



11 July 2016

ATT: Automated Vehicle Team
National Transport Commission
Level 15/628 Bourke Street
Melbourne VIC 3000

Dear Automated Vehicle Team,

Regulatory Options for Automated Vehicles: Discussion Paper

IAG welcomes the opportunity to provide comment on the National Transport Commission's (NTC) Regulatory Options for Automated Vehicles: Discussion Paper (the "discussion paper").

IAG is involved across the automotive industry in NSW and Australia. Through the IAG Research Centre, our business is involved in the design, performance and testing of vehicles, our supply chain network is made up of industry specialists who repair hundreds of thousands of vehicles for our customers each year. We also work closely with vehicle manufacturers and Original Equipment Manufacturers (OEM's), and underwrite commercial vehicle fleets, and agricultural machinery through our Commercial Insurance lines.

IAG's purpose is to help make our world a safer place, as such; we support the safe introduction of Automated Vehicle technology onto Australian roads. The potential for Automated Vehicles ("AVs") to change the way we use transport will be far reaching. It's been reported that, in theory, many of the negative impacts of transport such as congestion, emissions and crashes could be avoided.¹

While the future of autonomous vehicles in the Australian context is in its very early stages, IAG acknowledges there are significant opportunities for business, industry and government. IAG is dedicated to embracing this change for the benefit of our customers, shareholders and for the community at large. Overall, we see the rapid advancement of technology as a huge opportunity to

¹ Mainroads Western Australia: Automated Vehicles: Are we Ready?: January 2015

evolve our products and services to better serve our customers before, during and after an incident or disaster. IAG is pursuing digital and design innovation, while identifying and harnessing disruptive technology.

IAG considers it important for Australia's economic future to ensure the regulatory settings are right to harness the fiscal, road safety and environmental benefits of this technology. Australia has the professional, technical and trades orientated skill base, large geographical area for testing, the technological capability and much of the ITC infrastructure in place to leverage this as an alternative source of income generation.

Therefore the next 5 years are critical in terms of the evolution of AV technology on Australian roads. IAG strongly supports the NTC's work in developing nationally consistent, flexible, performance based regulation that will help to quickly position Australia as a major world player in this area. Critical to Australia's success, is that related regulation developed is consistent with European regulation and standards to acknowledge the global automotive market.

A contemporaneous approach to regulation needs to be taken. This approach will strike a balance between providing enough certainty to the market to encourage AVs onto Australian roads, while also being dynamic enough to respond to rapidly changing technology. Ongoing monitoring and review of guidelines, as well as capacity for legislation/regulation to have ongoing opportunity to be reviewed and updated will be required and should be proactively built into to the framework recommended by the NTC.

Please find the detailed response to the Options detailed in the Discussion Paper to follow. Should you wish to discuss this submission or make further enquiries, please contact the following:

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IAG would be pleased to discuss aspects of this submission in greater detail.

Yours sincerely

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Response to Options

SUPPORTING ON-ROAD TRIALS

How should governments support on-road trials?

Option 1		Continue current approach – rely on exemptions, granted on a case-by-case basis
Option 2		Option 1, plus support industry development of a code of practice to undertake on-road trials
Option 3	IAG supports	Option 1, plus introduce national guidelines to support a consistent approach to on-road trials
Option 4		Development of uniform legislation to support on-road trials, applied in state and territory road safety laws

Question 1a: Do you agree that automated vehicle trials should be supported with national guidelines? If not, why?

IAG agrees that AVs should be supported by national guidelines endorsed by all states and territories; as such IAG supports Option 3. IAG strongly supports a national approach to on-road testing to ensure trials are undertaken in an efficient manner. This is critical to establish the foundations for AV technology on Australian roads. National Guidelines will be quicker to establish, will be more flexible than a legislative approach, this will help Australia to establish itself as an attractive market for AV testing.

Option 1 and Option 2 would risk a disjointed approach to testing conditions, likely resulting in trial conditions that differ across jurisdictions, which may make it more onerous for international companies to test vehicles on our roads. Australia should be taking an active lead in on-road trials given our unique weather conditions, and geographic distances.

Ideally a central repository of information collected with regards to on-road trials should be developed as part of the National Guidelines. This will allow each state and territory to build a library of results that can be shared to facilitate any risks, key learnings and to encourage continuous improvement.

National Guidelines could be similar to those developed by NHTSA in the United States and the Department for Transport in the United Kingdom with safety as a primary focus.

Question 1b: What key conditions should be included in any national guidelines?

IAG recommends that a review of international road testing guidelines could be done to ensure Australia learns from other country’s experiences to develop best practice. Critical as part of the guidelines should be a nationally consistent approach to minimum safety standards, insurance requirements, commitment to local road traffic laws and conditions, engagement with relevant road and traffic authorities, appropriate qualifications for the test driver, operator and any other specialists. The vehicle should meet standard Australian roadworthy requirements, and a standard level of data should be made available to track control of the vehicle in case of any incidents. Safety standards are critical, but guidelines should not be overly onerous so as to incorporate excessive red tape, nor to stifle innovation.

THE CHANGING MEANING OF CONTROL AND PROPER CONTROL

How should the meaning of control and proper control be adapted for automated vehicles?

Option 1		Continue current approach – industry develops its position on the meaning of <i>control</i> and <i>proper control</i> and the concept is tested in the courts
Option 2	IAG Supports	National enforcement guidelines are developed by governments that clarify a policy position on the meaning of control and proper control for automated vehicles
Option 3		The Australian Road Rules and state and territory traffic laws are amended to clarify the meaning of control and proper control

Question 2a: Do you agree that the issues of *control* and *proper control* should be addressed through national enforcement guidelines? If not, why?

The automotive industry is a globally integrated industry with many product lines sharing platforms and major components. However Australian consumption represents less than 1.5 percent of global vehicle production. Vehicles sold in Australia are mostly (but not always) designed, developed and built in countries such as Japan, Korea, Europe, Thailand, India and the United States². Vehicles are designed in accordance with the Original Equipment Manufacturer’s global standards. To support rather than impede the roll out of new technology for AVs, it will be important for Australia where possible to take a harmonised response to European regulation, but to ensure that our unique local conditions are factored into the regulatory settings.

Therefore IAG does not agree with Option 1. IAG considers it important to remove any perceived barriers to testing and the eventual introduction of more fully automated vehicles onto Australian roads. As such, we support Option 2, which is to develop national enforcement guidelines to clarify the meaning of “control” and “proper control” for AVs. This will help to provide more certainty for consumers, manufacturers and other interested entities as quickly as possible. Unlike legislation,

² <http://www.fcai.com.au/>

which can be prescriptive, guidelines should be dynamic enough to evolve with technological advancement.

In acknowledging that guidelines lack legal force, they should be accompanied by the caveat that legislative amendments to Australian Road Rules and state and traffic laws will be made in the longer term, once more fully autonomous AVs are gaining traction in the market place.

Question 2b: How should *control* and *proper control* be defined?

IAG considers that “proper control” could be defined to include “monitoring” and “intervention” to allow for the use and operation of partially automated vehicles which do not require the driver to physically control the vehicle at all times.

Overall, for Australia to compete globally, it is necessary that our regulation is in harmony with international standards, and in this context, definitions of control and proper control should be in line with the UN Regulations as they are developed.

SAFETY ASSURANCE FOR VEHICLES THAT DO NOT REQUIRE A HUMAN DRIVER

What is the optimum role of governments to ensure the safe operation of automated vehicles that do not require a human driver?

Option 1		Governments amend the current regulatory framework by removing barriers for more highly automated vehicles to enter the market, and allow industry to self-regulate the safe operation of automated driving functions
Option 2	IAG Supports	Governments implement a national safety assurance framework to oversee the deployment of automated vehicles that do not require a human driver, in conjunction with removing legal barriers.

Question 3a: Do you agree that governments should oversee the safe operation of automated vehicles through development of a national safety assurance framework? If not, why?

IAG supports Option 2 which is the development of a safety assurance framework to oversee the deployment of automated vehicles that do not require a human driver into the Australian market and onto our roads.

The Australian automotive market is unique. Unlike the rest of the world, we have a largely unconstrained, highly volatile and competitive market. In Australia 23 million people have a choice of 67 Marques and more than 365 model variants coming from 29 different countries. In comparison,

America has only 40 marques/models servicing the 315 million strong market, (which is 15 times larger than the Australian market).³

As more automated vehicles enter the country, we can anticipate a variety of different levels of performance, quality and construction on our roads. It is therefore important that a national safety assurance framework exists at that time, to help protect all road users. However, IAG emphasises the principals of national consistency and flexibility are required so as not to stifle technical innovation, and critically, an approach that is harmonised with international standards.

There is also a role for ANCAP in influencing vehicle safety and in educating consumers about new technologies. We need to prepare for and ensure safety is not compromised with a mixed vehicle fleet on the roads. Importantly, community confidence in the technology needs to be built and a safety assurance framework will support this.

THE CHANGING MEANING OF DRIVER AND DRIVING

How should governments respond to the legislative definition of the terms driver and driving?

Option 1		Continue current approach – rely on exemptions, granted on a case-by-case basis
Option 2	IAG Supports	<p>Expand the meaning of driver in relevant legislation to:</p> <ul style="list-style-type: none"> • Include an automated driving system; and • Ensure that a legal entity must be responsible for the automated driving system; and • Ensure that the intent of the law can apply to an automated driving system

Question 4a: Do you agree that the definition of *driver* and *driving* should be amended in relevant legislation? If not, why?

IAG supports Option 2. This is the proposition that the term ‘driver’ should be defined to include automated vehicle systems to allow for the safe introduction of level 3, 4 and 5 automated vehicles. It is noted that the United States’ National Highway Traffic Administration (NHTSA) has confirmed it will consider the Google Artificial Intelligence (AI) system a driver:

“If no human occupant of the vehicle can actually drive the vehicle, it is more reasonable to identify the ‘driver’ as whatever (as opposed to whomever) is doing the driving.”

³ An Industry At CrossRoads, Australian Motor Industry Federation, 2015, pg 14

However, while this helps to address some concerns about assigning liability, it is difficult to imagine how an AI driver would pass appropriate licence and training tests. These issues must be worked through in detail, and we may need to ensure the regulatory approach is flexible enough to respond to emerging issues, yet firm enough to enable the management of the whole system.

When defining the driver of an automated vehicle, consideration should also be given to the roles of the owner, the registered operator and the person operating the vehicle and under what circumstances these individuals may be considered the driver of vehicle.

A further issue for consideration is the lack of consistency in road markings and in some cases road rules. For example, in NSW roundabout regulations vary depending on the location and shape of the roundabout and road markings can allow a right turn from the left lane.

IDENTIFYING RESPONSIBILITY FOR A VEHICLE AT A POINT IN TIME

How will enforcement agencies interact with the automated vehicles and determine who was responsible for a vehicle at a point in time?

Option 1	IAG Supports	Enforcement agencies continue current approach – in the event of an offence, agencies take action against the human driver or registered owner
Option 2		Enforcement agencies collaborate with industry to develop technology interfaces that enable police to identify automated vehicles and also identify who was responsible for a vehicle at a point in time
Option 3		Amend state and territory road safety and traffic legislation to deem the automated driving system entity of a highly automated vehicle to be responsible for vehicle related offences

Question 5: Do you agree that the driver or registered owner should be deemed responsible for the actions of the automated vehicle, and for governments to further investigate options as the technology and market develops? If not, why?

IAG agrees that Option 1 will suffice for the short term. In addition to clarity of the definition of driver, mandatory requirements for in-vehicle technology to track who is driving/responsibility for the vehicle at any one time need to be dictated by an appropriate regulatory framework. This clarity of driver and responsibility is essential to avoid costly and lengthy legal disputes between manufacturers and consumers or between manufacturers and insurers should collisions or incidents occur.

It will also need to be mandatory for consumers and key stakeholders to have ready access collision information to help determine who is liable. At an international level, insurers are compiling a list of

data considered to be essential in order to address liability and insurance issues. This issue is addressed in more detail under the response to Liability on page 15.

VEHICLE DESIGN AND STANDARDS

How should governments approach the issue of vehicle standards for highly and fully automated vehicles?

Option 1	IAG Supports	Continue current approach – rely on exemptions, granted on a case-by-case basis, until international standards are developed (In the longer term, governments should adopt new ADRs and in-service vehicle standards for automated vehicles, in step with the development of international standards)
Option 2		Adopt new ADRs that support highly and fully automated vehicles

Question 6: Do you agree that governments should continue to rely on vehicle standards exemptions at this point in time? If not, why?

IAG agrees that governments should continue to rely on vehicle standards exemptions at this point in time, as such IAG supports Option 1. However, in the increasingly global automotive market, it is critical that Australia adopts the United Nations Economic Commission for Europe Standards or the UN Regulations. It is of great importance for Australia’s economic future to ensure we can harness the fiscal, road safety and environmental benefits of AV technology.

VEHICLE MODIFICATION AND IN-SERVICE COMPLIANCE

How should governments respond to the potential risks that in-service non-compliance and vehicle modification could have on an automated driving system?

Option 1		Continue current approach – rely on the current regulatory framework to detect and manage non-compliance with in-service vehicle standards
Option 2	IAG Supports	Governments support industry development of modification standards that address automated vehicle issues
Option 3	IAG Supports	Develop national legislation to administer an automated vehicle licensing modification regime, developed as part of the deployment framework for automated vehicles

Question 7: Do you agree with the development of industry-led standards to address modification of automated vehicles? If not, why?

IAG supports both Option 2 and Option 3. Industry led standards might be satisfactory in today's situation, but as we move to vehicles with levels 3 and 4 automation, some additional enforcement will be required to protect road users. This should include ready access to vehicle repair and diagnostic information, and increased monitoring and enforcement to prevent illegal or backyard modifications to the hardware and software of AVs.

Therefore in relation to the issue of vehicle modification, repair and in service compliance there are two issues IAG would like the NTC to consider.

1. Access and availability to technical and diagnostic repair information

Consumers are choosing to drive cars with increasing complex safety features, technology, design and manufacturing materials. Technology within vehicles has increased significantly over the last ten years meaning that the mechanical, information and safety systems are more and more closely integrated.

With sophisticated electronics now controlling vehicle behaviour, integrated with active and passive safety systems and an increasing emphasis on emission control systems, the necessity for accurate technical and diagnostic information is critical to road safety. Australia has a vibrant motor repair industry made up of hundreds of thousands of businesses across the country, including paint and panel repairers, automotive mechanics, (OEM) Service Departments, mechanics, paintless dent repairers, windscreen suppliers & fitters, parts manufacturers, wholesalers, tyre retailers etc. This means consumers have access to a healthy and competitive automotive market.

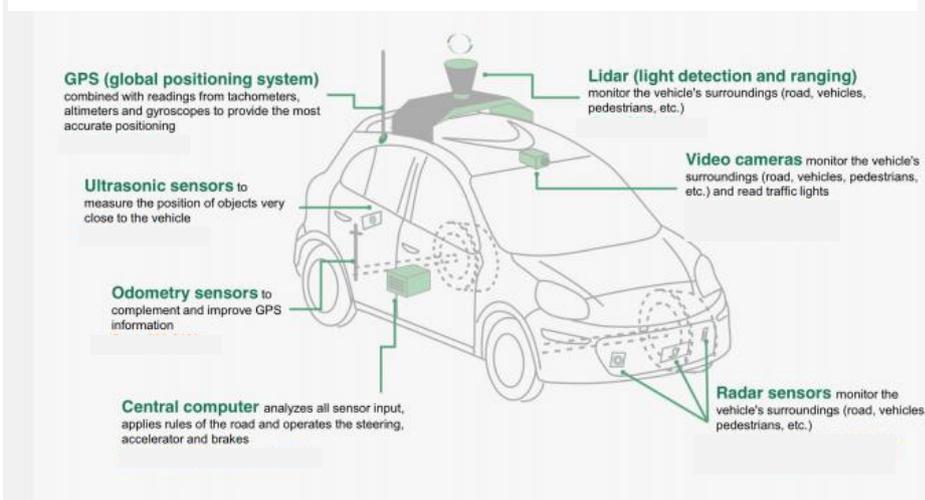
However, after many years of consultation, only recently (2015) has a form of voluntary market based regulation been agreed by the automotive industry to encourage a more formal approach with regards to the publication/accessibility of technical and diagnostic information for motor vehicle repair and servicing. The FCAI Voluntary Code of Practice for Access to Service and Repair Information for Motor Vehicles has yet to make significant inroads to ensuring consumers and the repair industry have better access to vehicle information.

This means that vehicle manufacturers and importers have historically been able to provide this information at their own discretion. Still today they are under no real obligation to make this information available outside their authorised dealer networks.

This has created a situation where independent aftermarket repairers have relied on the goodwill of the manufacturer to obtain critical information to complete the repair. Not surprisingly, many repairers find that the process to access technical information is difficult and time consuming. The rapid advancement of technology integration now incorporated into vehicles makes it even more crucial there is a framework in place. (Refer to Figure 1, which is an example of the different systems

built into a highly automated vehicle).

Figure 1: BCG, *Revolution in the Drivers Seat: The Road to Autonomous Vehicles*, 21/4/2015



Qualified trades specialists should be able to access all information required for the diagnosis, body repair, servicing, inspection, periodic monitoring and reinitialising of the vehicle in line with the service and

repair information that manufacturers provide to their authorised dealership.

There is a fine line between ensuring vehicle and road safety while also promoting a healthy and competitive vehicle repair and component parts market.

2. Risks with regards to modification of vehicles

Relevant fair trading and repair legislative requirements across the country need to be considered when exploring issues relating to the modification of vehicles. These primarily mandate the physical repair and modification of vehicles, but don't necessarily respond to the way in which in-vehicle computers and software are repaired/modified. Illegal and/or aftermarket vehicle software and substandard repairs should be discouraged.

As such, industry led standards might be satisfactory in today's situation, but as we move to have vehicles with levels 3 and 4 automation, some additional enforcement will be required to protect road users. Issues such as 'backyard' modification to vehicles' computing systems have the capacity to significantly affect vehicle performance, such as speed, steering and braking capacity, and as such monitoring and enforcement will need to increase.

However, any form of regulation or guidelines developed will need to be flexible enough to evolve with the rapid pace of technology. Standards developed should be performance based, and technology "agnostic". Any standards developed should also encourage a competitive automotive repair industry by enabling open access to vehicle repair information and diagnostic data.

LIABILITY

How should governments support the resolution of liability and insurance complexities?

Option 1		Continue current approach – rely on existing liability regimes to resolve liability issues on a case-by-case basis
Option 2		Option 1, plus governments support the development of industry guidance, including information about liability and education campaigns
Option 3	IAG Supports	Governments agree to develop nationally-consistent legislation for some or all of the following areas: <ul style="list-style-type: none">a. Clarify legal liability for automated vehicle parties, based on levels of automationb. Regulate third-party access to automated vehicle event data information for prescribed purposesc. Harmonise road manager liability provisionsd. Address compulsory third-party insurance issues and potential barriers

Question 8: Do you agree that governments should support industry-led guidance to address automated vehicle liability issues? If not, why?

IAG's preference is Option 3. IAG considers that Governments around Australia should try to agree to develop nationally consistent legislation in relation to 3b, c and d.

While the legal system and existing liability regimes respond to the current level of automation found in vehicles (primarily levels 2 to 3), this will need to be reviewed as the technology advances. Industry guidance on liability and education campaigns will not suffice in an environment where an increasing number of complicated claims are likely to arise. Consumers require and deserve to have certainty in relation to the safe operation of a vehicle and in the event of a collision, certainty on liability and remedy for any losses incurred.

It is critical that an effective legislative framework is implemented to avoid inconsistencies across States and Territories and a patchwork of legislation and case law. Not only is this onerous for consumers, it may result in conflicting outcomes in terms of quantum, process and resolution, additionally, it may not be economically sustainable in the long-term.

Taking a reactive or overly soft touch approach may result in a perceived barrier and a reduced take up of the technology. A crucial starting point is to harmonise compulsory third-party insurance schemes and also to take a national approach to road manager liabilities.

In recommending that the definition of "driver" be broadened to incorporate the AV system as part of road rules we are taking a significant step forward in developing a legal framework to assist with the

practical introduction of AVs onto Australian roads. This may also help to encourage consumers to increase their trust and understanding of AV technology as the trust and reliance of consumers to driverless cars is particularly relevant as it is an established principle of law that relationships of trust give rise to duties of care.

In relation to 3a IAG believes trying to clarify legal liability for automated vehicle parties based on levels of automation may be an overly simplistic approach to take. We address Option 3a in more detail below.

3a. Clarify legal liability for automated vehicle parties, based on levels of automation

IAG supports the use of the SAE International Standard to classify automated road vehicle functions as it provides a simple framework for understanding the issues relating to the different levels of automation, which will become increasingly complex as the level of vehicle automation increases and the level of human control decreases. Finding a way to embed a common way of describing the level of vehicle automation is critical for consumers, law makers, insurers, manufacturers and those underwriting statutory personal injury schemes.

However, IAG considers careful review of this approach should be done. There will need to be a detailed understanding of how this framework will be applied particularly in a mixed fleet scenario, where there will be multiple levels on the road at the same time. It will be critical to work with a broad set of stakeholders on this to ensure proper consideration of the complex liability issues which will arise.

IAG considers careful review of this approach should be done primarily because liability for an incident involving an AV will turn on the facts and the circumstances of each individual incident. Incidences when they do occur could be caused by a wide variety of reasons. However, we do believe that the principle of simplicity for the consumer should apply and there is a need for a clear avenue for consumer protection and recourse. This is where the insurance industry has a role to play. Liability for incidents/collisions involving automated vehicles could be very complex. Parties that could be potentially liable, partially liable and /or guilty of contributory negligence will depend on the facts and circumstances of each individual incident/collision. Potential liable parties include (but are not limited to):

- The owner of the automated vehicle e.g. for failing to maintain the vehicle if that caused or was a cause of the incident
- The driver of the automated vehicle e.g. for failing to take back control when required if that caused or was a cause of the incident
- A passenger in the automated vehicle e.g. for intervening in the vehicles operation if that caused or was a cause of the incident

- A telecommunications provider e.g. if instructions to the automated vehicle are being conveyed through the providers system and that system malfunctions causing or being a cause of the incident
- Those responsible for building and maintaining roads and road infrastructure e.g. a poorly maintained road that causes issues with the functioning of the automated vehicle causing an incident or being a cause of the incident
- The manufacturer of the automated vehicle e.g. a manufacturing fault in the vehicle causes or was a cause of the incident
- The manufacturer of the automated system that goes into the vehicle e.g. if a system issue caused or was a cause an collision
- A repairer of the automated vehicle e.g. if the repairs were the cause or a cause of an incident
- A installer of the automated system a vehicle e.g. if the installation was the cause or a cause of the incident
- Any number of third parties e.g. another vehicle accidentally drops oil or something else onto on the road and there is an issue as to how the automated vehicle responds, a tree or something else (that was a known risk) falls in front the automated vehicle and there is an issue as to how the automated vehicle responds, a fault of another vehicle that is automated, the negligent driving of another vehicle that is automated, etc.

Therefore to try and attribute fault in advance of an incident would be problematic. What is critical is that data which would assist in determining fault is made available so that the issue can be determined quickly and efficiently.

Passing legislation that covers one aspect of potential liability would only be a piecemeal and incomplete response to legal liability for AVs. In any event, as technology changes, such laws may well become obsolete because levels of automation will change.

3.b. Regulate third-party access to automated vehicle event data information for prescribed purposes

There is scope for Government to play a role in developing clear parameters of good practice when it comes to vehicle data accessibility. There is currently a lack of regulatory specification in this area. At present data collection may not require the explicit consent of the vehicle owner and in some cases transparency around how data is collected, how it is accessed and who has ownership of the data is deficient. IAG considers there is a need to both:

- ensure a standardised, secure and open-access platform for future in-vehicle applications or services, and
- ensure that consumers can readily access data generated by their vehicle and can choose to share it.

As such IAG strongly recommends that the NTC defer to the Productivity Commission Review into Data Availability. This review is considering the below areas which are critical to acknowledge as part of equitable access to vehicle event data. Areas include;

- The benefits and costs of making public and private datasets more available options for collection, sharing and release of data
- identification of ways consumers can use and benefit from access to data, particularly data about themselves
- how to preserve individual privacy and control over data use.

IAG considers that the advent of autonomous vehicles provides policy makers within an opportunity to put in place best practice data sharing measures before the data is collected, and without being encumbered by legacy data investment considerations.

New vehicles have increasing capability to record, store and send data back data to the manufacturer which can allow ongoing updates on the health status of the car system, and also on the usage profile and driving behaviour of the owner/driver. The volumes of data capable of being generated by autonomous vehicles will have significant value for all sectors of the community. Sensor information can be used to guide infrastructure development with more granular data on traffic flows and congestion.

Consumer benefit

An emerging area of concern is the potential consumer detriment arising from a lack of clearly defined ownership and control for consumers relating to vehicle data and technical information. Ideally, drivers must remain in control of their vehicle data and be free to share it with the service providers of their choice. Access to this data should take place through an open platform that allows fair competition between service providers and free consumer choice. It should not take place through a proprietary model under the control of a single stakeholder, which would be to the detriment of consumers and limit innovation and potential productivity gains.

Access to in-vehicle data will assist with protecting consumers, vehicle owners, road users and more broadly the community in this area. This should involve collaboration between all stakeholders including enforcement authorities, manufacturers, government and insurers. The European Union has mandated that all auto makers implement emergency calling technology (eCall) in new cars by 2018. When there is a collision or other incident, an eCall device in each car will automatically alert authorities and send data about the impact.

Collision information

From the insurance standpoint, if an automated vehicle does have a collision it is very important that the insurance industry (and other stakeholders including the police) are aware of who is liable. Ready access to 'crash' information is critical to apportion liability and to make the claims process as efficient as possible for consumers. This should be made available to key stakeholders in an agreed format, and in an efficient, low cost manner.

It is worth noting that at an international level, insurers have compiled a list of data that is considered essential in order to address the liability and insurance issues required. There are listed below:

I GPS-time

II GPS-Location

III ACSF Status

IV Automotive Corrective Steering Function Mode e.g. Parking or Driving

V Automotive Corrective Steering Function Transition time stamp

VI Record of Driver Take over

VII Driver Seat Occupancy

VIII Driver Belt Latch

Repair and diagnostics

With sophisticated electronics now controlling vehicle behavior, integrated with active and passive safety systems and an increasing emphasis on emission control systems, the necessity for accurate technical and diagnostic information is critical to road safety. Only recently has a form of market based regulation been established to encourage a more formal approach with regards to the publication/accessibility of technical and diagnostic information for motor vehicle repair and servicing.

This means that vehicle manufacturers and importers have historically been able to provide this information at their own discretion. Still today they are under no real obligation to make this information available outside their authorised dealer networks. This has created a situation where repairers and insurers have relied on commercial nous, broader strategic partnerships with research organisations or the goodwill of the manufacturer to obtain critical information to complete the repair. This is not sustainable for the long term.

Safe Systems

While automated vehicles have the potential to reduce death and injury on our roads, we must ensure the entire system can respond in event of catastrophic failure arising from environmental, product, infrastructure, software, or security interference. Issues such as vehicle theft, fraud and cyber security need to be addressed and there is undoubtedly a role for regulation in this. AVs have a high level of computer technology and will be connected; meaning security issues such as their ability to be “hacked” should be addressed.

Ideally, drivers must remain in control of their vehicle data and be free to share it with the service providers of their choice. Access to this data should take place through an open platform that allows fair competition between service providers and free consumer choice. It should not take place through a proprietary model under the control of a single stakeholder, which would be to the detriment of consumers.

3.d. Address compulsory third-party insurance issues and potential barriers

A contemporary approach to compulsory personal injury and motor vehicle insurance is needed

Motor vehicle injuries are often serious and can have a significant impact on the emotional, social and financial aspects of a person's life. For this reason, compulsory personal injury motor vehicle insurance is an essential element of our modern society as it provides support and benefits to those who have sustained injuries as a result of a motor vehicle accident. As the scheme is compulsory, it is imperative that it is designed in a way that appropriately balances support for injured people and affordability for all motorists.

While the current State and Territory CTP schemes will respond to current levels of automation in the market, as levels increase in sophistication, it will need to address the issue of who or what is the 'driver' and appropriate levels of cover. IAG recommends there is a greater need for review of these issues than is articulated in the NTC discussion paper. It is critical that these schemes are able to adequately respond to increasing vehicle automation.

The shift of liability from human driver to AV system/manufacturer is not necessarily going to be clear-cut as levels of automation increase from levels 3, levels 4 and level 5. In addition to the multiple parties involved in sharing liability (component maker, software developer, data communicator, location responder etc), it is anticipated that different vehicles will offer different functions that relate to autonomous driving and the vehicle performance – this will further add to complexities with regards to apportioning liability.

Important to note is that while automation is a key element to reducing road trauma and we can expect to see a decline in vehicle occupant fatalities, personal injury will continue. This is particularly likely during the next 5 – 15 year period as the technology is gradually introduced onto Australian roads. Critical for policy makers to note is that the transition period where passive monitoring takes place with intervention only required if something goes wrong - during levels 3 and 4 automation⁴ – still requires (albeit to varying extents) an element of human judgment and response.

Removing human error such as; poor judgment, slow reaction time, lack of visibility, inattention, sleepiness and fatigue; influences of alcohol or drugs and driver distraction means that in many ways the future of improving vehicle safety lies with autonomous technologies⁵. However, while people are in charge of the vehicle in any capacity, even in semi-autonomous vehicles, these issues will remain.

While there is potential for improved road safety, IAG recommends that analysis is read cautiously, as a great deal more on-road testing is required to understand the grey areas where varying levels of automation intersect with human intervention.

(As identified by the SAE International Standard J3016)⁴.

⁵ FleetAlert (April 2011), 'Human error accounts for 90% of road accidents' accessed at <http://www.alertdriving.com/home/fleet-alert-magazine/international/human-error-accounts-90-road-accidents>

With this in mind, there will be an ongoing need for personal insurance, including compulsory third party (CTP), property damage and product liability insurance. Whilst CTP is a mandatory insurance cover for any vehicle registered for use on public roads in Australia, the other forms of insurance are dependent on consumer choice. It is a question for legislators whether there is an appetite to extend the compulsory personal injury cover for third parties to also include property damage in an autonomous vehicle environment which would align the Australian AV motor insurance regime to that recently announced in the UK.

The human interaction at different levels of automation needs to be tested and monitored. There is no consistent agreement across the manufacturing sector to respond to issues such as whether human behavior could challenge a liability promise. This means consumers are left with a level of uncertainty as the technology evolves. Furthermore, different companies are likely to offer different types of vehicle capabilities and features. For example, Tesla vehicles offer different levels of acceleration in different vehicle models. These are known as either “insane mode” or “ludicrous mode”, where drivers can choose to accelerate from 0 to 60 mph in just 2.8 seconds⁶.

We know that with any software application consumers are most interested in customising for their own personal preferences. Transferring this type of consumer preference to automated vehicle technology may add even further complications when it comes to liability – and as yet these sorts of issues are not fully tested. Hence there is a role for the insurance industry to work closely with regulators and legislators to understand these types of issues to ensure an adequate level of consumer protection.

Similarly, we must design with a mixed fleet in mind, with vehicles having different levels of automation intersecting in real-time on the roads. Industry guidance, or a Code of Conduct as proposed by the NTC risks too much of a “light-touch” approach in an increasingly complex market which has the potential to leave consumers vulnerable. Ultimately, consumers won’t want to be blamed for collisions involving AVs that weren’t their fault.

Alignment of CTP schemes should be a priority reform

As previously stated, we believe that there needs to be immediate priority placed on aligning the various state and territory Compulsory Third Party insurance (CTP) schemes as part of the consideration of who has proper control and operation of vehicles. This is a considerable undertaking, however is necessary given that CTP schemes across Australia are different in their approach to ‘fault’ and ‘no fault’ and do not offer the same benefits to those injured in a motor crash.

Aligning CTP schemes across the states through a set of minimum standards can be achieved in a similar way to the agreement across states to implement the National Injury Insurance Scheme

⁶ <http://shop.teslamotors.com/products/ludicrous-mode-p90d-ms>

(NIIS). This will ensure consumers can access the same level of personal injury cover regardless of which state or territory the incident occurs and enables a clear national liability framework to be understood by manufacturers, insurers and other parties.

We also need to ensure that the regulatory settings make it easy for consumers to access appropriate compensation or treatment without needing to go to the courts. It is worth considering why CTP was introduced in the decades following the introduction of the motor car. The principle purpose of CTP was to protect the motor driver from financial loss due to being sued for damages in court, and to ensure an injured third party was able to access the appropriate medical treatment and compensation in event of injury. Since the early years of these schemes there has been an evolution with some state schemes operating a ‘no fault’ model which means benefits can be accessed without needing to prove fault, whilst others operate ‘fault’ based models.

Overall, a nationally consistent approach to personal injury will only help provide consumers with the confidence to continue to invest in more automated vehicle technology while also helping to minimise any barriers to the Australian market.

The current CTP schemes across Australia were not designed to accommodate the recent developments we have seen in vehicle use and design, like car and ride sharing and driverless vehicles. The scheme needs to consider these developments and be flexible enough to accommodate further advances in technology and changes in the way vehicles are used.

PRIVACY

How should governments support the protection of personal information?

Option 1	IAG Supports	Continue current approach – regulate privacy protection through Australian Privacy Principles and state-based Information Privacy Principles (until the privacy risks of automated vehicles are established)
Option 2		Option 1, plus governments and industry develop best-practice guidance for automated vehicles
Option 3		Governments legislate access to automated vehicle data, including identifiable location information

Question 9: Do you agree that personal information generated by automated vehicles should continue to be regulated by privacy principles and with no additional legislative controls at this time? If not, why?

The NTC's discussion paper on concludes that 'The privacy risks of automated vehicles will primarily depend on the technologies adopted and the extent to which automated vehicles generate personal information. Therefore, while legislative controls on the use and access to automated vehicle personal information by governments may be warranted in the longer term, until the privacy risks are better known the current application of privacy and surveillance laws should sufficiently protect consumers' privacy.' IAG endorses this measured approach for the numerous other emerging technologies until the broader and longer term implications are understood.

Data Security

While AVs have the potential to reduce death and injury on our roads, we must ensure the entire system can respond in the event of catastrophic failure arising from environmental, product, infrastructure, software, or security interference. Issues such as vehicle theft, fraud and cyber security need to be addressed and there is undoubtedly a role for regulation in this. AVs have a high level of computer technology and are likely to be connected, meaning security issues such as their ability to be "hacked" should be addressed.

The growing importance of network-based information and other connected services in transport obviously poses increased cyber-security risks, especially when networked-based systems interact directly or indirectly with primary control systems of vehicles.

A recent survey of potential cyber-attack vulnerabilities of US cars identified a number of potential attack surfaces posing variable risks depending on vehicle and sub-system design. It notes that manufacturers' anticipation of risks and design response is uneven, especially for secondary systems – including the distributed network of electronic control units (ECUs) within vehicles. Convergence between sensor networks and vehicle control systems (e.g. those found in automatic cruise control, lane keeping or parking assistance functions) poses particularly strong risks in that sensor inputs can potentially be modified or spoofed leading to degraded or lost control of vehicles (Miller & Valasek, 2014).