

GUIDELINES FOR TRIALS OF

AUTOMATED VEHICLES

IN AUSTRALIA



Guidelines for trials of automated vehicles in Australia

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FOREWORD

Automated vehicles are set to fundamentally change the way we look at transport and our society at large.

The introduction of automated vehicles into Australia requires rapid advances in a number of key policy areas.

The potential benefits of this technology are vast: improved road safety outcomes, increased mobility for an ageing population and people with a disability, as well as productivity and environmental efficiencies.

Australia sits ready to embrace this new technology but first we need to know that these vehicles are safe to use.

To that end, Australia's transport ministers have endorsed an ambitious roadmap of reform that will facilitate the introduction of more automated vehicles on our roads.

These guidelines represent the first step of the roadmap. Their purpose is to provide clarity to industry so that trials can take place across all states and territories.

Vehicle manufacturers, technology developers, governments and other agencies submitted feedback on these guidelines. This consultation highlighted the importance of national consistency to encourage investment and support cross-border trials. By developing a single and nationally-agreed set of guidelines, we want Australia to become a global testbed for automated vehicles.

The guidelines are designed to offer flexibility and to support different technologies and applications as they emerge. Rather than embed trial requirements in legislation, these guidelines provide a performance-based framework that supports innovation and gives certainty to governments and industry alike.

Austrorads and the National Transport Commission (NTC) look forward to continuing this partnership with government and industry as Australia prepares for the deployment of more automated vehicles on our roads.



Chairman
National Transport Commission



Chairman
Austrorads

ABOUT AUSTROADS AND THE NTC

Austrroads and the National Transport Commission are working closely with key government and industry stakeholders to develop the regulatory and operational frameworks that will support the deployment and optimise the benefits of automated vehicles.

AUSTROADS

Austrroads is the peak organisation of Australasian road transport and traffic agencies.

Austrroads' purpose is to support its member organisations to deliver an improved Australasian road transport network. To succeed in this task, Austrroads undertakes leading-edge road and transport research which underpins its input to policy development and published guidance on the design, construction and management of the road network and its associated infrastructure. Austrroads also supports its members to achieve consistency and improvements in the application of registration and licensing practices, processes and systems.

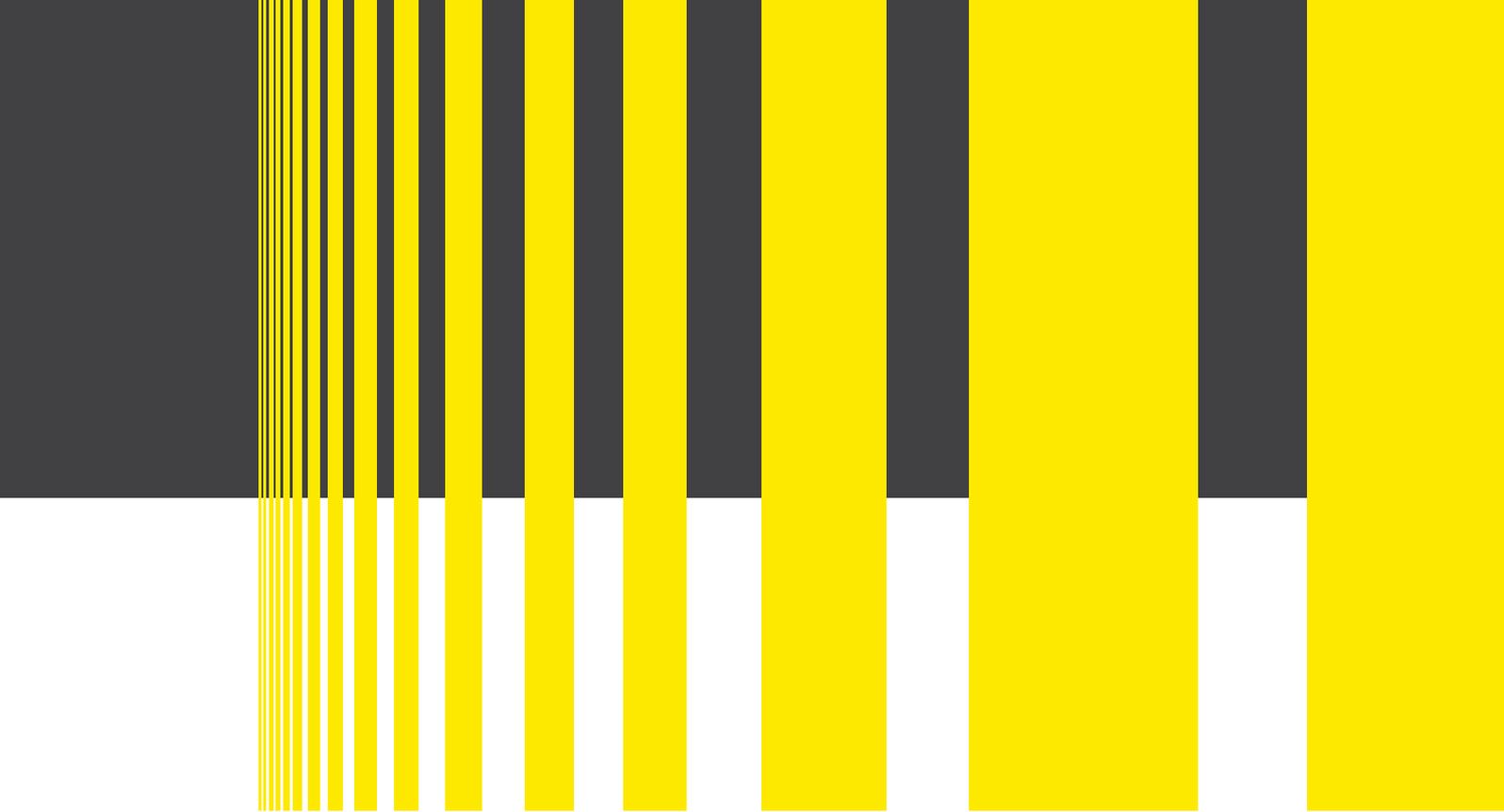
NATIONAL TRANSPORT COMMISSION

The National Transport Commission is an independent advisory body that provides quality, impartial advice and national land transport reform proposals to government through the Transport and Infrastructure Council. The Council consists of Commonwealth, state and territory ministers responsible for transport and infrastructure.

The NTC contributes to the achievement of national reform priorities which are agreed by the Council. The Council's current strategic reform priorities are:

- sustainable funding for transport and infrastructure
- embracing innovation and technology in transport and infrastructure
- productive and liveable cities and regions
- maximising freight productivity.

The NTC is a corporate body established as a national transport reform agency by the *National Transport Commission Act 2003*, and is funded by the Commonwealth, state and territory governments.



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The cover of these guidelines is an abstract visual representation of the Doppler effect. Similar to the Doppler effect, the automotive industry is constantly moving forward through advancements in technology and continuous research and development.

1.

INTRODUCTION

Increasing automation in road vehicles has the potential to revolutionise urban mobility. Predicted benefits of automated vehicles include significantly improved road safety, along with better productivity, mobility and environmental outcomes.

Increasing automation in road vehicles has the potential to revolutionise urban mobility. Predicted benefits of automated vehicles include significantly improved road safety, along with better productivity, mobility and environmental outcomes. To achieve these outcomes, it is crucial that automated vehicles are trialled in order to demonstrate the capability of the technology. Industry and governments must assess automated vehicles against real-world challenges, including interactions with other road users and road environments. Trials will also increase awareness and understanding with the public – the users and beneficiaries of this mobility revolution.

Vehicles cannot legally operate in highly or fully automated driving mode on public roads due to existing legal barriers. Organisations seeking to run automated vehicle trials will require state and territory road transport agencies to provide permits or exemptions from these legislative obligations. This could include obligations in the Australian Road Rules (ARRs) or other road transport legislation.

Road transport agencies also have a responsibility for road safety and must ensure:

- trials are safe, including ensuring they are only run in appropriate conditions
- trialling organisations are managing safety risks appropriately
- trialling organisations can manage liability and that any injury or damage caused by a trial can be appropriately compensated
- any crashes can be appropriately investigated
- trials may operate across state borders where appropriate.

Road transport agencies will seek to impose conditions on these exemptions or permits to address the above matters – for example, by limiting the roads on which the trial can be run or requiring a safety management plan to be developed.

1.1 GUIDELINES

In November 2016 Australian transport and infrastructure ministers requested that the National Transport Commission (NTC) and Austroads develop national guidelines for trials of automated vehicles in Australia. The guidelines are intended to:

- support nationally consistent conditions for automated vehicle trials in Australia
- provide certainty and clarity to industry regarding expectations when trialling in Australia
- help road transport agencies manage trials in their own state or territory as well as across state borders
- establish minimum standards of safety
- help assure the public that roads are being used safely
- help raise awareness and acceptance of automated vehicles in the community.

To meet the requirements to receive an exemption or permit, trialling organisations will be expected to:

- provide key information on the proposed trial
- provide a safety management plan
- have appropriate insurance in place
- agree to provide certain data.

1.2 APPLICABILITY OF CRITERIA IN THE GUIDELINES

The guidelines set out criteria that must be addressed in any application for an automated vehicle trial. Because trials will differ in technology, scale and risk, some criteria may not be relevant to some trials. Trialling organisations must set out how they have addressed each criterion or explain why that criterion is not relevant for their trial.

1.3 PURPOSE OF THE GUIDELINES

The national guidelines are intended to promote Australia as a testbed for automated vehicle technology. The guidelines are also intended to help trialling organisations to ensure safety when testing automated vehicle technology on Australian public roads. The guidelines aim to provide clear guidance on matters that should be addressed by trialling organisations as part of the trialling process for both light and heavy automated vehicles.

The guidelines provide a flexible mechanism to encourage innovation while maintaining safety. The guidelines aim to accommodate a range of different automated vehicle technologies and applications, and the management of trials will allow for these differences. For example, the risks posed by the trial of a single, low-speed, driverless shuttle on a set route will be different from those for a trial of a fleet of heavy vehicles on a motorway.

THE GUIDELINES PROVIDE A FLEXIBLE MECHANISM TO ENCOURAGE INNOVATION, WHILE MAINTAINING SAFETY.

National guidelines adopted and applied by all states and territories aim to ensure that trialling organisations have similar trial conditions, regardless of which state or territory the trial is conducted in. This supports cross-border or national trials. The national guidelines also aim to allow information sharing, where appropriate, about trial and research outcomes. The national guidelines will endeavour to facilitate collaborative research, support Australian competitiveness and reduce administrative costs.

1.4 VEHICLE AND DRIVER REGULATION IN AUSTRALIA

Australia is a federation. The Commonwealth Government has responsibility for setting requirements for new vehicles, while state and territory governments are responsible for the road network, vehicle operation, driver licensing and vehicle registration.

The *Motor Vehicle Standards Act 1989* (Cwlth) requires all road vehicles, whether they are newly manufactured in Australia or imported as new or second-hand vehicles, to comply with the relevant Australian Design Rules (ADRs) at the time of supply to the Australian market. The ADRs are national standards for vehicle safety, anti-theft and emission controls and cover issues such as occupant protection, lighting, noise, engine exhaust emissions and braking. The Commonwealth Government can exempt new and imported vehicles from the ADRs.

Vehicles involved in a trial could be light or heavy vehicles. The ARR and Australian Light Vehicle Standard Rules (ALVSRs) form the basis for state and territory road rules and vehicle standard requirements. The ARR promote road safety by establishing uniform rules of the road for drivers and riders of motor vehicles, riders of bicycles, pedestrians and passengers. The ALVSRs form the basis for the in-service light vehicle standards within each state and territory. For states and territories that participate in the heavy vehicle national law scheme, in-service heavy vehicle standards are administered through the Heavy Vehicle National Law (HVNL).

States and territories have exemption and permit powers in relation to the road rules, traffic laws and in-service vehicle standards, although these powers do sometimes differ. In addition, local government agencies and infrastructure managers are responsible for access to local roads and other infrastructure such as railway crossings.

Unlike light vehicles, which are regulated on a state-by-state basis, heavy vehicles are regulated under the HVNL, which is administered by a single regulator, the National Heavy Vehicle Regulator (NHVR). Note, however, that the Northern Territory and Western Australia have not applied the HVNL at this time and maintain their own heavy vehicle regulation. The HVNL established a national system of laws for heavy vehicles over 4.5 tonnes GVM and prescribes requirements related to:

- the vehicle standards heavy vehicles must meet before they can use our roads
- the maximum permissible mass and dimensions of heavy vehicles
- securing and restraining loads on heavy vehicles
- ensuring parties in the chain of responsibility are held responsible
- preventing drivers of heavy vehicles from driving while impaired by fatigue.

1.5 RELEVANT TERMINOLOGY FOR THESE GUIDELINES

What is an automated vehicle trial?

A trial of prototype or development automated driving systems on public roads for the purpose of testing and assuring the safe operation of the system.

What is a trialling organisation?

Any company, organisation or individual who wishes to run an automated vehicle trial on Australian roads.

What is a road transport agency?

State and territory governments are road transport agencies and have responsibility for roads and road transport within their jurisdiction (see section 8 for relevant contact details).

What is a local government agency?

Local government agencies are the third tier of government in Australia and have responsibility for local roads and related infrastructure that link homes to schools and shops and to arterial roads and national highways.

2.

APPLICATION OF THE GUIDELINES

2.1 WHEN THE NATIONAL GUIDELINES APPLY

Prior to commencing an automated vehicle trial, a trialling organisation should contact the relevant road transport agency (refer section 8) to determine if any exemptions or permits to test on Australian roads are required. There may also be some instances where local government agencies, utility agencies or private road managers should be contacted for access to local roads and other infrastructure such as railway crossings. In these instances, the relevant road transport agency may be able to assist in coordinating these. It is the trialling organisation's responsibility to ensure any required exemptions or permits are obtained prior to beginning a trial.

Figure 1 depicts this decision-making process.

Trialling organisations may also require exemptions from the Commonwealth Government to import vehicles for a trial, if those vehicles do not comply with the ADRs.

2.2 TRIALS THAT REQUIRE AN EXEMPTION OR PERMIT

Where a trialling organisation requires an exemption or permit to trial an automated vehicle on Australian roads, the road transport agency will apply the guidelines as part of the conditions of the exemption or permit.

To satisfy the conditions of the exemption or permit, trialling organisations are required to demonstrate to the road transport agency that they have addressed each criterion.

Not all trials will be the same, and some of the criteria will not be applicable to all trials. In this case a trialling organisation will need to explain that this criterion is not relevant. For example, a fully automated vehicle will not transition between the human driver and the automated system because there is no human driver. In this case a trialling organisation can simply state that appropriate transition processes are not relevant.

If any condition of the exemption or permit is not complied with, the exemption or permit may be suspended or revoked. Penalties may also apply, depending on the state or territory's enabling legislation or regulations.

2.3 TRIALS THAT DO NOT REQUIRE AN EXEMPTION OR PERMIT

Where a trialling organisation does not require an exemption or permit, the organisation is still encouraged to follow the guidelines to help ensure their vehicles are operating safely and in compliance with Australian laws.

In the event of an incident or breach involving the automated vehicle, consideration of the guidelines could be relevant in demonstrating that the trialling organisation took appropriate steps to minimise the risk of the incident or breach occurring.

2.4 ADDRESSING CRITERIA SET OUT IN THESE GUIDELINES

In their application, trialling organisations should address all criteria set out in these guidelines. If some criteria are not relevant, the trialling organisation should explain in their application why these criteria should not apply.



Figure 1: Determining when national guidelines apply

2.5 APPLICATION TO HEAVY VEHICLES

Due to their size and mass, heavy vehicles pose different risks to public safety and infrastructure than light vehicles. Crashes involving heavy vehicles can result in more serious outcomes.

Trialling organisations may need to consider and include additional mitigation factors in their safety management plan to address any additional risk posed by their heavy vehicle trial. This may include consideration of network access, community consultation and engagement.

2.6 COMPLIANCE WITH AUSTRALIAN LAWS

Trialling organisations must comply with all relevant Australian laws unless a specific exemption or permit has been granted by the relevant road transport agency. This includes all existing:

- road rules and traffic laws
- vehicle standards
- privacy and surveillance laws.

It is the responsibility of trialling organisations to ensure, unless an exemption or permit has been granted, all tests planned to be undertaken comply with all relevant existing laws. Trialling organisations must ensure that vehicles involved are roadworthy, meet all relevant vehicle requirements and can be used in a way that is compatible with existing road traffic laws. Because laws vary between states and territories, trialling organisations should consult with the relevant road transport agency to confirm the applicable laws.

TRIALLING ORGANISATIONS SHOULD ADDRESS ALL CRITERIA SET OUT IN THESE GUIDELINES.

3.

MANAGEMENT OF TRIALS

The following criteria should be addressed as part of the trialling organisation's application to run an automated vehicle trial. Where a criterion is not relevant due to the scope of the trial, the trialling organisation should explain this in their application.

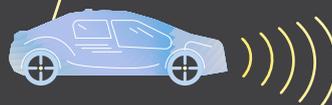
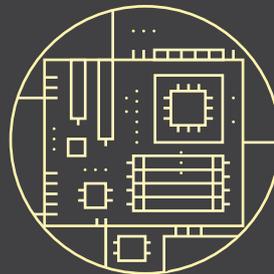
3.1 KEY MANAGEMENT CRITERIA

Trial location: The proposed trial location must be clearly set out. This could be specific roads, routes or regions. Other elements of the vehicle's operational design domain should be described in detail. Road transport agencies will consider the location suitability for an automated vehicle trial. This will depend on factors including: the type and level of automation; any safety considerations relevant to the road network such as proximity to built-up areas; speed limits; and traffic congestion.

Description of the technology being trialled: Trialling organisations must provide a high-level description of the technology being trialled in their application. The intent is not to force applicants to reveal commercially sensitive intellectual property but to allow the road transport agency to reasonably assess the safety risks of the trial.

Traffic management plan: Trialling organisations must provide a traffic management plan to inform road transport agencies of the trial's anticipated traffic risks and mitigating actions. This could include consideration of matters relevant to the traffic environment including:

- traffic density/vehicles
- pedestrians
- signage
- irregular events – construction, crash scenes, road detours, flooding
- complex intersections and merges
- regional variations in road design
- rail-road interfaces.



Infrastructure or network

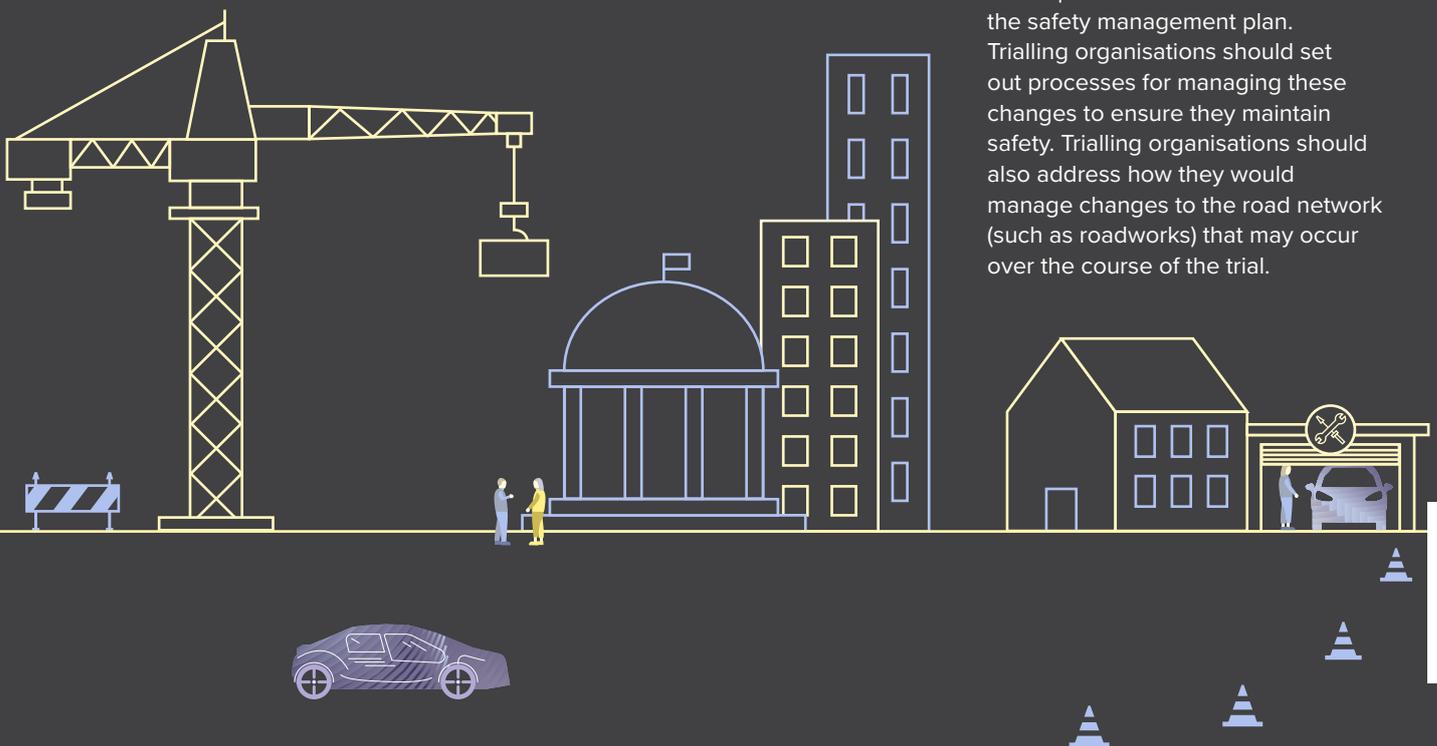
requirements: Trialling organisations must inform road transport agencies of any infrastructure or network requirements for the trial. Road transport agencies may be able to provide support or assistance in managing any changes to infrastructure (such as roadworks) during the course of a trial.

Engagement with the public

and other stakeholders: Trialling organisations must set out how they intend to engage with the public and other key stakeholders as part of the trial. This could include engagement with local government authorities, road user groups, emergency services, infrastructure managers and public transport providers.

Managing change:

Trialling organisations must set out how they intend to manage changes to the vehicle or infrastructure over the course of a trial. Trialling organisations are likely to update software and upgrade hardware over the course of a trial as issues are discovered and technology evolves. Software updates that substantially change the performance of the vehicle, such as changing the level of automation of the vehicle, will require a reassessment of the safety management plan. Trialling organisations should set out processes for managing these changes to ensure they maintain safety. Trialling organisations should also address how they would manage changes to the road network (such as roadworks) that may occur over the course of the trial.



4.

INSURANCE

4.1 APPROPRIATE INSURANCE

Trialling organisations must demonstrate to the road transport agency that they have appropriate insurance to protect against the risks associated with the trial.

Appropriate insurance could include:

- compulsory third-party insurance
- comprehensive vehicle insurance
- public liability insurance
- product liability insurance
- self-insurance
- work or occupational health and safety insurance.

The trialling organisation should check with the relevant road transport agency as to whether they are covered by the state-based insurance scheme. The requirements and coverage of these schemes differ between states and territories.

As a key principle in assessing trial applications, states and territories will aim to ensure that any road user injured by an automated vehicle trial is no worse off than if they were injured by a human-operated vehicle.



5.

SAFETY MANAGEMENT PLAN

Road transport technology provides the opportunity for safer roads for all road users. However, governments have a responsibility to ensure new technology is introduced onto public roads safely.

5.1 SAFETY MANAGEMENT PLAN

Trialling organisations must develop a safety management plan outlining all key relevant safety risks for the trial and how they will be mitigated or eliminated. This safety management plan must be provided as part of the application for a trial.

A safety management plan aims to identify and manage key safety risks that may arise through the trialling of automated vehicles and set out how the trialling organisation plans to mitigate those risks.

The safety management plan should address the key safety risks and mitigations set out on page 10. If some risks are not relevant due to the scope of the trial, the trialling organisation should explain this in their application.

To assist in developing the safety management plan, trialling organisations could refer to standards such as the ISO 26262 – Road vehicles – *Functional safety series* and ISO/TC 241 – *Road traffic safety management systems*.

5.2 KEY SAFETY CRITERIA

Key safety criteria and mitigations include the following:

Security of the automated system. In order to ensure against hacking of a system to take control of the vehicle or access any personal information, appropriate security measures will need to be taken by trialling organisations.

Risks to road infrastructure. Trialling organisations will need to consider how their trial may impact on existing infrastructure and how they plan to address this.

Appropriate transition processes for vehicles that can move between automated and human driving modes. It is possible that vehicles trialled in Australia will not have human drivers and therefore will not need to transition. In this case trialling organisations simply need to state that this is not applicable to them. Where this does apply, trialling organisations will need to demonstrate a practical process for transitioning.

Pre-trial testing of the vehicle at a test facility such as a closed track. This could provide additional assurance that the automated vehicle technology can be safely deployed on public roads.

Fitness-for-duty to ensure the driver or operator of a trial vehicle is fit to drive or operate the vehicle.



Risks to other road users including drivers and riders of motor vehicles, cyclists, pedestrians and passengers. Vulnerable road users in particular will need to be considered carefully as part of the safety management of all trials taking place on public roads.

System failure, which is a key risk for any new technology. Trialling organisations should set out how they intend to manage any system failures including hardware failures, software errors or human errors. This could include system redundancy and fallback options. Warnings for the vehicle will also be needed to alert the driver or operator of the vehicle to any malfunctions that occur as part of the trial. These alerts could take many forms as long as critical information is clearly conveyed and monitored throughout the trial.

Whether there is a human driver in the vehicle. Note that a human driver will be required in the vehicle unless a specific exemption or permit has been granted. It is possible that vehicles trialled in Australia will not have human drivers. In this case trialling organisations simply need to demonstrate how they have addressed the relevant safety risks of not having the fallback of a human driver. Where there is a human driver, associated human factor risks will also need to be considered.

Training provided for the driver or operator that may be critical for the safe operation of the trial. The human driver or operator must be sufficiently trained to operate the vehicle, respond to any safety issues and take back control of the vehicle if required.

Whether vehicle identifiers will be used to signal to other road users that the vehicle is automated. These could be visual or other identifiers as appropriate.

6.

DATA AND INFORMATION

6.1 PROVISION OF DATA/INFORMATION FOR SERIOUS INCIDENTS

Trialling organisations must abide by existing crash reporting requirements of the state or territory in which they are conducting their trial. Minimum reporting conditions are contained in the ARRs.

Trialling organisations must also report any serious incident to the relevant road transport agency.

A serious incident is defined as a crash involving a trial vehicle or a contravention of any law such as exceeding the speed limit or a red light violation.

In these cases trialling organisations must collect and provide all information relevant to the event and the performance of the system so that the circumstances of the event can be reconstructed. This must be provided to the road transport agency that issued the exemption or permit. The data must be provided in a form that can be easily read and interpreted by the road transport agency. Trialling organisations are also required to provide any assistance that a road transport agency requires to decipher the data.

The data available in the event of a crash will be dependent on the nature of the trial and the technology employed. Information could include:

- time
- date
- location
- automation status (for example, automated system, human driver, transitioning)

- traffic conditions (for example, empty road, in heavy traffic)
- road and weather conditions
- vehicle information (speed, brake/throttle applications)
- sensor information in relation to other road users and the surrounding road environment
- identity of the vehicle operator at the time of the incident.

A trialling organisation must provide an initial report of a serious incident within 24 hours of the incident occurring, except in exceptional circumstances.

A full report including relevant data and information must be provided to the road transport agency within seven days of the incident occurring.

6.2 PROVISION OF DATA/INFORMATION FOR OTHER INCIDENTS

Trialling organisations must also report other incidents to the relevant road transport agency on a monthly basis.

Other incidents include:

- near misses
- when a human takes back control of the vehicle
- a public complaint regarding the performance of the vehicle.

If a road transport agency requests an earlier report the trialling organisation should provide a report within seven days.



6.3 END-OF-TRIAL REPORT TO THE RELEVANT ROAD TRANSPORT AGENCY

Trialling organisations will be required to provide an end-of-trial report on research outcomes. This would be a high-level summary and would not need to include any commercially sensitive information.

6.4 COMMERCIALY SENSITIVE INFORMATION

Where trial applicants provide commercially sensitive information, road transport agencies will respect the confidentiality of such information and the trialling organisation's intellectual property.

**TRIALLING ORGANISATIONS
MUST ALSO REPORT
ANY SERIOUS INCIDENT
TO THE RELEVANT ROAD
TRANSPORT AGENCY.**

7.

IMPLEMENTATION

7.1 CROSS-BORDER TRIALS

States and territories are committed to working together to support cross-border or national trials and to maintain consistency and to ensure that the administrative burden of trial applications is minimised. Trialling organisations should nominate states and territories in an application if they intend to run trials in more than one state.

7.2 EXISTING TRIALS

Trials that are already in place will continue to operate under the existing arrangements with the host state or territory.

7.3 HOW TRIALS TRANSITION INTO DEPLOYMENT

It is possible that some trials may run for an extended period. In this case trialling organisations will need to have an ongoing dialogue with the host state or territory. Requirements for large-scale commercial deployments of automated vehicles are still under development.

7.4 TRIALS OR DEPLOYMENT

These guidelines and associated exemption or permit processes are intended to cover trials of automated vehicles, not large-scale commercial deployments. An automated vehicle trial is not to be considered a deployment of automated vehicles, the requirements for which are still under development.

7.5 COMMERCIAL TRIALS

Trials of automated vehicles can be commercial in nature; for example, it is conceivable that trial vehicles could operate as fee for service during a trial (ride sharing or taxi operations). However, it should be noted that the guidelines process is not intended to support large-scale commercial deployment of automated vehicles such as the sale of vehicles to the general public or freight operators for unrestricted use.

7.6 VEHICLE LIMITS FOR TRIALS

The number of vehicles that will be approved to trial will be determined by the road transport agency based on how the trialling organisation satisfies the relevant criteria. This will include how traffic risks will be managed under the traffic management plan. The guidelines process is not intended to support broad, commercial deployment of automated vehicles.

7.7 TIME LIMITS FOR TRIALS

A fixed time limit will be placed on any exemption or permit granted to an automated vehicle trial; this limit will be set by the relevant road transport agency. Most states and territory laws support renewals or extensions of exemptions or permits if required.



8. CONTACTS

Please contact the agencies below to enquire about trialling in Australia.

Commonwealth

Department of Infrastructure and Regional Development

w: www.infrastructure.gov.au/vehicles/imports/contact_us/

e: vimports@infrastructure.gov.au

Western Australia

Department of Transport

w: www.transport.wa.gov.au/licensing/licensing.asp

e: DVSPolicy@transport.wa.gov.au

PERTH

DARWIN

South Australia

Department of Planning, Transport and Infrastructure

w: www.sa.gov.au/topics/driving-and-transport

e: driverlessvehicles@sa.gov.au

Northern Territory

Department of Infrastructure,
Planning and Logistics
Registrar of Motor Vehicles

w: www.transport.nt.gov.au

e: EDTS.DoT@nt.gov.au

Queensland

Department of Transport and Main Roads

w: www.tmr.qld.gov.au

e: michael.j.skinner@tmr.qld.gov.au

New South Wales

Smart Innovation Centre
Transport for NSW

w: www.transport.nsw.gov.au/programs/smart-innovation

e: smartinnovationcentre@transport.nsw.gov.au

BRISBANE

SYDNEY

CANBERRA

ADELAIDE

MELBOURNE

Australian Capital Territory

Transport Canberra and City Services

w: www.tccs.act.gov.au/roads-paths

e: david.matthews@act.gov.au

HOBART

Tasmania

Department of State Growth

w: www.transport.tas.gov.au

e: anna.stevens@stategrowth.tas.gov.au

Victoria

VicRoads

w: www.vicroads.vic.gov.au

e: cavtesting@roads.vic.gov.au

GLOSSARY

Term or title	Abbreviation	Description
Australian Design Rules	ADRs	National standards for safety, anti-theft and emissions in vehicle design
Australian Light Vehicle Standard Rules	ALVSRs	Model vehicle standard requirements developed by the NTC and applied in state and territory legislation
Australian Road Rules	ARRs	Model road rules developed by the NTC and applied in state and territory legislation
Commonwealth of Australia	Cwth	Federal government of Australia
Gross vehicle mass	GVM	The maximum loaded mass of a vehicle
Heavy vehicle		A vehicle with a GVM of more than 4.5 tonnes
Heavy Vehicle National Law	HVNL	A single national system of laws for heavy vehicles over 4.5 tonnes GVM
Light vehicle		A vehicle other than a heavy vehicle
National Heavy Vehicle Regulator	NHVR	Australia's independent regulator for all vehicles over 4.5 tonnes GVM
National Transport Commission	NTC	Independent statutory body that contributes to the achievement of national transport policy objectives by developing regulatory and operational reform of road, rail and intermodal transport
States and territories		<p>Australia is divided into six states and two territories</p> <p>The six states are:</p> <ul style="list-style-type: none"> • New South Wales • Queensland • South Australia • Tasmania • Victoria • Western Australia <p>The two territories are:</p> <ul style="list-style-type: none"> • Northern Territory • Australian Capital Territory



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