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| **Submission to:** | National Transport Commission |
| **Title:** | Issues paper: Regulatory barriers to more automated road and rail vehicles |
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**Contents**

1. About the Australian Trucking Association 3

2. Summary of recommendations 3

3. Introduction 3

4. Existing law 4

5. Locating liability 5

6. ‘More automated’ rail vehicles 7

# About the Australian Trucking Association

The ATA is the peak body representing the Australian trucking industry. Its members include state and sector-based trucking associations, some of the nation’s largest transport companies, and businesses with leading expertise in truck technology.

# Summary of recommendations

**Recommendation 1**

That the NTC consult all Commonwealth agencies to determine if existing legislation administered outside the framework of law governing road transport requires changes.

**Recommendation 2**

That the NTC consult all states and territories with a view to establishing a consistent and cooperative national approach to automated vehicle law.

**Recommendation 3**

That the NTC review the Australian Law Reform Commission’s *Final Report on Traditional Rights and Freedoms – Encroachments by Commonwealth Laws* and ensure that no future law, nor amendment of law or regulation for more automated vehicles is proposed that would encroach upon the traditional legal rights and individual freedoms, privacy and privileges of the citizen.

**Recommendation 4**

That the NTC review previous recommendations of the ATA for trials of train-mounted radio warning systems to alert truck drivers and prevent fatalities at railway crossings.

# Introduction

The National Transport Commission (NTC) is reviewing domestic legislation in advance of the potential introduction of (semi-) autonomous road and rail vehicles on public roads and public rail lines respectively. The NTC issues paper aims to identify regulatory barriers to the introduction of ‘more automated’ vehicles.

Much is being written about how automation technology is changing vehicle design and capability in an unprecedented way, from the introduction of semi-automated functionality including lane change warning systems to the ultimate technology goal of fully driverless vehicles lacking both pedals and a steering wheel[[1]](#footnote-1). Such technology advances could ultimately see driverless heavy freight vehicles capable of platooning, and interacting with surrounding infrastructure.

The ATA’s submission agrees with the NTC issues paper that there is an immediate body of transport law which must be examined if ‘more automated’ (and eventually, fully autonomous) vehicles are to be permitted to operate on public roads and interact with pedestrians, standard vehicles and infrastructure.

The ATA recommends that, for comprehensiveness of scope and to avoid unintended consequences, the NTC use the opportunity of review to look far afield with relevant implementing agencies at other federal laws to determine if any legislation outside the framework of law presently governing the road transport industry requires amendment or reductions in red tape.

**Recommendation 1**

That the NTC consult all Commonwealth agencies to determine if existing legislation administered outside the framework of law governing road transport requires changes.

# Existing law

The ATA notes statements in the media last year from industry group, Intelligent Transport Systems (ITS) Australia to the effect that our laws require only a minor *tweaking* and that it is *unlikely fresh legislation will be required for the introduction of the self-driving tech[[2]](#footnote-2)*.

As noted, the ATA agrees that much existing law (including regulations, guidelines, council by-laws etc.) will require amendments here and there. For example, frameworks such as:

* Heavy vehicle national law, including rules applying to ownership, maintenance and repair.
* Interstate Road Transport Act
* Motor Vehicle Standards Act – including the definition of ‘driver’ or requirement for brake lights.
* National Transport Commission Act

In the area of state and territory law, amendments may need to be made to:

* Road rules
* Regulation of licencing, registration and transfer of ownership
* Civil law (CTP Insurance) compensation schemes for vehicle accidents
* WHS law

Some areas outside transport law could include:

* Competition and consumer law – protections for buyers, sellers, lessors and lessees
* Criminal law – liability, negligence, theft, property damage and missing persons
* Privacy law – data collection, access to data, encryption, automatic data transmission
* Infrastructure laws – tolling systems, traffic signalling, speed limits, signage and road furniture
* Radiocommunications law – and all related acts including Radiocommunications (Receiver Licence Tax) Act; Radiocommunications (Spectrum Licence Tax) Act; Radiocommunications (Transitional Provisions and Consequential Amendments Tax) Act; Radiocommunications (Transmitter Licence Tax) Act; Radiocommunications Taxes Collection Act (since there is every indication vehicle-to-vehicle communications will be transmitted).

The ATA notes an example in 2015 of BMW’s self-parking car that did not conform to section S5.3 of standard 114 of US Federal Motor Vehicle Safety Standards, which stipulates that a service brake be depressed before the transmission may be shifted out of ‘Park’. An exemption from this standard was requested by the manufacturer (known as a ‘rule interpretation request’) and granted by the regulator.

Notwithstanding the goal of public policy to be as responsive as possible, Australia should attempt to learn from such international policy responses and where possible avoid *ad hoc* tinkering with the law.

Also in the USA, the California Department of Motor Vehicles (DMV) recently proposed new [rules](http://www.autonews.com/assets/PDF/CA1029751216.PDF) that erect a barrier to the development of autonomous cars and also bans driverless ones outright (e.g. those proposed by Google)[[3]](#footnote-3). When releasing its draft rules, the DMV explained its rationale in this way:

*In developing the draft regulations, the department’s primary focus was on the safety of autonomous vehicles and the public who will share the road with these vehicles. These regulations create a framework that allows manufacturers to transition from testing to deployment, promotes the continued development of autonomous vehicle technology, and ensures that autonomous vehicle technology is deployed in a safe and responsible manner on California public roads[[4]](#footnote-4).*

This is a clear example of a regulatory barrier to market innovation in the sense that Google’s plans include that its autonomous car division becomes a separate company that might compete with Uber and Lyft. As some news reports also [note](http://www.mercurynews.com/business/ci_29262037/california-self-driving-cars-must-have-driver-behind), California is the largest US auto market and home to most technology companies, so these strict rules could be expected to set a precedent for the rest of the USA.

As Google [replied](http://www.siliconbeat.com/2015/12/16/99428/), *We’re gravely disappointed that California is already writing a ceiling on the potential for fully self-driving cars to help all of us who live here.*

The ATA recommends that the NTC consult thoroughly with all states and territories with a view to building a consistent approach to law-making as soon as possible to help avoid regulatory conflicts across Australia while preserving the rights and safety of all road users.

**Recommendation 2**

That the NTC consult all states and territories with a view to establishing a consistent and cooperative national approach to automated vehicle law.

# Locating liability

*Google says it bears 'some responsibility' after self-driving car hit bus.*

*The California Department of Motor Vehicles states it is not responsible for determining fault.*

*The Santa Clara Valley Transportation Authority will investigate.*

*The Mountain View Police Department said no police report was filed.*

*The U.S. National Highway Traffic Safety Administration declined to comment.*

(Abridged from [Reuters](http://www.reuters.com/article/us-google-selfdrivingcar-idUSKCN0W22DG), 29 February, 2016[[5]](#footnote-5))

This submission has already noted that some (ostensibly unrelated) statutes outside road transport law still require review. For the same reasons, changes to transport law or the introduction of novel law around machine autonomy must seek to defend the individual rights of all the vehicle’s occupants, but in balance with the traditional (safety, privacy and property) rights enjoyed by other vehicle users and citizens at large.

For example, the modern reliance on subordinate law (i.e. regulations, guidelines etc.) has created an explosion in summary offences, red tape, ever-changing rules and a degree of regulatory overlap in transport law that no reasonable person can expect to understand or comply with in full. It is thus possible that new rules for autonomous vehicles will simply add to this legal complexity, or that the removal of some existing regulatory barriers could reduce current legal protections.

In general, any reductions in red tape, in barriers to market activity and removal of any other ill-advised impulses to micro-manage the private sector are welcome, but the arrival of autonomous vehicle and smart infrastructure provides a good opportunity for new laws to avoid such problems from the start.

Any framework for automated vehicle operations should include procedurally swift, financially feasible and fair avenues of appeal and redress for users, passengers, owners, purchasers, operators and repairers.

Noting the many items raised in the issues paper in relation to existing legal treatments, barriers and protections, the ATA adds the following:

* (Semi-) autonomous vehicles – who, what and when is someone in control?
* Unlicensed, disabled, unfit or under-aged persons and control of autonomous vehicles
* If there are multiple occupants, who will be deemed the ‘driver’?
* Liability, insurance and general responsibility for the actions of an automated vehicle
* Autonomous vehicle interactions with standard vehicles
* Remote vehicle control, denial of road access and involuntary enforcement intercepts
* Scheduled maintenance requirements, particularly if vehicles are not privately owned
* Data flows and control – geographic and audio-visual privacy protection

Although the possibility of employment displacement effects from autonomous technology is an issue that falls outside the scope of this review of regulatory barriers to technology, the issue of displaced workers as well as the potential for new kinds of jobs to appear in the marketplace indicates there is important strategic planning activity for the Australian government ahead.

A key concern for the road transport industry is driver fatigue. While there may be no option for a person to take control in the type of vehicle envisaged by Google, the advent of semi-autonomous vehicles indicates that regulators have to consider a possible deterioration in driving skills and occupant alertness[[6]](#footnote-6)

if imposing any requirements for resumption of vehicle control.

The potential effects of automated vehicle use on driving skills and alertness levels represent current research gaps that were recently highlighted by Prof. Michael Regan, Chief Scientist of Human Factors and his colleague, Dr Charles Karl, National Technical Leader, Congestion, Freight and Productivity at ARRB Group at the Australian Driverless Vehicle Initiative conference held in November, 2015.

Another barrier to vehicle automation is consumer confidence. Despite the oddly autocratic claims[[7]](#footnote-7) made by some commentators that automated vehicles are coming ‘whether people like them or not’, it remains a fact that general confidence in full automation is very low[[8]](#footnote-8). The sensible phasing in of automated vehicles and their early interactions with normal vehicles will be key to their long-term acceptance.

Therefore, the NTC should also consider the Australian Law Reform Commission’s (ALRC) *Final Report on Traditional Rights and Freedoms – Encroachments by Commonwealth Laws* released this month. The ALRC was asked by the Government to report on any Commonwealth law that encroaches upon the traditional rights, freedoms and privileges of the Australian citizen.

**Recommendation 3**

That the NTC review the Australian Law Reform Commission’s *Final Report on Traditional Rights and Freedoms – Encroachments by Commonwealth Laws* and ensure that no future law, nor amendment of law or regulation for more automated vehicles is proposed that would encroach upon the traditional legal rights and individual freedoms, privacy and privileges of the citizen.

# ‘More automated’ rail vehicles

On page 7, the NTC paper notes, in a section, ‘The regulatory framework for rail’*:*

*The existing regulatory framework does not have prescriptive rules and there are unlikely to be any significant regulatory barriers to introducing more automated trains in Australia.*

It is not merely the dismantling of legal barriers that is required to allow more autonomous vehicles in public spaces, but the possibility of new rules that may be needed for the inevitable interactions between autonomous entities and standard road vehicles.

For example, more automated trains may be faster, slower, more or less frequent, longer or shorter. It is difficult to tell what may happen depending on the state of the technology and the urban or rural, passenger or freight transport task envisaged. If new styles of rail operation emerge as a result of more automation will these be less or more predictable for road users and will they affect signalling activity, lines of sight for trucks approaching level crossings or vehicle speeds and timings for crossing rail tracks.

The ATA recommends that the NTC look closely at the (semi-) autonomous road/rail interface and give consideration to previous recommendations of the ATA for trials of radio break-in technology to avoid deaths at railway crossings. GPS transmitters can be fitted to trains that sends a signal to heavy vehicles fitted with transponders to alert truck drivers of approaching trains.

**Recommendation 4**

That the NTC review previous recommendations of the ATA for trials of train-mounted radio warning systems to alert truck drivers and prevent fatalities at railway crossings.

1. *Abridged f*rom the [NHTSA reply](http://isearch.nhtsa.gov/files/Google%20--%20compiled%20response%20to%2012%20Nov%20%2015%20interp%20request%20--%204%20Feb%2016%20final.htm#_ftn1) to Google’s 2015 letter requesting the NHTSA interpret US Federal Motor Vehicle Safety Standards for vehicles it is developing and testing: *According to Google, these vehicles are fully autonomous, i.e., vehicles whose operations are controlled exclusively by a Self-Driving System (SDS). The SDS is an artificial-intelligence (AI) driver, which is a computer designed into the motor vehicle itself that controls all aspects of driving by perceiving its environment and responding to it. Thus, Google believes that the vehicles have no need for a human driver. NHTSA addresses Google’s requests for interpretation and grants several of them. NHTSA agrees that Google’s SDS may be deemed to be the driver for purposes of compliance with these provisions. In other instances, the issues are simply are not susceptible to interpretation and must be resolved through rulemaking or other regulatory means. NHTSA believes many issues may be resolved on an interim basis through well-supported exemption petition(s), and invites Google to file petitions*. [↑](#footnote-ref-1)
2. GoAuto News, May 13, 2015. Accessed at: <http://www.goauto.com.au/mellor/mellor.nsf/story2/7F8596C610E0E2EDCA257E42002960D9> [↑](#footnote-ref-2)
3. ‘California DMV proposes ban on 'driverless' cars’ - Automotive News, 16 December, 2016. <http://www.autonews.com/article/20151216/OEM06/151219895/california-dmv-proposes-ban-on-driverless-cars> [↑](#footnote-ref-3)
4. Accessed at <http://www.autonews.com/assets/PDF/CA1029751216.PDF> [↑](#footnote-ref-4)
5. Accessed at: http://www.reuters.com/article/us-google-selfdrivingcar-idUSKCN0W22DG [↑](#footnote-ref-5)
6. In its [*2013 Preliminary Statement of Policy Concerning Automated Vehicles*](http://www.nhtsa.gov/About+NHTSA/Press+Releases/U.S.+Department+of+Transportation+Releases+Policy+on+Automated+Vehicle+Development), the US National Highway Traffic Safety Administration (NHTSA) noted the degrees of potential vehicle automation and a variety of unresolved issues such as the unknown effects on driver performance from sustained and short-term travel; risks from interrupting driver involvement with other tasks while operating an automated vehicle; what the most effective hands-off strategies between system and driver are; and what the most effective human-machine interfaces are for ensuring safe operation. [↑](#footnote-ref-6)
7. *You will soon be using a driverless car, but no one knows how*, Business Insider Australia. 12 October, 2015. <http://www.businessinsider.com.au/no-one-knows-how-well-use-driverless-cars-2015-10?r=US&IR=T> [↑](#footnote-ref-7)
8. Only one in five (20%) of U.S. drivers would trust an autonomous vehicle to drive itself with them in it according to a [2016 AAA study](http://www.autoblog.com/2016/03/01/aaa-self-driving-cars-study/) released this month. Another study released by EY global consulting at this year’s Geneva Auto Show found more than 40% of drivers might accept autopilot steering and two-thirds might let an autopilot steer if they retained the ability to take control in an emergency. [↑](#footnote-ref-8)