future and no further discussion on the topic is necessary for the purposes of this article. For now, this article will proceed on the basis that robots are incapable of being morally or legally responsible agents and are, therefore, unworthy recipients of punishment.

III Reconceptualising Criminal Vehicular Liability

The promotion and protection of road safety has been a long-standing policy objective in the context of mobility and transport. At the time of writing, the LTA manifests this objective and forms the statutory source of most traffic related offences in New Zealand.

17 Noah J Goodall “Machine Ethics and Automated Vehicles” in Gereon Meyer and Sven Beiker (eds) *Road Vehicle Automation* (Springer, Cham (Switzerland), 2014) 93 at 94.

18 Thierry Fraichard and James J Kuffner Jr “Guaranteeing motion safety for robots” (2012) 32 *Auton Robot* 173 at 173.

19 Bartosz Brożek and Marek Jakubiec “On the legal responsibility of autonomous machines” (2017) 25 *Artif Intellig & L* 293 at 303.

20 At 302.

Similar to most countries, the existing vehicular offences under the LTA are constructed upon a traditional paradigm that the driver is a human being and the vehicle is an object that he or she operates.²¹ It follows that the current legal framework primarily places vehicular responsibility on the human driver. As a result, there are inherent incompatibilities in applying this framework to circumstances where the human in the driver's seat is a mere passenger who is passive to the driverless vehicle's behaviour. The current legislation's conceptualisation of criminal vehicular liability therefore cannot apply to modern driverless vehicles.

A Current attitudes to driverless vehicles in New Zealand

At the time of writing, New Zealand legislation does not require the presence of a human driver for a vehicle to operate lawfully on a public road.²² The Ministry of Transport recommends the submission of a safety management plan to the New Zealand Transport Agency (NZTA) prior to testing and lists matters that the plan should include.²³ The NZTA may then further ask for a demonstration of a test vehicle or safety management actions.²⁴ The Government promotes the lack of regulation and bureaucratic government structure as factors that render New Zealand an attractive test bed for driverless vehicles.²⁵ In fact, relevant testing of driverless vehicles has already begun in New Zealand. In 2017, Christchurch Airport, in conjunction with HMI Technologies, introduced New Zealand's first on-road research trial for a fully autonomous vehicle—a Smart Shuttle with the capacity to drive up to fifteen people and no steering wheel.²⁶ The Smart Shuttle transports passengers from the airport car park to the terminal at approximately 20 kilometres per hour. While such a shuttle is a small step towards an autonomous future of transport, New Zealand clearly has the potential and governmental support to be at the forefront of testing self-driving technologies. As a result, New Zealand is likely to become exposed to unprecedented legal issues pertaining to driverless vehicles in the near future.

As with many highly anticipated products that are yet to go to market, there may be some scepticism about how soon driverless vehicles will become available in the New Zealand market and whether there is any present need to prepare for their proliferation. To answer the latter question in the affirmative, it is entirely possible for legal questions around vehicular liability to arise during phases of on-road testing, even before the products go to market. On 18 March 2018, for instance, Elaine Herzberg died as a result of being struck by a driverless Uber test vehicle in Tempe, Arizona, which is believed to be the first recorded pedestrian death caused by a driverless vehicle.²⁷ While the investigation

21 Cesare Bartolini, Tamás Tettamanti and István Varga "Critical features of autonomous road transport from the perspective of technological regulation and law" (2017) 27 *Transportation Research Procedia* 791 at 794.

22 Ministry of Transport "Te Hōtaka Mahi mō ngā Waka Motuhake: Autonomous Vehicles Work Programme" <www.transport.govt.nz>.

23 Ministry of Transport "Testing autonomous vehicles in New Zealand" <www.transport.govt.nz>.

24 Ministry of Transport, above n 23.

25 Ministry of Transport, above n 16, at 24.

26 Christchurch Airport "New Zealand's first Smart Shuttle unveiled in Christchurch" (26 January 2017) <www.christchurchairport.co.nz>.

27 Daisuke Wakabayashi "Self-Driving Uber Car Kills Pedestrian in Arizona, Where Robots Roam" *The New York Times* (online ed, New York, 19 March 2018); and see also National Transportation Safety Board *Preliminary Report: Highway HWY18MH010* (24 May 2018) at 1.

into Herzberg's death did not lead to any prosecution,²⁸ it emphasises the need to explore questions around the legal implications of driverless vehicles even before they reach the market. It is strongly desirable that the New Zealand criminal law anticipates incidents involving driverless vehicles and mitigates the unique uncertainties germane to criminal liability in these situations.

B A modern approach: exculpating human passengers

The paradigmatic shift, from the user as the primarily responsible agent for driving a vehicle to a passive occupant in a driverless vehicle, requires parliamentary consideration. The counterpart to a passenger's absence of responsibility for the vehicle's behaviour is that he or she is not blameworthy in the event that it causes injury, death or risk thereof. However, the LTA was not drafted at a time when driverless vehicles were within the contemplation of Parliament. As driverless vehicle services and products become more accessible, it will be imperative for Parliament to reconceptualise vehicular liability and amend current legislation. In the absence of timely action, the current approach to criminal vehicular liability will fall further outmoded and become increasingly difficult for courts to apply. Further, without parliamentary efforts to refine the scope of existing offence provisions, driverless vehicle passengers may face inappropriate and disproportionate criminal sanctions.

The LTA contains most vehicular offences in New Zealand and intends to place liability on a human driver based on orthodox notions of vehicular liability.²⁹ Admittedly, it is possible to interpret some offences under the LTA as only applying to drivers of ordinary vehicles, not to passengers of driverless vehicles. These offences rely on terms such as "driver" and, as such, do not comfortably apply to driverless vehicle passengers.³⁰ Nonetheless, this is highly contestable and requires statutory clarification. The definition of a "driver" in s 2 of the LTA is largely unhelpful in ascertaining whether this class of persons include a driverless vehicle passenger.³¹ This is because the definition does not clearly provide any distinction between a "driver" controlling the movements of a traditional vehicle and a "driver" who is merely being transported by a driverless vehicle.

Other offence provisions are more ambiguous, owing to their use of more contentious terms such as "operator" or reference to persons who "[cause] a motor vehicle to be driven".³² Section 35(1) of the LTA, for instance, applies to a person who "operates a motor vehicle recklessly on a road",³³ or "drives or causes a motor vehicle to be driven" in a dangerous manner.³⁴ The former offence of reckless driving has been drafted in a conceivably broader manner than the latter, being dangerous driving. This potentially exposes driverless vehicle passengers to indictment for the offence of reckless driving,

28 David Shepardson and Heather Somerville "Uber not criminally liable in fatal 2018 Arizona self-driving crash: prosecutors" (6 March 2019) Reuters <www.reuters.com>.

29 Cameron, above n 15, at 134.

30 At 101–102.

31 Land Transport Act 1998, s 2(1) definition of "driver". In this definition, a "driver, in relation to a vehicle, includes the rider of the motorcycle or moped or bicycle; and drive has a corresponding meaning" (emphasis omitted).

32 Section 35(1). See also, s 2(1) definition of "operate". In this definition, "*operate*, in relation to a vehicle, means to drive or use the vehicle on a road, or to cause or permit the vehicle to be on a road or to be driven on a road, whether or not the person is present with the vehicle; and *operator* has a corresponding meaning" (emphasis omitted).

33 Section 35(1)(a).

34 Section 35(1)(b).

especially given that the “use [of] the vehicle on a road” is a part of the broader definition of “operate”.³⁵ Inconsistently, the offences of reckless or dangerous driving that involves injury may only be perpetrated by a person who “drives or causes a motor vehicle to be driven”.³⁶ Nonetheless, driverless vehicle passengers may technically be charged for “[causing] a motor vehicle to be driven”.³⁷ Cameron criticises that the driving related offences under the LTA appear to somewhat randomly allocate terminology across the relevant provisions.³⁸ This results in “something of a lottery” as to which offences may extend in ambit to driverless vehicle passengers.³⁹ It appears evident that the LTA will require amendment to restrict the possibility of undue conviction for driverless vehicle passengers. Conviction of undeserving recipients has been described as “moral defamation by the state”, violating the “moral right [of individuals] not to be censured falsely as criminals” or to be “punished as a criminal without having perpetrated culpable wrongdoing”.⁴⁰ Thus, the over criminalisation of driverless vehicle passengers due to the current scope of the LTA will potentially abrogate individual rights in New Zealand.

IV Determining the Need for Criminal Liability of Manufacturers

A corollary question is whether, in situations where driverless vehicles cause harm, criminal punishment should be administered upon a recipient other than the passenger. Manufacturers of driverless vehicles may be culpable actors to whom liability should be attributed. This is in cases where, as a result of a manufacturer’s gross negligence (or some greater fault element), a driverless vehicle causes harm, injury or risk thereof. There is academic recognition that imposition of criminal liability may be appropriate for driverless vehicle manufacturers in certain situations.⁴¹ Since passengers have no control or capability of intervention in emergency situations, it will be crucial that manufacturers take utmost care to circumvent any avoidable risk of danger. The ramifications of their gross negligence could be serious harm (including death) and violate the right to safety of others. This demands a mechanism to deter any corporate malfeasance of driverless vehicle manufacturers. Such a mechanism may fall within the criminal justice system or otherwise be executable through alternative non-criminal measures. This Part will ultimately advocate that manufacturers should be held criminally liable where, as a cause of gross negligence, a driverless vehicle deployed by them causes serious harm, or risk of such harm, to other road users.

A Potential for manufacturers to cause harm

Cameron notes that “[driverless vehicle] manufacturers will invariably be corporate entities”.⁴² These manufacturers endeavour to develop and represent their vehicles as

35 Section 2(1) definition of “operate”; and *Police v Purser Asphalts & Contractors Ltd* [1990] 1 NZLR 693 (HC) at 695, which provided that “‘use’ in relation to a vehicle includes permitting [it] to be on any road”.

36 Section 36(1).

37 Section 36(1).

38 Cameron, above n 15, at 103.

39 At 102.

40 A P Simester and Andreas von Hirsch *Crimes, Harms, and Wrongs: On the Principles of Criminalisation* (Hart Publishing, Oxford, 2011) at 20.

41 See, for example, Cameron, above n 15, at 103–105.

42 At 157.

having completely autonomous driving capabilities. While this absolves the human passenger of accountability, it should place heightened responsibility on corporations to manufacture driverless vehicles that do not pose a danger to others. Manufacturers are, of course, capable of acting irresponsibly. For example, one San Francisco motorcyclist brought an action against General Motors LLC claiming that a Chevrolet Bolt engaged in self-driving mode swerved into the lane he was in during an attempt to pass the vehicle.⁴³ The claimant filed a negligence suit in the United States District Court for the Northern District of California and counsel for both parties eventually reached a full settlement.⁴⁴ The separate incident of Herzberg's death following a collision with a driverless test vehicle in Arizona did not lead to Uber facing any charges—the human safety driver also did not face charges.⁴⁵ However, Bryant Walker Smith, who is a law professor researching automated driving systems, opines that this did not place the company's conduct "beyond criticism" and was unconvinced that it clarified "the criminal, much less civil, liability of automated driving developers in future incidents".⁴⁶ While there have not yet been any incidents involving level five driverless vehicles at the time of writing, it is not difficult to hypothesise various ways in which a driverless vehicle may cause harm upon reflection of these experiences in the United States. For instance, Ivó Coca-Vila considers the hypothetical quandary where:⁴⁷

[a]s the result of a sudden brake failure, a [driverless] car can only save the life of its sole [passenger] by forcing the car onto the pavement where a [pedestrian] is walking, who will certainly die from the crash.

In this scenario, if the manufacturer is found to be blameworthy for the brake failure, it should reasonably be held to account. This article therefore submits that there must be some safeguard to deter corporate malfeasance which may be the cause of a sudden brake failure or some other malfunction in a driverless vehicle. At this point, it is logical to question whether such deterrence should be pursued through the criminal justice system or an alternative mechanism.

B *Analysis of alternative mechanisms*

The criminal law is a powerful apparatus. It generally proscribes harmful conduct, which is in the public interest to prevent and prosecute, or otherwise conduct that is considered an intrinsic moral wrong.⁴⁸ Not all forms of wrongdoing fall within the criminal domain, nor should they. There is a counteracting need for tolerance to buttress the cardinal right of individual autonomy which lies at the core of any liberal society.⁴⁹ There are thus moral limits to criminalisation. The criminal law should only circumscribe the right to freedom of

43 LexisNexis "Motorcyclist And GM Settle Action Involving Collision With Self-Driving Car" (29 June 2018) <www.lexisnexis.com>.

44 LexisNexis, above n 43.

45 Wakabayashi, above n 27.

46 Laurel Wamsley "Uber Not Criminally Liable In Death Of Woman Hit By Self-Driving Car, Prosecutor Says" (6 March 2019) North Country Public Radio <<http://northcountrypublicradio.org>>.

47 Ivó Coca-Vila "Self-driving Cars in Dilemmatic Situations: An Approach Based on the Theory of Justification in Criminal Law" (2018) 12 CLPH 59 at 62.

48 A P Simester, W J Brookbanks and Neil Boister *Principles of Criminal Law* (5th ed, Thomson Reuters, Wellington, 2019) at 2–3.

49 At 8.

choice and self-determination to the extent that there is legitimate reason for doing so. Corporations are generally entitled to basic rights (such as freedom of expression), which the criminal law should not readily disturb. This demands an investigation into whether there is legitimate reason for imposing criminal liability on manufacturing companies. To answer this question, it is necessary to consider alternative mechanisms for governing corporate behaviour which produces harmful consequences. The Legislation Design and Advisory Committee stresses that criminal offences should not be created as a default response to promote legislative compliance.⁵⁰ Criminalisation must be viewed as a residual, rather than preliminary, option for systemic response. As such, this Part will consider whether corporate malfeasance could be adequately addressed without state intervention, via non-criminal state measures or through civil remedies.

(1) Without state intervention

There is an argument that the risk of consumer backlash in and of itself is a sufficiently large market incentive for manufacturers to take due care in product development.⁵¹ In this respect, volatility of consumer attitudes towards unfamiliar, cutting-edge products such as driverless vehicles form a natural deterrent for corporate malfeasance. However, this depends entirely on there being a collective market response to a sufficient and punitive degree. Consumer backlash is thus irresolute as a standalone mechanism and must be supplemented by some form of intervention.

(2) Non-criminal state measures

Admittedly, most behaviour which may pose a risk to public safety is governable through non-criminal mechanisms superintended by the state. The most obvious avenue is to introduce regulation for manufacturers of driverless vehicles. At the time of writing, however, New Zealand does not have an appropriate regulatory regime for this purpose and issues around driverless vehicles fall within the ambit of the LTA. In recent years, there has been recognition for the need to introduce regulation in New Zealand to clarify the applicable rules.⁵² Comparatively, regulation has already been implemented overseas, including by state jurisdictions in the United States to regulate autonomous vehicle testing.⁵³ Regulation is desirable—however, a detailed discussion on the necessary extent of regulation is not within the remit of this article. The relevant question is whether there is a need for any state intervention beyond that which is regulatory or otherwise extraneous to the criminal sphere.

A preliminary point of reference is the current existence of criminal offences, enacted for the purpose of promoting road safety. The LTA contains vehicular offences which are rudimentary indications of Parliament's intention to instate criminal intervention for this purpose. Where manufacturers are grossly negligent and thereby develop a defective driverless vehicle, or fail to rectify the defect, they are capable of causing the same ramifications of injury, death or risk thereof, as individual drivers. From a purely consequentialist view, there is no basis for Parliament to treat driverless vehicle

50 Legislation Design and Advisory Committee *Legislation Guidelines: 2018 Edition* (March 2018) at 112.

51 Cameron, above n 15, at 108.

52 See, for example, Cameron, above n 15.

53 See, for example, Dentons *Autonomous Vehicles: US Legal and Regulatory Landscape* (August 2019).

manufacturers with any more lenience than human drivers, given that they are equally capable of causing the same consequences for which criminal liability is imposed by the State. As Cameron points out, no liability when a driverless vehicle performs an action that would constitute an offence if a driver was present “is essentially a decision to legalise that action”.⁵⁴ It would thus appear consistent with existing laws to impose criminal liability on manufacturers that cause serious harm or risk of harm as a result of gross negligence or some greater element of fault. Prima facie, there are good reasons to advocate for criminal liability being auxiliary to an appropriate regulatory regime for driverless vehicle manufacturers.

Beyond the existing state of the law, support for this recommendation can be found in applying the economic theory of deterrence. This theory assumes that, in deciding whether to commit a crime or not, a party will either implicitly or explicitly undertake a cost-benefit analysis of their behaviour.⁵⁵ Application of this theory is especially pertinent in the corporate context, given that “corporate decisions are [largely] driven by cost-benefit analysis rather than social responsibility”.⁵⁶ Anthony Ogus notes that “there is empirical evidence that loss of market reputation following [a conviction] may [constitute] a greater consequence ... than the penalty imposed” for contravention of a regulation.⁵⁷ It follows that criminal censure increases the likelihood of utility derived from the culpable conduct being outweighed by its costs, and the conduct being so prevented. The stigmatisation created by criminal censure arguably constitutes an even more potent deterrent where the offender is a corporation, given that there are further consequential effects which may even result in their existential downfall. The logic is intuitive—most companies are profit-oriented and profitability is conditional on market demand. As alluded to earlier, where the market reaction to a company conviction is of a sufficient gravity to deprive demand and profit, the corporation may even face the risk of bankruptcy.

A subsequent effect of a criminal conviction is that it taints the goodwill of the company and hinders its access to debt (due to their increased risk profile) and equity investments (due to a decrease in valuation). As decision-making bodies, companies are likely to weigh these costs heavily against any utility derived from their misconduct. Given that these consequences are significantly less for any contravention of regulation, and that deterring public harm is of utmost importance, this article submits that regulation without a criminal supplement is inadequate.

(3) Civil remedies

Intervention using the civil law as a means to regulate certain activity is “less coercive than the criminal justice process”.⁵⁸ There will, of course, be various situations that may give rise to an action in tort against a driverless vehicle manufacturer. Some matters could also be mitigated by a requirement of mandatory insurance. However, this does not exclude the possibility of imposing criminal liability. There is also a practical advantage of

54 Cameron, above n 15, at 108–109.

55 Anthony Ogus “Regulation and its relationship with the criminal justice process” in Hannah Quirk, Toby Seddon and Graham Smith (eds) *Regulation and Criminal Justice: Innovations in Policy and Research* (Cambridge University Press, Cambridge, 2010) 27 at 31.

56 Mary Kreiner Ramirez “The Science Fiction of Corporate Criminal Liability: Containing the Machine Through the Corporate Death Penalty” (2005) 47 ACJ 933 at 935 (footnotes omitted).

57 Ogus, above n 55, at 32.

58 Simester, Brookbanks and Boister, above n 48, at 1024.

implementing criminal offences for wrongdoing. The costs of bringing a private action are borne by the individual claimant while the state pays the costs of investigation, prosecution and punishment and hence “may be better placed to regulate wrongs”.⁵⁹ Moreover, situations involving injury or death by a driverless vehicle will almost always involve an individual claimant and a corporate defendant, which implicitly manifests an imbalance of financial and litigious power. The aforementioned intentions of Parliament manifested by existing offences and effects of criminal censure are also relevant to this analysis. Of course, these considerations do not apply where an accident causes injury that is covered by the accident compensation scheme, as proceedings for compensatory damages will be barred in these situations.⁶⁰ Nonetheless, while civil remedies and insurance mitigate loss or damage caused by driverless vehicles in certain circumstances, they cannot be relied on for adequate protection of road users in every situation. For example, they may be inadequate where the harm arises due to the manufacturer’s gross negligence or serious malfeasance and such harm is not covered under the accident compensation scheme.

(4) Other considerations

There is an argument that exposing driverless vehicle manufacturers to criminal liability would discourage companies from testing in or distributing to New Zealand. However, this article reconciles that the imposition of criminal liability and the promotion of driverless vehicles in New Zealand are not necessarily paradoxical. Rather, the two may be viewed as synergistic—the criminal law should act as a backstop for activities relating to driverless vehicles in which manufacturers are encouraged to undertake in New Zealand. In any case, if driverless vehicles prove to be as curative for existing road safety concerns as manufacturers promise, criminal intervention will rarely be relied on in practice. This is not to say that the imposition of criminal liability would be redundant. To the contrary, it may arguably quell consumer concerns and in fact motivate consumption. In any case, Parliament should take a relatively risk-averse stance where public safety is concerned. A balance must be achieved between promoting driverless vehicles for their potential to eliminate accidents and the risk of malfeasant manufacturing corporations from causing harmful consequences.

In summary, there are legitimate and convincing reasons for imposing criminal liability on manufacturers in situations of serious wrongdoing. Such imposition of criminal liability will necessarily augment the efficacy achieved through other forces in the market, regulatory and civil realms, and preserve the fundamental importance of public safety.

V Challenges to Corporate Criminal Liability

The current legislative landscape in New Zealand recognises the potential for corporations such as driverless vehicle manufacturers to cause harmful consequences. There are very few crimes for which a company is incapable of being convicted.⁶¹ However, there are still gaps in the ability to prosecute and punish driverless vehicle manufacturers. As products deployed by companies become increasingly intelligent and independent of user control,

59 At 1025.

60 Accident Compensation Act 2001.

61 Simester, Brookbanks and Boister, above n 48, at 286.

these gaps will only become more conspicuous and problematic. It is not enough to determine that there is a need to hold manufacturing corporations accountable through the criminal law—the discussion must go further to question how their liability should be attributed, the procedural avenues for conviction and any appropriate forms of punishment for implementing a truly deterrent effect. If manufacturing corporations are to be properly deterred from building a culpable corporate culture, there must be a proper apparatus to give effect to this purpose. The major difficulties that these questions attract stem from the fictitious nature of corporations. Part A will address the shortfalls of existing models for identifying corporate criminal liability and favour the approach adopted in Australia. Part B will specifically address the absence of a procedural avenue to prosecute a driverless vehicle manufacturing company for manslaughter. Part C will inquire into the effectiveness of various forms of punishment in deterring corporate wrongdoing.

A Models for corporate criminal liability

There are some existing offences for which driverless vehicle manufacturers (and corporations in general) may be convicted. Under s 156 of the Crimes Act 1961, a manufacturer likely has a duty to take reasonable precautions against and to use reasonable care to avoid danger, being a legal person who “makes ... anything whatever, which, in the absence of precaution or care, may endanger human life”. Where a manufacturer omits to discharge this duty, and knew such omission “would endanger the lives, safety, or health of the public”, it may be held liable for criminal nuisance under s 145 of the Crimes Act.⁶² Despite these existing avenues for prosecution, there are some inherent difficulties in identifying the requisite actus reus and mens rea of a corporate offender to achieve a successful conviction.

Corporations are fictitious creatures of the law. The separate legal personhood of companies has long been upheld by the courts.⁶³ This principle is now enshrined in statute.⁶⁴ Companies are capable of being held liable insofar as the law does not preclude corporate liability. However, it appears that the common law, within both the civil and criminal jurisdictions, has grappled with the concept of corporate criminal liability. The major difficulties stem from the fact that corporations, unlike natural persons, lack any physiological anatomy. This creates challenges in identifying the actions and state of mind of a corporate offender to satisfy the prescribed ingredients of a particular offence. To give a brief summary of the existing models of corporate criminal liability, there are two doctrines: vicarious liability and the identification approach.

(1) Vicarious liability

Under the vicarious liability approach, the actus reus and mens rea of an individual acting in the scope of his or her employment is attributed to the corporation. The corporate defendant therein bears liability on behalf of the individual. However, vicarious liability has generally been rejected at common law on the basis that a principal should not be deemed

62 Note that the wording of s 145 of the Crimes Act 1961 does not preclude conviction of corporations. See *Parkin v Tararua District Council*[2004] DCR 882, wherein both the Tararua District Council and the contracting company were found guilty of criminal nuisance. See also *Osborne v Worksafe New Zealand*[2017] NZSC 175, [2018] 1 NZLR 447 at [12].

63 *Salomon v A Salomon and Co Ltd*[1897] AC 22 (HL); and *Lee v Lee's Air Farming Ltd*[1961] NZLR 325 (PC).

64 Companies Act 1993, s 15.

criminally liable for an offence committed by its agent. The common law established that an individual “must each answer for their own acts, and stand or fall by their own behaviour”.⁶⁵

(2) Identification approach

The identification approach seeks to identify a form of direct corporate liability (as opposed to holding a principal vicariously and indirectly liable). This approach has its origins in the judgment of Viscount Haldane LC in the civil case of *Lennard's Carrying Co Ltd v Asiatic Petroleum Co Ltd*, which considered a person who is “the directing mind and will of the corporation” as embodying the corporation itself.⁶⁶ Underlying this doctrine, however, is the implication that the individual classified as the “directing mind and will of the company” must be of high seniority, if not a director.⁶⁷ A major issue with this approach is that it would exclude criminal liability where the fault is identified at a lower level in the hierarchy, regardless of the culpability of the activity or gravity of the consequences. In New Zealand, this strictness has been mitigated by the judgment of Lord Hoffman in *Meridian Global Funds Management Asia Ltd v Securities Commission* which effectively broadened the class of persons identifiable as the “directing mind and will” of the company to more junior employees.⁶⁸ There are, however, still inherent difficulties in taking the actions and state of mind of one individual within a company as constituting that of the company itself. It rejects the reality that it is not the decision-making of one person (however senior) but the efforts of many individuals that comprise the actus reus and mens rea of the company. The contemporary corporate form is an amalgamation of “a complex fabric of human actors”, as well as “corporate hierarchies, structures, policies and attitudes”.⁶⁹ Larger companies such as most driverless vehicle manufacturers will necessarily be segmented, as different components of a product may each require specialised expertise. The identification approach is thus inappropriate. A modern framework for attributing corporate fault must transcend the notional perspective that the actions and mental state of any one authorised agent can properly be taken as that of the corporation.

(3) Recommendation: an approach built on corporate culture

In the late 20th century, legal scholarship progressed to form an alternative body of thought—that a corporation is capable of intent, and that this “can be found in criminogenic corporate cultures”.⁷⁰ This realist view of corporate entities recognises that the traditional identification approach is facile, the modern truth being that the actions of a company’s human agents or employees always occur within a complex corporate matrix.⁷¹ That matrix may comprise of common complexities such as departmentalisation,

65 *R v Huggins* (1730) 2 Strange 883 at 885, 93 ER 915 (KB) at 917 per Raymond CJ as cited in Simester, Brookbanks and Boister, above n 48, at 279.

66 *Lennard's Carrying Co Ltd v Asiatic Petroleum Co Ltd* [1915] AC 705 (HL) at 713. See also *Tesco Supermarkets Ltd v Natrass* [1972] AC 153 (HL).

67 Meaghan Wilkinson “Corporate Criminal Liability – The Move Towards Recognising Genuine Corporate Fault” (2003) 9 *Canta LR* 142 at 154.

68 *Meridian Global Funds Management Asia Ltd v Securities Commission* [1995] 3 NZLR 7 (PC).

69 Megan Donaldson and Rupert Walters “Corporate Culture” as a Basis for the Criminal Liability of Corporations (Allens Arthur Robinson, February 2008) at 1.

70 Wilkinson, above n 67, at 143.

71 Donaldson and Walters, above n 69, at 1.

outsourcing and individual secondments. Where an organisation's ethos or personality encourages agents to commit criminal acts, blameworthiness can be more legitimately attributed to the company. A firm's hierarchy, corporate goals and policies, as well as their efforts to ensure compliance with ethics codes and legal regulations can be evidence of such ethos or character.⁷² Larger companies, such as those that manufacture driverless vehicles, will certainly manifest these internal system practices. Several jurisdictions have now incorporated an organisational approach to corporate criminal liability which ameliorates some of the practical and conceptual difficulties with the vicarious liability and identification doctrines. Australia, in particular, has put into legislative effect the holistic framework for criminalising an organisation's culpable corporate culture.

(a) Australia

In Australia, pt 2.5 of the Criminal Code Act 1995 (the Code) manifests a radical shift in corporate criminal liability towards a framework which recognises independent corporate fault by applying any offence, including those punishable by imprisonment.⁷³ The Code incorporates the doctrine of vicarious liability, but restricts its application to the actus reus component.⁷⁴ The provisions related to the mens rea element are divided between two sections and reflect a holistic approach to identifying organisational fault. Section 12.3 of the Code attributes the advertent fault elements of intention, knowledge or recklessness to a corporation that "expressly, tacitly or impliedly authorised or permitted the commission of the offence".⁷⁵ The section also provides a non-exhaustive list of means by which authorisation or permission may be established, two of which are centred on the idea of corporate culture and fault at an organisational level.⁷⁶ Specifically, the necessary authorisation or permission may be demonstrated by "proving that [the company's] corporate culture ... directed, encouraged, tolerated or led to non-compliance with the relevant provision",⁷⁷ or "that the [company] failed to create and maintain a corporate culture that required compliance with the relevant provision".⁷⁸ This recognises that, while "a corporation does not have a [human] 'mind'", it is capable of manifesting intention through its "organisational processes, which can be interpreted and assessed".⁷⁹

Section 12.4 of the Code further allows a body corporate to meet the fault element of negligence even where "no individual employee, agent or officer of the [company]" can be proven to have been negligent.⁸⁰ In such circumstances, negligence may still exist on the part of the company if its "conduct is negligent when viewed as a whole (that is, by

72 Pamela H Bucy "Corporate Ethos: A Standard for Imposing Corporate Criminal Liability" (1991) 75 Minn L Rev 1095 at 1101.

73 Criminal Code Act 1995 (Cth), s 12.1(2).

74 Section 12.2.

75 Section 12.3(1).

76 Section 12.3(2). See also s 12.3(6) definition of "corporate culture": "corporate culture" is defined as "an attitude, policy, rule, course of conduct or practice existing within the body corporate generally or in the part of the body corporate in which the relevant activities takes place".

77 Section 12.3(2)(c).

78 Section 12.3(2)(d).

79 Tahnee Woolf "The Criminal Code Act 1995 (Cth) - Towards a Realist Vision of Corporate Criminal Liability" (1997) 21 Crim LJ 257 at 263.

80 Criminal Code Act 1995 (Cth), s 12.4(2)(b).

aggregating the conduct of any number of its employees, agents or officers)".⁸¹ The section further provides that:⁸²

Negligence may be evidenced by the fact that the prohibited conduct was substantially attributable to:

- (a) inadequate corporate management, control or supervision of the conduct of one or more of its employees, agents or officers; or
- (b) failure to provide adequate systems for conveying relevant information to relevant persons in the [company].

This again places a clear emphasis on organisational conduct and promotes "examination of whether the corporation's practices and procedures have contributed ... to the commission of [an] offence".⁸³ Overall, the corporate criminal liability framework in Australia mitigates some of the issues by imputing mens rea under the vicarious liability and identification models, and clarifies how the actus reus element should be derived. This allows a substantive approach to holding corporations, such as driverless vehicle manufacturers, accountable for genuine (rather than derivative) corporate fault and to deter corporate wrongdoing of an organisational nature.

(b) United Kingdom

Comparatively, the identification doctrine remains the cornerstone of corporate criminal liability in the United Kingdom. However, organisational liability is woven into specific criminal offences, such as the Corporate Manslaughter and Corporate Homicide Act 2007 (UK).⁸⁴ Notably, the offence of corporate manslaughter in the United Kingdom is not centred on a model of culpable corporate culture. A company is guilty of this offence "only if the way in which its activities are managed or organised by its senior management is a substantial element" of a gross breach of a relevant duty of care which causes death.⁸⁵ The corporate manslaughter offence in the United Kingdom is thus based on a separate concept of management failure. That said, such a formulation did not result from substantive opposition of the corporate culture approach to corporate criminal liability. In response to the draft Corporate Manslaughter Bill (published on March 2005) and on examination of management failure as the basis for the proposed manslaughter offence, the Home Affairs and Work and Pensions Committees (the Committees) commented that some witnesses preferred the Australian model for attributing liability.⁸⁶ The Committees ultimately took a pragmatic approach, recognising that it was probably too late to consider an entirely new model, such as one based on corporate culture, since management failure had been the basis of proposals for a statutory offence of manslaughter in the United Kingdom since 1996.⁸⁷ However, the final Corporate Manslaughter and Corporate Homicide Act did incorporate the Committees' recommendation to allow corporate culture as a permissible factor for jury consideration when determining the question of

81 Section 12.4(2).

82 Section 12.4(3).

83 Wilkinson, above n 67, at 174 (emphasis omitted).

84 Donaldson and Walters, above n 69, at 18.

85 Corporate Manslaughter and Corporate Homicide Act 2007 (UK), s 1(3).

86 Home Affairs and Work and Pension Committees *Draft Corporate Manslaughter Bill: First Joint Report of Session 2005-06* (House of Commons, HC 540-I, December 2005) at [125] as cited in Donaldson and Walters, above n 69, at 19.

87 See generally Home Office *Draft Corporate Manslaughter Bill* (Cm 6755, March 2006).

whether there was a gross breach of negligence.⁸⁸ Thus, the Corporate Manslaughter Act, while not itself based on organisational liability, does not preclude a framework based on culpable corporate culture for substantive reasons but, rather, encourages consideration of corporate culture which may contribute to fault.

(c) Reform in New Zealand

Several jurisdictions have now incorporated statutory recognition of the need to modify certain aspects of imposing corporate criminal liability.⁸⁹ This article submits that New Zealand should consider the statutory incorporation of an organisational approach to corporate criminal liability, similar to that manifested in the Criminal Code Act 1995 of Australia. The identification approach to corporate criminal liability falls short of recognising the modern complexities of corporations and their capability of being a primary, albeit aggregate, actor of moral fault rather than a mere derivative recipient of punishment. The issue of identifying corporate criminal liability will become extremely relevant (though not unique) to cases where driverless vehicle manufacturers cause harmful consequences as a result of corporate wrongdoing. Parliamentary consideration of incorporating such a model for punishing and deterring genuine corporate fault is particularly desirable in light of the potential for large companies, such as driverless vehicle manufacturers, to cause serious public harm.

B *Corporate manslaughter*

Part A examined the difficulties in applying models for attributing corporate criminal liability even where existing statutory offences allow prosecution of companies. Contemporaneously, however, there may be no adequate prosecutorial avenue to hold corporations accountable for certain culpable conduct. In particular, corporations cannot be convicted of manslaughter under s 160 of the Crimes Act. In the context of driverless vehicles, the absence of any primary offence of manslaughter committed by a human agent creates further novel issues in respect of party liability under s 66 of the Crimes Act.

(1) Liability as principal

A manufacturer is barred from being charged for a culpable homicide under s 160 of the Crimes Act. A charge of culpable homicide, being either manslaughter or murder, must first meet the definition of a homicide, which is the “killing of a human being by another”⁹⁰ by natural persons. This was unequivocally confirmed by the Court of Appeal in *The Queen v Murray Wright Ltd*, which emphasised that the “human being” requirement prevents a company from being liable as a primary offender for culpable homicide.⁹¹ Alternatively, it is unlikely that a manufacturing company may be prosecuted under s 36AA of the LTA, a specific homicide offence pertaining to reckless or dangerous driving, because a manufacturer is unlikely to be a “person” who “drives or causes a motor vehicle to be driven”.⁹²

88 Corporate Manslaughter and Corporate Homicide Act 2007 (UK), s 8(3).

89 See, for example, the Criminal Code Act 1995 (Cth), s 12.1(1).

90 Crimes Act, s 158.

91 *The Queen v Murray Wright Ltd* [1970] NZLR 476 (CA) at 482–483.

92 Traditionally, prosecutors have tended to rely on convicting corporates as a party to a manslaughter offence.

(2) Liability as a party

McCarthy J in *Murray Wright Ltd* considered it possible to convict a corporation as a party “in reliance upon s 66 [of the Crimes Act for] aiding, abetting, inciting, counselling or procuring the offence of manslaughter”.⁹³ A company may be found guilty as a party to an offence committed by an individual as the wording of s 66 does not limit its application to natural persons. In *Regina v Robert Millar (Contractors) Ltd*, the defendant company was convicted of “counselling and procuring the [death] by dangerous driving” of six occupants of a car which was struck by a truck owned and operated by the company.⁹⁴ While s 66 thus provides a possible avenue for convicting a corporation as a party which counsels or procures manslaughter, this is implicitly conditional on the conviction of a primary offender. The critical issue in a situation where a driverless vehicle causes death is that there is no primary offender whose manslaughter the manufacturing company could have counselled or procured—the human passenger is innocent and the driverless vehicle itself is ineligible as a recipient of punishment. This eliminates any procedural avenue to hold companies criminally accountable even where they cause death by an unlawful act or omission.

(3) Recommendation: introduction of a corporate manslaughter offence

In extreme circumstances where a driverless vehicle malfunction is caused by the manufacturer’s unlawful act or omission, thereby resulting in the death of a third party, there should be grounds to prosecute the company as a principal offender of manslaughter. As discussed earlier, there is no longer a convincing basis for treating corporations of being any less capable of manifesting fault or causing death as a result of their misconduct. Separate offences of corporate manslaughter have already been introduced in other Commonwealth jurisdictions such as the United Kingdom and Australia. New Zealand’s lack of a corporate manslaughter offence renders it somewhat of a Commonwealth anomaly. While the Government has previously alluded to introducing such an offence in light of rising work-related deaths and following the collapse of the Christchurch Television building during the 2011 earthquake,⁹⁵ there has largely been inaction. Major reform deserves consideration in New Zealand, given that “the current barrier to [corporate] liability as principal for homicide is anachronistic and out of step with the law in other jurisdictions”.⁹⁶ Simester, Brookbanks and Boister appear to encourage cogitation of corresponding reform in New Zealand.⁹⁷

There is no obvious reason why a company should avoid liability as a principal on a charge of manslaughter. Indeed, the potential for serious injury and death that may be caused by negligent and wilful corporate activity powerfully supports amending the law to allow such prosecutions to proceed. Concern about the need to establish a corporate “safety culture”

93 *Murray Wright Ltd*, above n 91, at 485.

94 *Regina v Robert Millar (Contractors) Ltd* [1970] 2 QB 54 (CA) at 54 as cited in Simester, Brookbanks and Boister, above n 48, at 286–287.

95 Matthew Theunissen “Govt considering introducing corporate manslaughter law to enable CTV prosecution” *The New Zealand Herald* (online ed, Auckland, 1 December 2017).

96 Simester, Brookbanks and Boister, above n 48, at 287.

97 At 287 (footnotes omitted).

and the emerging view that corporations should be culpability-bearing agents in their own right, as implied in the notion of personal corporate liability, has led to major reform in the United Kingdom that deserves consideration in New Zealand.

For these reasons, this article recommends the introduction of a corporate manslaughter offence in New Zealand. The advocacy for such an offence is not necessarily unique to the context of driverless vehicle manufacturers, but broadly addresses the escalating need to safeguard individuals from the extent of harm that companies are capable of inflicting. There is an increasingly urgent need to restrict powerful corporations in order to protect citizens from the dangerous consequences of such corporations misusing, or carelessly using, their power.⁹⁸ The expanding ascendancy of corporations is only exacerbated by the advancement of technologies which enable products such as driverless vehicles to operate autonomously outside the bounds of user control. As these products become prevalent in society, New Zealand must seriously consider how the law should adapt to the changing power relationships between corporates and consumers. The ability to create and sell products that have the potential to autonomously cause death urges Parliament to re-evaluate a modern approach to preserving public safety. This article therefore contends that major reform should be considered in New Zealand to render corporations as agents capable of bearing culpability in their own right.⁹⁹

C Punishment

The final issue in respect of holding driverless vehicle manufacturers criminally liable is one that arises *ex post* conviction: what is the appropriate form of punishment to be prescribed to a guilty corporation?

(1) Theories of criminal punishment

There are two broad theories for the imposition of criminal punishment. The first is the retributivist notion that certain behaviour is inherently immoral and therefore deserving of punishment. The second is the consequentialist view that the criminal law administers punishment to produce favourable consequences by preventing or deterring undesirable behaviour.¹⁰⁰ The imposition of most vehicular offences and corresponding punishment generally builds on a *fortiori* consequentialist justifications, although where a person is responsible for serious harm or death, punishment will likely be justified by retributive desert.¹⁰¹ Even so, there would ideally be some effective prophylaxis function for punishing manufacturers in order to protect road users from harmful consequences. When public safety is at stake, the law should primarily be proactive rather than reactive. This article opines that it is thus necessary to ensure that the form of punishment administered on guilty manufacturing corporations will affect proper deterrence (while retribution may be secondary function).

98 At 287–288.

99 At 287.

100 Cameron, above n 15, at 105–106.

101 At 106.

(2) Recommendation: censure and increased fines

A corporation does not have a physical body and thus cannot itself be imprisoned. While fines are one possible form of sanction, there is concern that corporations, especially larger institutions, would regard the payment of ordinary fines as a “business expense”.¹⁰² A pecuniary penalty may be absorbed as a mere cost of doing business, analogous to something of a licence fee. The argument follows that the prescription of fines fail to be an effective deterrent. Cameron further notes that if fines are of the same monetary value as those imposed on individuals, they will effectively be negligible to driverless vehicle manufacturers.¹⁰³ A possible solution could be to simply increase the maximum amount of the fine where the offender is a corporation. In determining the particular quantum to be paid, “the court must take into account ... the financial capacity of the offender” in each sentencing case.¹⁰⁴ A corporation with greater capital would likely be sentenced to pay a greater fine, which in turn addresses the nuanced issue that a fine amount fixed for all corporate offenders may be punitive or nonetheless ineffective, depending on the size and liquidity of each individual company.

There is also, of course, an inherent punishing effect attached to a conviction. As discussed earlier in Part IV, criminal censure in and of itself is a substantial incentive for driverless vehicle manufacturers and other companies to avoid indictment.¹⁰⁵ While a corporation cannot be shamed due to its lack of human emotion, market confidence can depreciate share prices and affect market share.¹⁰⁶ However, to optimise this market deterrent, a company must be convinced that the consequential collective response of social actors and market participants will be of a material and punitive degree. This magnitude can only be achieved by widespread knowledge of the conviction. This article submits that an order to publicise the corporation’s conviction is therefore a forcible response to corporate criminal behaviour. A helpful reference is s 10 of the Corporate Manslaughter and Corporate Homicide Act 2007 (UK), which empowers the court to make a publicity order following a conviction of corporate manslaughter requiring the publication of, *inter alia*, the specified particulars of the offence. The combination of prohibitive and financial stigma may, in aggregate, form an adequate criminal sanction.

One criticism that nonetheless arises is that the economic burden of both increased fines and a publicity order will ultimately be borne by shareholders.¹⁰⁷ For instance, Volkswagen Group’s stock prices decreased by about 30 per cent after it was exposed for manipulating its vehicle software to hide its toxic diesel emissions in 2015.¹⁰⁸ This evidenced shareholders’ significant losses as a result of the company’s wrongdoing. A company’s shareholders cannot be viewed as being accountable for corporate conduct or culture. However, this does not necessarily constitute a moral barrier for imposing sanctions which financially deters corporate malfeasance. A number of commentators

102 Paul Verrico and Philip Crosbie “Setting sanctions – a comparative paper considering corporate offences” (2013) 55 *IJLMA* 361 at 369.

103 Cameron, above n 15, at 108.

104 Sentencing Act 2002, s 40(1).

105 Ogus, above n 55, at 31; and Cameron, above n 15, at 108.

106 Ramirez, above n 56, at 938.

107 Christopher Kennedy “Criminal Sentences for Corporations: Alternative Fining Mechanisms” (1985) 73 *CLR* 443 at 448.

108 Benjamin Snyder and Stacy Jones “Here’s a timeline of Volkswagen’s tanking stock price” *Fortune* (online ed, New York, 24 September 2015).

have shared the view that, where firms are penalised, they should raise prices to recoup losses incurred by shareholders. However, this has the effect of losing shares to competitors, regardless of whether or not the market is concentrated.¹⁰⁹ In the alternative, shareholders may bring an action against the company to recover their losses.¹¹⁰ It is also relevant to note that a company's financial losses depreciate share value in the ordinary course of business. Therefore, this article contends that increased fines and a publicity order are nonetheless appropriate sanctions for guilty corporations.

VI Conclusion

Driverless vehicles are en route to ubiquity. They will inevitably revolutionise road transport and bring unprecedented opportunities, as well as novel risks. Societies have seen these risks eventuate (mostly in the United States), the archetypical cases being those which have resulted in injury or death of other road users or pedestrians. This article addresses how New Zealand should respond to novel criminal liability issues arising from the introduction of driverless vehicles. To the extent that a driverless vehicle is involved, the human in the driver's seat no longer undertakes responsibility for the vehicle's behaviour and the LTA must be amended to reflect such realities. This article also asserts that greater accountability should be placed on manufacturers to prevent driverless vehicle malfunctions. The emergence of products which depend entirely on its engineering and manufacture (rather than operation by human users) motivates a broader investigation into whether the current state of the criminal justice system adequately responds to corporate culpability. This article advocates for parliamentary consideration of a criminal liability framework that targets organisational fault and the introduction of a corporate manslaughter offence. Further, this article opines that the combined effect of censure augmented by a publicity order and increased fines would constitute an effective form of punishment for corporate wrongdoers. In this age of extraordinary technological capability and corporate power, New Zealand must take a proactive approach in adapting to the conceptual and legal disruptions caused by autonomous modes of transport and mobility. Only then will the benefits of driverless vehicles truly crystallise for the betterment of public safety.

109 Kennedy, above n 107, at 449.

110 See, for example, Companies Act, ss 169–176.