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HANDS OFF THE WHEEL
ESTABLISHING A REGIME FOR AUTONOMOUS
VEHICLES COMMITTING THE OFFENCES OF
CARELESS, RECKLESS AND DANGEROUS
DRIVING

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Abstract

Autonomous, driverless vehicles are the next frontier in automotive technology. For these vehicles to be an accepted, legally compliant addition to society they must be subject to the driving laws which seek to regulate and promote good behaviour on the roads. This paper seeks to establish a liability regime for autonomous vehicles committing the offences of careless, reckless and dangerous driving. The current law is insufficient to deal with liability when the offences are committed by autonomous vehicles. Manufacturers cannot be held liable and there may be no liability at all. Liability for an offence should rest with those responsible or that offence being committed. This may be the manufacturer through defective design, or the operator through careless or reckless use of the autonomous vehicle. Michael Cameron's book *Realising the Potential of Driverless Vehicles* sets out appropriate and workable legislation. It brings certain autonomous vehicle behaviour under the heading driverless vehicle offence and provides possible defendants and statutory defences for those defendants. His proposal should be adopted for careless, reckless and dangerous driving offences, with the clarification that the mens rea of the defendant is still relevant.

Key Words

Land Transport Act 1998, autonomous, driverless, driving offences, liability

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I Introduction

The next great leap in automotive engineering is the introduction of autonomous vehicles. Vehicles that can drive themselves, park themselves and adapt to the changing circumstances, all without anybody on board. But with such a fundamental change in motoring comes the legal issues. If there is no driver, who is responsible in the event of a crash? Autonomous vehicles are a high-profile issue, with incidents, crashes and news regularly hitting the headlines and the only thing certain about autonomous vehicles appears to be that the law is unequipped to handle them. This paper aims to address this regarding three offences: careless, reckless and dangerous driving. These offences can cover the crashes and deaths that make the world-wide news and raise public attention.¹ They are the offences that can influence public opinion for or against this new technology. They are offences with some of the largest consequences, and largest punishments. For autonomous vehicles to be successfully implemented, it is crucial that liability in the event of an accident is as clear as it is for human controlled cars. With such serious consequences, it is necessary that the regime appropriately and effectively assigns liability to the guilty party.

This paper seeks to establish a liability regime for autonomous vehicles committing the offences of careless, reckless and dangerous driving. The obligations to take care in driving originate in sections 7 and 8 of the Land Transport Act 1998, and the offences are set out in sections 35-39.² In order to achieve this, this paper first assesses liability for

¹ “Uber car’s ‘safety’ driver streamed TV show before fatal crash: police” (22 June 2018) Reuters <www.reuters.com/>.

² Land Transport Act 1998, ss 7,8, 35-39.

autonomous vehicle offences under the current law. It establishes that although in certain situations a user may properly be held liable, this is not the norm, and the law is altogether insufficient to deal with these kinds of vehicles. Secondly, this paper seeks to determine who should be held liable in the event of the autonomous vehicle offence. It finds that that appropriate defendant is the one who had sufficient capability to exercise control over the event, so that they could have prevented it. Finally, Michael Cameron in his book *Realising the Potential of Driverless Cars* proposes draft legislation designed to capture all driverless vehicle offences.³ In light of the discussion of the above two points, this paper analyses the approach he has taken, identifies any deficiencies in the proposed legislation, and finally recommends that it be adopted, with some slight clarifications.

The level of automation this paper is concerned with is Level 4, the highest. This is the state of automation where it is not necessary to have a driver at all.⁴ The vehicle may have an operator inside the car, but that operator is not required to be actively supervising or ready to take over from the autonomous mode. Autonomous vehicles with this capability could be said to be truly driverless as they can perform all relevant functions for driving on the roads. Autonomous vehicles can integrate into motoring in several important ways. Some of these exciting and relevant uses are private passenger vehicles, driverless taxi fleets, an Uber-style model of private vehicles used as a passenger service with no need for a driver, autonomous freight trucks and delivery vehicles.

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

⁴ “Autonomous including driverless vehicles” (7 October 2016) Ministry of Transport <www.transport.govt.nz>.

The New Zealand government is now contemplating the potential of autonomous vehicles. It is seeking to encourage the testing and development of these vehicles in New Zealand.⁵ It is a current objective to review the current legislative framework to allow this testing to occur, however there is not yet a specific plan for reforming legislation to govern everyday use of commercial and private autonomous vehicles.⁶ Rather, the government plans to allow overseas developments to take place, before conducting a review in light of those developments and further international thinking.⁷

II Liability Under the Current Law

A Legality

Under current New Zealand law, there is no explicit requirement for a vehicle to have a driver.⁸ This leaves open the possibility of autonomous vehicles. However, New Zealand has ratified the United Nations Geneva Convention on Road Traffic 1949.⁹ Article 8 of the treaty states that “Every vehicle or combination of vehicles proceeding as a unit shall have a driver”.¹⁰ Prima facie, this would rule out the use of autonomous vehicles in New Zealand. Parliament would either need to break from the convention in this way, or participate in the creation of a new, modern convention that addresses the potential of autonomous vehicles. The challenge here is the Ministry of Transport considers the treaty

⁵ “Intelligent Transport Systems Technology Action Plan 2014-18” ((May 2014) Ministry of Transport <www.transport.govt.nz> at 4.14.

⁶ At 4.14.

⁷ At 4.14.

⁸ “Autonomous including driverless vehicles” (7 October 2016) Ministry of Transport <www.transport.govt.nz>.

⁹ “Status Chapter XI Transport and Communications B Road Traffic 1 Convention on Road traffic” (2 September 2018) <<https://treaties.un.org/Pages/Home.aspx?clang=en>>.

¹⁰ Convention on Road Traffic 175 UNTS 3 (opened for signature 23 August 1949, entered into force 26 March 1952), art 8.

a serious commitment, and there is already a more recent convention, Vienna Convention on Road Traffic 1968, that New Zealand has not ratified.¹¹ This challenge is beyond the scope of this paper, which focuses on the liability of driverless vehicles once they are fully permitted on New Zealand roads. Despite the lack of an explicit contradiction, there is no necessary implication that New Zealand statutes contemplate or permit the use of driverless vehicles. The construction of certain sections of the Land Transport Act may imply drivers are necessary, where a driver is required for the offences to operate.¹²

B Offences

1 The offences

Sections 7 and 8 of the Act place the responsibility on drivers to not drive recklessly, dangerously or carelessly.¹³ A breach of these duties is criminalised in sections 35-39. The statute appears to contemplate a single defendant and is an example of an implicit assumption that vehicles will have a driver. The key component of the offences is the action the defendant has taken. For reckless and dangerous driving the person must operate a vehicle recklessly, or drive or cause it to be driven dangerously.¹⁴ However, when there is injury or death involved, operating a vehicle recklessly is replaced by drives or causes to be driven.¹⁵ In contrast, for careless driving, the defendant must operate a vehicle on a road, whether injury is caused or not.¹⁶ If it is not just any vehicle but

¹¹ Ministry of Transport “Ministry of Transport’s response to the matters requested by the Transport and Industrial Relations Committee” (25 July 2017) New Zealand Parliament <www.parliament.nz/resource/en-NZ/51SCTIR_EVI_51DBHOH_PET72324_1_A565865/873ff3529c268a743d505ad703a9542c844f18bc> at [30].

¹² Michael Cameron, above n 3, at 45.

¹³ Sections 7, 8.

¹⁴ Section 35(1).

¹⁵ Sections 36, 36AA.

¹⁶ Sections 37, 38(1).

specifically a motor vehicle, there is no requirement for it to be on the road and the action is changed to drives or causes to be driven.¹⁷

2 Carelessness, recklessness and dangerousness

In New Zealand, Cooke P in *Police v Vialle* held that carelessness is an objective test judged based on the “reasonably skilful driver in the circumstances”.¹⁸ The standard is independent of the skill level of the driver,¹⁹ and is in light of all the circumstances including those which lead up to the event.²⁰ The fact that a defendant made what is called an error of judgement is not a defence to a charge of carelessness.²¹ The definition is unhelpful and may or may not actually fall below the reasonable standard required.²² Nor can contributory negligence on the part of any other party cannot dismiss a charge of carelessness.²³ However, it may lead to a discharge without conviction.²⁴ In a recent high-profile story a driverless vehicle crashed into a pedestrian crossing the road. In such a case, where the victim was found to have tested positive for drugs, crossed away from a crossing and crossed from an unlit part of a highway,²⁵ it may be open for the court to find contributory negligence. This would not preclude liability, however the extent to which this alleviates the punishment for the defendant is left to the judgment of the courts.

¹⁷ Section 38(1A).

¹⁸ *Police v Vialle* (1988) 4 CRNZ 82, [1989] 1 NZLR 521 at 523.

¹⁹ *McCrone v Riding* [1938] 1 All ER 157 at 158.

²⁰ *Police v Vialle*, above n 18, at 523.

²¹ *Police v Chappell* [1974] 1 NZLR 225 at 228.

²² *Becroft and Hall's Transport Law (NZ)* (online loose-leaf ed, LexisNexis) at 37.6.

²³ *Dobson v Geddes* HC Palmerston North M106/92, 20 July 1993; [1993-1995] BCLD 2322 in *Becroft and Hall's Transport Law (NZ)*, above n 22, at 37.6.

²⁴ *Dobson v Geddes* in *Becroft and Hall's Transport Law (NZ)*, above n 22, at 37.6.

²⁵ “Preliminary Report Highway HWY18MH010” (24 May 2018) National Transportation Safety Board <www.nts.gov/investigations/AccidentReports/Reports/HWY18MH010-prelim.pdf>.

It could be difficult to prove carelessness on the part of a manufacturer given the high level of technology and detail involved in the design of autonomous vehicles. It would indeed seem unusual to label a manufacturer careless given the huge amounts of time spent on development and testing. Under tort law, the doctrine of *res ipsa loquitur* could find carelessness when the facts speak for themselves. However, this doctrine does not apply in the criminal context.²⁶ In finding carelessness, if there is no other explanation for an accident, it may be such that the only reasonably available inference is that a person was careless.²⁷ In this way, a manufacturer could be held to be careless if the facts of the incident provide the inference that the manufacturer must have been careless in designing a defective vehicle.

Recklessness is a subjective test.²⁸ It involves not only an appreciation of dangerous consequences, but the disregard of that risk in continuing with the conduct anyway.²⁹ The manner of driving that is dangerous considers “all matters connected with the management and control of a car by a driver when it is being driven”.³⁰ The danger must be a real possibility.³¹ In contrast, recklessness in the United Kingdom stems from *Lawrence*, where it includes failing to give any thought at all to the risk of danger.³² Under *Howe*, New Zealand courts can use this objective version of recklessness if the statutory context is silent or ambiguous as to its meaning.³³ This is not necessary here however,

²⁶ *Police v Chappell*, above n 21, at 227.

²⁷ *Police v Chappell*, above n 21, at 227.

²⁸ *R v Harney* [1987] 2 NZLR 576 at 579.

²⁹ At 569.

³⁰ *R v Coventry* (1938) 59 CLR 633 at 639 in *Becroft and Hall's Transport Law (NZ)*, above n 22 at 35.9.

³¹ See *Becroft and Hall's Transport Law (NZ)*, above n 22, at 35.4.

³² *R v Lawrence* [1981] 1 All ER 974 at 982.

³³ *R v Howe* [1982] 1 NZLR 618 at 623.

the inclusion of the objective test of dangerous driving captures a situation where there is objective danger that the defendant has not turned their mind to.³⁴

As above, dangerous driving is an objective test.³⁵ It is a two-step test requiring a real, objective risk of danger and some fault on the part of the defendant falling below the reasonable standard.³⁶ Carelessness combined with a real risk of danger would be sufficient to find dangerous driving. Despite differing mental states for recklessness and dangerous driving, both have the same penalties.³⁷ This suggests the important factor is the risk of danger that is caused to the public.

3 Application

Driving has a plain meaning under the Act whereas operate is defined under section 2:³⁸

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

Under its plain meaning, an autonomous vehicle is not being driven or being caused to be driven, as there is no driver. Therefore, as per the name, if vehicles are driverless there

³⁴ Land Transport Act, s 35-36AA.

³⁵ *R v Evans* [1963] 1 QB 412, [1962] 3 All ER 1086; confirmed in *Edmonds v Police* [1970] NZLR 267 (SC) at 271.

³⁶ *R v Gosney* [1971] 2 QB 674, [1971] 3 All ER 220 (CA) at 680, confirmed in *R v Jones* [1986] 1 NZLR 1 at 3.

³⁷ Land transport Act, s 35-36AA.

³⁸ Section 2(1), definition of 'operate'.

can be no liability for offences that require a vehicle to be driven as they implicitly require a driver. Operates has a wider definition than driving and could conceivably include using driverless vehicles. A person sitting in an autonomous vehicle without controls, being carried to a destination could easily be said to be using the vehicle. In *Elliott v Grey*, an owner was said to have use of their car that was standing on the road, even though the vehicle's engine could not work, and the defendant had no intention of driving it.³⁹ Use was interpreted as meaning "have the use of".⁴⁰ Therefore, even if the person was not present with their moving autonomous vehicle they may be said to be using it. It is clear, however, that a person absent from the vehicle cannot reasonably be said to be driving it in the usual sense.

These offences are inconsistent in their requirements of the defendant's actions. For careless driving causing injury or death, the wider definition of operate is necessary to capture the instances of use of a vehicle that is not a motor vehicle, and therefore cannot be driven. Reckless and dangerous driving does not have this distinction between motor vehicle and vehicle, yet still switches between operates and drives. Assuming for the moment that the defendant had the requisite mens rea, if operates captures the use of autonomous vehicles we may be left with an absurd proposition; a person may be liable for operating a vehicle recklessly but not liable if that recklessness causes injury or death, as they would have operated the vehicle but not driven it. In regulating driving behaviour, it is unfathomable to allow a person to escape liability due to their actions creating more severe consequences than for an offence they would be liable for. Additionally, the innocent passenger of a driverless passenger service is at risk of liability by making use

³⁹ *Elliott v Grey* [1959] 3 All ER 733 at 735.

⁴⁰ At 735.

of the vehicle, and there is no scope to hold a manufacturer liable as they cannot be said to be operating a vehicle once they had sold it.

There would be real difficulty in holding that an operator had been careless when they had merely activated the autonomous mode of driving that the manufacturer had certified was appropriate in the circumstances. The only choice the operator would have made was whether to use the autonomous mode or not. If that constitutes carelessness, then it would not be possible to use driverless vehicles carefully.⁴¹ The operator would be liable for any offence committed by the vehicle, despite their perceived innocence. If so, this still only creates liability for offences that hold an operator liable. Any offence that requires driving will not be prosecutable in the case of an autonomous vehicle.

The better view is that using an appropriate autonomous mode is not carelessness by the user. There is no moral blame in using a vehicle that is certified to be on the roads in the way in which the manufacturer directs it can be used. Additionally, holding users liable for carelessness for when autonomous modes would only discourage the use of these vehicles. Given that autonomous vehicles will increase road safety, this would defeat both the purpose of the Act in promoting safe road behaviour and the intention of the government to encourage the testing and use of these vehicles.⁴² This view however, results in no liability if an autonomous vehicle is used in accordance with its specifications. Liability would only result if two conditions are met: first that the offence can be committed by an operator, second that the user had in some way been careless or

⁴¹ Michael Cameron, above n 3, at 107.

⁴² Land transport Act, "Intelligent Transport Systems Technology Action Plan 2014-18" ((May 2014) Ministry of Transport <www.transport.govt.nz> at 4.14.

reckless in their use of a driverless vehicle. For example, if they carelessly engaged an autonomous mode outside of its permitted boundaries, or recklessly abandoned a driverless mode that requires a driver to step in when the vehicle cannot cope.

C Law is Deficient

The offences stemming from a failure to use a vehicle carefully or reasonably are insufficient in several ways to deal with autonomous vehicle liability. First, no person will be liable if the offence does not allow for ‘operation’ of the vehicle and a driver is required. Secondly there will be no liability at all if there was no mens rea or fault on the part of the user. Thirdly, an innocent passenger may find themselves liable as a user for a company’s defect in providing a driving service. This would only apply in the case of strict liability offences, as if they are objectively innocent then they can have no mens rea. Lastly, manufacturers will escape liability, when common sense suggests they should be liable when they are the cause of the faults. The current law is not equipped to deal with autonomous vehicles.

III Who Should be Bearing Liability?

A Criminalisation

The types of offences that autonomous vehicles could feasibly commit are largely behaviour based. They include dangerous driving, speeding and failing to signal. The objective of these offences is to regulate behaviour to accord with a desired standard.⁴³ The small impositions that the road rules place on drivers is necessary for safe roads. The

⁴³ “Our legal framework” NZ Transport Agency <www.nzta.govt.nz>

harm caused by vehicles can be severe; the total social cost of road crashes in 2016 was \$4.17 billion.⁴⁴ Criminalisation of driving behaviour is supported by Herbert Packer's criteria.⁴⁵ Criminalisation doesn't inhibit socially desirable conduct as safe driving is required. It is even-handed and there are no reasonable alternatives. Incorrect use of headlights may not be high on society's list of socially threatening behaviours but failing to signal at roundabouts is undoubtedly a major irritant, let alone reckless driving. Lastly, sanctioning certain behaviours is not inconsistent with the goals of punishment.

B Punishment

The majority of punishments for driving behaviours include fines, with some prison sentences for more egregious offences. The typical role of this punishment is deterrence and retribution. Retribution focuses on sanctioning the defendant for the wrong behaviour.⁴⁶ It is imposing on them penalties in proportion to the harm that occurred in a vindictive and denunciatory way. This is best seen in the offences of careless and reckless driving causing death, where there are higher penalties than for mere reckless or careless driving without consequence.⁴⁷ The object of deterrence is to prevent reoccurrence of the offence from both the offender and society generally.⁴⁸ This is especially appropriate for the behaviour-based offences. Offences where the driver's standards fell below that of the reasonably skilful driver, but there was not necessarily any harm done. Fines for such behaviour seek to deter driver's from acting that way in the future because even if there

⁴⁴ "Social cost of road crashes and injuries 2017 update" (December 2017) Ministry of Transport <www.transport.govt.nz> at 1.4.

⁴⁵ Herbert L Packer *The limits of the criminal sanction* (Stanford University Press, Stanford, 1968).

⁴⁶ Geoffrey G Hall *Hall's Sentencing* (online loose-leaf ed, LexisNexis) at I.3.2.

⁴⁷ Land transport Act, ss 35-39.

⁴⁸ Geoffrey G Hall *Hall's Sentencing* (online loose-leaf ed, LexisNexis) at I.3.3.

were no consequences, there could be in the future. This aim of punishment seeks to stop the harm before it occurs.

C Holding Users Liable

It is not consistent with these aims of punishment to hold users liable when an autonomous car has committed the offence. Following the analysis of careless driving above, an innocent user or passenger may be liable if their initiation of the driverless mode is deemed careless. Retribution is not a suitable objective of punishment as they have not done anything morally wrong, and the only thing they will be deterred from is using the autonomous mode in the future. This defeats the purpose of such punishment, especially considering users may be incentivised to forego autonomous vehicles and drive themselves, when automation could likely be safer. Discouraging automation also contradicts the government's desire to introduce these driverless vehicles. It is a different story when the user is at some fault. For example, if they directed the vehicle to operate autonomously outside of the manufacturer's specifications. Knowingly or carelessly doing so should result in a conviction for reckless or careless driving.⁴⁹ The current law is inconsistent with the aims of criminalisation and punishment by holding users liable when they are not at fault.

D No Liability

If the users are not a suitable defendant, the choices are holding no liability or finding an alternative. Michael Cameron argues that no liability is not a suitable option.⁵⁰ Even-

⁴⁹ Michael Cameron, above n 3, at 107.

⁵⁰ Michael Cameron, above n 3, at 109.

handed and non-discriminatory enforcement is an important feature in Herbert Packer's criteria.⁵¹ A law that discriminates in liability depending on whether a human or autonomous vehicle committed the offence is inconsistent. The same risky behaviour is being committed, so the possible harms and consequences are equal and should not turn on who has control. Additionally, law that lacks enforcement will be ineffective in controlling behaviour; there are no sanctions to punish or deter offenders. Cameron equates a lack of sanctions to effective legalisation of that behaviour.⁵² It defeats the legislative purpose of creating safer roads if dangerous behaviour is legalised and this is the foundational reason why Cameron argues for manufacturer liability. Effective legalisation of poor autonomous behaviour also has impacts on the rest of the driving public. There is likely to be a sense of distrust or resentment if autonomous vehicles were not held to the same standard as other drivers. There could also be a backlash from motorists who feel a lack of sanctions may put them at risk or reduce accountability. Road safety is a high-profile issue, killing over a million people worldwide, so public and governmental feeling is likely to be strong.⁵³

E No Restrictions on Autonomous Vehicles

Michael Cameron raises the possibility that if autonomous vehicles are as safe as they should be, they might not need to comply with certain road safety laws.⁵⁴ While in theory a fully autonomous fleet able to transport passengers and goods quickly and efficiently, unconstrained by speed limits, could be the most effective end-goal, it is a long way off.

⁵¹ Herbert L Packer *The limits of the criminal sanction* (Stanford University Press, Stanford, 1968) at

⁵² Michael Cameron, above n 3, at 109.

⁵³ Simon Kuper "Our deadliest problem? Not terrorism" (10 July 2015) Financial Times <www.ft.com>, See 'Vision Zero' approach in "Road Safety Strategy" (27 April 2018) Ministry of Transport <www.transport.govt.nz/>.

⁵⁴ Michael Cameron, above n 3, at 108.

More important is the short-term, where autonomous vehicles are not the only ones on the road. Kaplan illustrates a justification for criminalisation based on the ‘modelling’ harm. This is where persons repeat the behaviour they see in others.⁵⁵ While it may be safe for autonomous vehicles with a higher competency than the reasonable driver to break certain laws, if human drivers repeat these actions they will be creating the danger that the offence seeks to prevent. In addition, it is dangerous for vehicles to behave unexpectedly and a human driver might not know whether the vehicle was driverless and how it would act. The safest course is to hold autonomous vehicles to the same standard as human drivers until the evidence suggests otherwise, potentially due to ubiquity.

F Holding manufacturers liable

The only other party in this situation is the manufacturer. The arguments for manufacturer liability are the inverse arguments for why no liability is not appropriate and innocent users should not be liable. As referred to previously Cameron’s basic principle for holding manufacturers liable is that it is undesirable to have no liability.⁵⁶ He argues that manufacturers are already encouraged to design safe vehicles through public pressure and competition, and that any fines imposed will be negligible.⁵⁷ These points are valid, however there is still justification for holding manufacturers liable.

A common-sense response might be that if manufacturers are responsible for the crime, then they should be liable for it; why should they get special treatment? After all,

⁵⁵ John Kaplan “The Role of the Law in Drug Control” (1972) 1971 DLJ 1065 at 1067.

⁵⁶ Michael Cameron, above n 3, at 109.

⁵⁷ Michael Cameron, above n 3, at 108.

corporate liability exists in New Zealand.⁵⁸ The fact that a serial recidivist may reoffend and has the finances such that any fine is negligible to them are hardly reasons to prevent liability. Rather, they are suggestions that additional punishments may be necessary. A corporate conviction may not be the most forceful compulsion to ensure safe vehicles, but they do provide an official record that the manufacturer has fallen short. Regarding the retributive function of punishment, although there would hardly be public outcry in the case of a few signalling errors, a high-profile death can have the public demanding vindication. The recent call for corporate manslaughter offences in New Zealand following the Pike River and CTV building disasters provide evidence of this.⁵⁹ The offences this paper is concerned with are such that the consequences can be very severe. If there were any offences that a manufacturer should be held liable for it should be these. A corporate manslaughter offence would also increase the available punishments for manufacturers. Such a charge is likely to have a far greater impact in terms of deterrence and retribution than a speeding conviction.

There is a risk, however, of going too far in manufacturer liability. In the short term it would also be undesirable to hold an autonomous vehicle to a higher standard than the reasonable human. To make driverless cars a reality, manufacturers need to be able to test them. In the early days, holding manufacturers to a higher standard than normal risks discouraging and disincentivising the design and testing of these vehicles. There is no harm in holding vehicles to the usual reasonable standards, as this is the level of very other vehicle on the road. An increase in the required standard of autonomous vehicles

⁵⁸ Meaghan Wilkinson “Corporate Criminal Liability – The Move Towards Recognising Genuine Corporate Fault” (2003) *Canta L R* 142 at III.

⁵⁹ “Corporate manslaughter law possible next year – Little” (18 December 2017) Radio NZ <www.radionz.co.nz>, “‘Are you waiting for another disaster?’ – Pressure mounts on Government to introduce corporate manslaughter law” (26 May 2018) TVNZ <www.tvnz.co.nz/one-news>.

should be delayed until the vehicles have shown they are capable of this, manufacturers won't be fazed, and it would have positive implications on road safety.

G Assigning liability

A user who operates an autonomous vehicle as instructed in good faith should not be made to bear the costs of their patronage of a defective product. The basic position is that corporate bodies can be held liable in New Zealand. There are insufficient reasons to overturn this position. Not least of all, an offence without liability could alienate the public and will be ineffective in promoting road safety. If a manufacturer has designed a vehicle with recklessness or a lack of care such that an offence would have been committed, they should be liable for their default. The argument that criminal sanctions are not likely to have much impact on manufacturers⁶⁰ is reduced when looking at the offences of careless, reckless and dangerous driving. These offences carry a stigma that can further contribute to the pressure on manufacturers to design safe and legally compliant vehicles.

A corporate manslaughter charge would also go some way to mitigating the arguments opposed to manufacturer liability, however an in-depth discussion of the merits of this offence is beyond the scope of this paper. It is sufficient to say that prima facie a corporate manslaughter charge would not conflict with manufacturer liability here, when such actions taken by a human driver would lead to a charge of manslaughter. A manufacturer

⁶⁰ Michael Cameron, above n 3, at 108.

should be held responsible for designing their autonomous vehicle to the standard of a reasonably skilful driver.

IV Michael Cameron Proposed Legislation

A Approach

In Michael Cameron's book, *Realising the Potential of Driverless Vehicles*, he provides draft proposed legislation intended to remedy the issues surrounding criminal liability for autonomous vehicles. He seeks to capture within his legislation liability for careless, reckless and dangerous driving of autonomous vehicles. In doing so he provides three new definitions.⁶¹

driverless vehicle means a vehicle that is travelling on a road at a time when there is no individual driving it

driverless vehicle offence means an offence that is committed when a driverless vehicle moves or fails to move, signals or fails to signal, fails to use or dip its headlamps, or carries passengers in a way that would constitute an offence against this Act or rules, regulations or bylaws made under this Act, if an individual had been driving the vehicle

unsupervised autonomous mode of operation means a mode of operation of a vehicle in relation to which the manufacturer has indicated that, provided the vehicle is not directed to operate outside the circumstances under which the

⁶¹ Michael Cameron, above n 3, at 116, 120.

manufacturer has indicated the mode is capable of operating without supervision by an individual driver, no supervision by an individual is required

The definition of driverless vehicle offence captures offences that would have been committed if the acts or omissions were of a human driver. The new clause 151B then applies.⁶² Clause 151B is modelled off the pre-existing section 133. Section 133 is applicable to moving vehicle offences created under the Act, this includes excessive speed.⁶³ Speeding and other similar offences can be detected by surveillance cameras,⁶⁴ this creates a situation where prosecutors may not know who was in fact driving the vehicle at the time. This necessitates a procedure to determine the appropriate liability, through contemplating several defendants and providing defences to innocent parties. Section 133 lists the possible defendants and provides defences, including the alleged defendant was “not legally entitled to possession of the vehicle” at the relevant time, or more specifically, that another person was driving the vehicle at the time.⁶⁵ This allows liability to be passed via statutory declarations to the effect that the alleged defendant was not responsible for the offence.

Driverless vehicle offences are analogous to this, in that the prosecutor may not know who was ultimately responsible for the actions that constitute the offence, thus where liability should rest is uncertain. Accordingly, clause 151B operates for driverless vehicle offences equivalently to how section 133 does for moving vehicle offences. Clause 151B provides a list of possible defendants who may be charged, along with the statutory

⁶² At 122.

⁶³ Land Transport Act, s 133.

⁶⁴ Section 2, definition of ‘moving vehicle offence’.

⁶⁵ Section 133.

defences that allow the defendant to pass liability via a statutory declaration.⁶⁶ The possible defendants are: manufacturers, owners, legal possessors and the individual who activates the autonomous driving mode.

B Suitability of Approach

Michael Cameron's approach is to introduce a new category of offence and a provision that sets out the procedure for identifying defendants. Alternative approaches could have been to amend the definition of driving, introduce new offences for driverless vehicles equivalent to all the existing offences, or amend all the existing offences to include driverless vehicles. The deficiencies in those alternate methods highlight the suitability of Cameron's approach. The latter two approaches of amending or introducing specific offences to tackle automation are feasible when the number of offences is limited. However, Cameron's proposed legislation seeks to tackle all driverless vehicle offences, and not just the three driving offences this paper is concerned with. Considering this, specific offences or amendments, while precise in capturing certain offences only, is too repetitive and cluttered. In particular, it is not practical to specifically allow for driverless vehicles in every rule that may be created under the Land Transport Act.

Amending the definition of driving to capture driverless vehicles would result in every offence that contemplates a driver having access to the aforementioned possible defendants. There are several issues with this hypothetical approach. Firstly, not every offence committed during autonomous operation is applicable to all the defendants. It would be nonsensical to hold a manufacturer liable for a child under 15 years not wearing

⁶⁶ Michael Cameron, above n 3, at 122-126.

a seatbelt.⁶⁷ They have no control over the passengers themselves and could not safeguard against this. Similarly, it would be absurd to hold that a drunken passenger in a driverless taxi service was driving, and therefore be liable for driving while intoxicated.⁶⁸ This clearly removes the deterrence of the passenger taking a taxi rather than driving drunk, as they are liable all the same. Furthermore, to hold a person who is at home drinking to be liable for driving while intoxicated, after they merely sent their vehicle out driverless to pick up a passenger, is clearly unworkable. Treating the user of an autonomous vehicle as the driver raises another side effect; if the user does not have a driver's license, they could also be liable for driving without one.⁶⁹ The combination of these effects could result in a law-abiding, drunken patron taking a taxi home being convicted for driving while intoxicated and without a license.

Secondly, to describe being the owner or user of an autonomous vehicle as the driver is to totally misinterpret both driving and automation. The objective of driverless vehicles is apparent in the name, it is to remove the necessity of a driver so that the user is free to do something else or be elsewhere. A redefinition of driving would obscure its meaning and extend liability farther than reasonable. It is not consistent with statutory interpretation to assign a meaning that the words themselves cannot bear.

The new provision governing driverless vehicle offences escapes these issues. Being modelled off the existing section 133, clause 151B is consistent with the existing legislation. It follows the same format and therefore will not be unfamiliar. The definition

⁶⁷ Land Transport (Road User) Rule, cl 7.8.

⁶⁸ Land Transport Act, s 56.

⁶⁹ Section 31.

of driverless vehicle offence is crucial to the operation of this clause. The definition applies the label driverless vehicle offence to only the situations described; importantly for careless, reckless and dangerous driving this includes “moves or fails to move, signals or fails to signal, fails to use or dip its headlamps”.⁷⁰ The careless, reckless and dangerous driving offences concern the behaviour of the vehicle, specifically the way it interacts and communicates with the external environment including pedestrians and other vehicles. Therefore, the actions of the autonomous vehicle that can constitute these offences are included in the definition of driverless vehicle offence and Cameron’s legislation successfully applies in these instances.

In this way a driverless vehicle offence is also only relevant where the offence is concerned with the behaviour of the vehicle. This reduces the excessive scope of liability from a scheme which amends and extends the definition of driving. This is desirable as it would not be reasonable or consistent with the principles of punishment to hold a manufacturer liable for activity that the autonomous vehicle does not itself control, or to hold a user liable when they used the vehicle innocently and in accordance with its specifications. The objective of retribution is not justified when the defendant has acted innocently, and deterrence is predicated on the ability of the person to exercise control over their actions.⁷¹

This clarity and consistency in the legislation is greatly desirable; Raz’s formulation of the rule of law holds that laws should be open, clear and stable, such that it can guide

⁷⁰ Michael Cameron, above n 3, at 116.

⁷¹ Geoffrey G Hall *Hall’s Sentencing* (online loose-leaf ed, LexisNexis) at I.3.2-I.3.3.

behaviour.⁷² Consistency with existing provisions provides familiarity and has the justification of having been shown to work. The formulation of driverless vehicle offence is appropriate to capture the necessary offences. This resolves the issues highlighted under the current law where either no one or an innocent party may be held liable. Cameron's approach provides a consistent framework with a clear procedure for determining liability.

C Procedure

The definition of driverless vehicle offence first captures a situation where a vehicle is operating without a driver and its behaviour is of the type of a driverless vehicle offence. This can be driven by the initial police charge, or by a statutory declaration by the alleged defendant under clause 151B(8).⁷³ These alleged defendants can include innocent passengers captured by the definition of 'operates'. Being brought under this section is beneficial for those innocent passengers, as they are given access to the statutory defences. This statutory declaration is sufficient evidence that the vehicle is driverless.⁷⁴ Following this, clause 151B comes into effect where the behaviour of the autonomous vehicle satisfied the definition of driverless vehicle offence. Under clause 151B(1), proceedings may begin against the manufacturer, owner, legal possessor or user who activated the driverless mode.⁷⁵ The person against whom proceedings are brought is treated as the driver of the vehicle, and that defendant is assigned the requisite parts of

⁷² Joseph Raz "The Rule of Law and its Virtue" (1977) 93 LQR 195 at 195.

⁷³ Michael Cameron, above n 3, at 126.

⁷⁴ At 126.

⁷⁵ Michael Cameron, above n 3, at 122.

the offence as their own acts or omissions.⁷⁶ Cameron's proposal does not explicitly address the mens rea aspect of an offence however.

Owners, possessors and users as the alleged defendant have defences under clause 151B(5). It is a defence to a charge if the defendant was not entitled to possession, not the person responsible for activating the autonomous mode, or that the vehicle was operating in an autonomous mode within a situation in which the manufacturer had represented the autonomous mode could operate.⁷⁷ This defence is justified in relieving the defendant of liability as it is the manufacturer's failure to design a safe, compliant vehicle that has caused the offence. It is also a defence if the vehicle was operating autonomously outside of its scope, but the defendant is not responsible for the vehicle being outside of its scope.⁷⁸ The vehicle operating outside of its scope at no fault of the operator is analogous to the initial defence, where the manufacturer is responsible through the programming for the vehicle going beyond its specifications.

This addresses two deficiencies in the current law. Firstly, where a user would have previously been captured by the definition of operates, they are now able to pass liability on if they had been innocent in their use of the autonomous vehicle. They can submit a statutory declaration: that they were not entitled to possession as a mere passenger, that they were not the one to activate the autonomous mode, or go direct to the manufacturer and declare the vehicle was operating autonomously under the correct conditions. Secondly, previously a manufacturer could not be held liable for driving offences, even

⁷⁶ Michael Cameron, above n 3, at 123.

⁷⁷ Michael Cameron, above n 3, at 124.

⁷⁸ At 124.

if the offences were caused by defects in the vehicle's programming. If the user has operated the vehicle in accordance with the manufacturer's directions the manufacturer cannot escape liability.

In its own defence, the manufacturer is required to show that the vehicle was not being used according to its specifications, and that the user was responsible for that.⁷⁹ The manufacturer must overturn the statutory declarations with evidence to the contrary. It should also be noted that statutory declarations that the vehicle is operating without a driver can be overturned by evidence to the contrary under clause 151B(8)(b).⁸⁰ If that assumption is overturned, proceedings are undertaken as normal against the driver. This captures the situation where the vehicle was not fully driverless, as the user may have been in fact driving or supervising the vehicle in an autonomous mode that requires such attention.

D Mental Element

The driverless vehicle offence definition captures actions that would be offences if an individual was driving. This is satisfactory for a strict liability offence, such as speeding, however it does not speak to the mental state of the individual required for the offences this paper is concerned with, such as reckless driving. A charge of careless driving may be open on the current construction of the definition. If an individual had been driving and performed an action that gave rise to an inference of carelessness, then the autonomous vehicle would have fulfilled the offence sufficiently to find liability.

⁷⁹ Michael Cameron, above n 3, at 128.

⁸⁰ Michael Cameron, above n 3, at 126.

Similarly, if the vehicle was driving objectively dangerously, an inference of carelessness provides the fault through which liability for dangerous driving can be found.

However, subjective recklessness requires a conscious appreciation of the risks. An autonomous vehicle cannot commit an action that gives rise to an inference of this mental aspect of recklessness as there is nothing to speak to this state of mind. In the absence of this subjective appreciation, recklessness is indistinguishable from dangerous driving.⁸¹ The hypothetical individual in the definition of driverless vehicle offence would not have committed an offence of reckless driving if they did not have this mens rea. Therefore, it cannot be said that the individual would have committed an offence if they had performed the actions of the autonomous vehicle, and subsequently the definition of driverless vehicle offence is not met. Clause 151B only comes into effect when a driverless vehicle offence has been committed, so it would not be possible for a charge of reckless driving to proceed.

The result is that a charge of reckless driving is only available as per the current law in II B above. This does not satisfy the necessity for manufacturers to be held liable when they are responsible for the reckless driving of the vehicle. Effectively all reckless driving will be dangerous, as the objective danger is required in both offences. Despite this, Parliament has clearly intended to address them separately, despite both carrying the same punishment. One justification for this is that under section 9(4)(a) a court in sentencing may consider any factor that they see fit.⁸² A successful charge of reckless driving, as

⁸¹ See *McBreen v Ministry of Transport* [1979-1983] BCLD 1809 in *Becroft and Hall's Transport Law (NZ)* (online loose-leaf ed, LexisNexis) at 35.4.

⁸² Sentencing Act 2002, s 9(4)(a).

opposed to dangerous driving, would provide an indisputable determination of the defendant's mental state that can be considered at sentencing. It is inconsistent with Parliament's intention to restrict one of these offences from applying to driverless vehicles. To remedy this, into the definition of driverless vehicle offence should be inserted 'if an individual *with the requisite mens rea for the offence* had been driving the vehicle'. This allows all driverless vehicle offences to proceed to clause 151B where the autonomous vehicle has committed the necessary actions, as the mens rea of the offence is presumed for this purpose only.

The defendant is treated as the driver and the actus reus elements of the offence committed by the autonomous vehicle are treated as their own acts and omissions, however for a successful prosecution the mens rea must still be attributed to the defendant. It is not sufficient to base liability off what the vehicle may have detected or been aware of. Autonomous or not, it is a fallacy to attribute the mens rea to the vehicle when it is the human defendant who is charged with the offence and will suffer the consequences. It is the state of mind of the defendant which should affect liability. To disregard the defendant's mens rea would be to defeat the purpose of the Act. The Act aims to promote safe behaviour from road users, but this cannot be achieved when the Act can only guide behaviour from defendants that is irrelevant to their liability.⁸³

⁸³ Land Transport Act.

E Application

1 Manufacturers

Following the procedure of the proposed legislation discussed above, a manufacturer can be liable for carelessness under sections 35-36AA if the vehicle commits the necessary actions. Absent proof to the contrary, the inference is that the manufacturer was careless in the design of the vehicle, resulting in driving standards below that of the competent human. A manufacturer can also be held to be reckless under sections 37-39 if they appreciated the risk that the autonomous vehicle may not live up to the reasonable standard yet permitted the vehicle to go to market anyway. Knowing that the vehicle may not live up to the standard of the reasonable driver is foreseeing a real possibility of danger; especially so the more vehicles that are sold. When a manufacturer appreciates this risk and proceeds anyway, they have the necessary mental state to find recklessness. Lastly, a manufacturer can also be held liable for dangerous driving; if a dangerous situation is created, unless there is evidence to the contrary the manufacturer can be inferred to have been careless and therefore liable for dangerous driving. However, as per clause 151B(1)(a), any proceedings against the manufacturer can only be taken when the vehicle was operating in a suitable autonomous mode within its boundaries, or outside of its boundaries if no operator was responsible for it doing so.

2 Operators

If an operator, including an owner, is using their autonomous vehicle in accordance with the manufacturer's representations then they can avoid liability by passing it to that manufacturer. If, however, they carelessly take the vehicle outside of its boundaries, or fail to supervise in a mode where supervision is required, this failure to observe the reasonable standard can result in liability for careless driving in the event of any incident.

A charge of recklessness would also be available where they appreciated there was a risk of danger from those actions yet continued regardless. Finally, if the operator's vehicle creates a real risk of danger, then they will be liable for dangerous driving if they can be shown to be at fault. This fault can arise from having fallen below the reasonable standard, for example through carelessness allowing an autonomous vehicle to operate outside of its prescribed limits. This operates the same as for operators, possessors, private owners or corporate owners. Corporations that run a fleet of autonomous taxis can be liable identically to private owners. If a corporation operates their fleet through defective software which leads to an offence, this is analogous to both the manufacturer's design process falling short and an operator being careless in their use of the vehicle. In the same way, the company can subsequently be liable for their carelessness in development of the software or management of the vehicles.

3 Result

The issues as to whether a situation is objectively dangerous and what the subjective knowledge of the defendant is in any case is a question of fact. What is clear is that the proposed legislation can successfully establish appropriate liability against a manufacturer or user of autonomous vehicles for careless, reckless or dangerous driving.

V Conclusion

Autonomous vehicles are the next stage of automotive engineering. Currently in the testing stage, such vehicles have both delighted and frightened the public. In the not-so-distant future, these vehicles may be as common to see on the roads as any specific make of car. Following that, driverless vehicles will eventually be ubiquitous. This changing

face of motoring brings with it legal issues. For autonomous vehicles to be regarded as just another vehicle on the roads, they must be fully dealt with by the Land Transport Act offences. In particular, the offences of careless, reckless and dangerous driving are high-profile and significant in terms of both consequences and punishment. It is necessary that these offences are applicable to autonomous vehicles and that they can be governed by regulations designed promote safety on the roads. To that end, this paper sought to establish a regime under which to do so. This paper discussed the liability of these autonomous vehicles and their related parties under the current law, evaluated who should be held liable in the event that the autonomous vehicles do not perform perfectly, and analysed the proposed legislation from Michael Cameron's book *Realising the Potential of Driverless Vehicles*.

The current law is insufficient to appropriately allocate liability. The law as it stands did not contemplate autonomous vehicles, so many offences struggle to deal with a situation in which there is in fact no driver. The relevant offences for careless, reckless and dangerous driving are inconsistent in who is able to be held liable. Some offences require a driver, whereas others can be committed by an operator. This results in inconsistent liability. A manufacturer cannot be held liable for any defaults in their design and there is no liability if the operator does not have the necessary mens rea. It is unsatisfactory for parties to escape liability due to the legislation not being equipped to deal with that situation. Additionally, New Zealand's obligations under international law require all vehicles to have a driver. These obligations will need to be addressed by the government in permitting autonomous vehicles to operate in New Zealand.

Liability for an offence should rest with the party at fault. There is insufficient justification to excuse an operator or manufacturer from liability for any practical or policy reasons. Accordingly, the regime must assign liability to the party who can be said to be responsible for the offence occurring. This will either be the operator of the vehicle or the manufacturer. It is consistent with the objectives of punishment of deterrence and retribution to both hold at least one person liable for an offence and hold only those responsible for the offence liable. Therefore, the regime must be able to identify the most appropriate defendant for an offence and also safeguard those who were not responsible from liability. Corporate manslaughter does not exist in New Zealand and a full discussion of its merits is beyond the scope of this paper. However, the introduction of corporate manslaughter, and consequently an increase in available penalties against a guilty manufacturer who causes a death, would further support the objectives of punishment of deterrence and retribution.

Michael Cameron's proposed legislation will be almost completely effective in assigning liability for careless, reckless and dangerous driving. The legislation captures certain actions of an autonomous vehicle that would be an offence if committed by an individual and labels these as driverless vehicle offences. The process of finding a defendant for these offences is governed by clause 151B. This clause provides that any of the owner, possessor, person who activated the autonomous mode, or manufacturer can be held liable. To escape liability, these possible defendants have access to statutory defences under the clause. This achieves the objectives of holding someone liable for the offence and allowing innocent defendants to escape liability.

The legislation proposed in Michael Cameron's book should be adopted by Parliament, with the additional inclusion of a clarification of the role of the defendant's mens rea. The definition of driverless vehicle offence should be amended to include 'if an individual *with the requisite mens rea for the offence* had been driving the vehicle'. This will enable offences to be processed as driverless vehicle offences when the driverless vehicle could not through its actions provide the inference of the hypothetical individual's mens rea necessary to satisfy the offence. Finally, it is important to note that for careless, reckless and dangerous the actions of the autonomous vehicle itself are not sufficient to prove liability. The alleged defendant must be proved to have the mens rea required of the offence.

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