

Developing technology-neutral road rules for driver distraction

December 2018

Issues paper

Report outline

Title	Developing technology-neutral road rules for driver distraction
Type of report	Issues paper
Purpose	For public consultation
Abstract	<p>The Australian Road Rules relating to driver distraction that regulate the use of particular technology devices have not kept pace with the convergence in technology and are becoming quickly outdated.</p> <p>The rules focus on the type of technology being used rather than its function. This paper outlines the issues we have identified which will impact our determination of the appropriate way to regulate the safe use of these technology devices as part of the road rules.</p> <p>We are seeking comment on whether the issues are adequately explained and whether there are further issues we have not considered to establish the appropriate case for action.</p>
Submission details	<p>Submissions will be accepted until 14 February 2019 online at www.ntc.gov.au or by mail to:</p> <p>National Transport Commission Attn: Luis Gutiérrez Public submission – Developing technology-neutral road rules for driver distraction Level 3/600 Bourke Street MELBOURNE VIC 3000</p>
Key words	Driver distraction, inattention, technology, technology-neutral, Australian Road Rules, road safety
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Purpose

The purpose of this Issues Paper is to summarise the current understanding of the factors that may cause driver distraction, the behaviours induced by those factors and their potential impacts on road safety.

The paper:

- seeks to reach a common understanding of the problem
- identifies the factors associated with distraction and refers to evidence-based research regarding their impact on road safety
- reviews the Australian Road Rules in relation to driver distraction to determine whether they are fit for purpose in relation to their ability to regulate driver distraction regardless of the cause; and
- provides an analysis of the key issues to consider prior to developing potential solutions.

The definition of driver distraction is presented as a proposal as we are seeking feedback to ensure the next stage of the project is based on an agreed understanding of the problem. This includes a proposed definition for the driving task, which is crucial for understanding the activities and behaviours that could cause distraction and therefore affect driving performance.

We are also seeking your feedback (and any relevant data and evidence) to ensure we have identified the relevant regulatory frameworks and captured all the key issues.

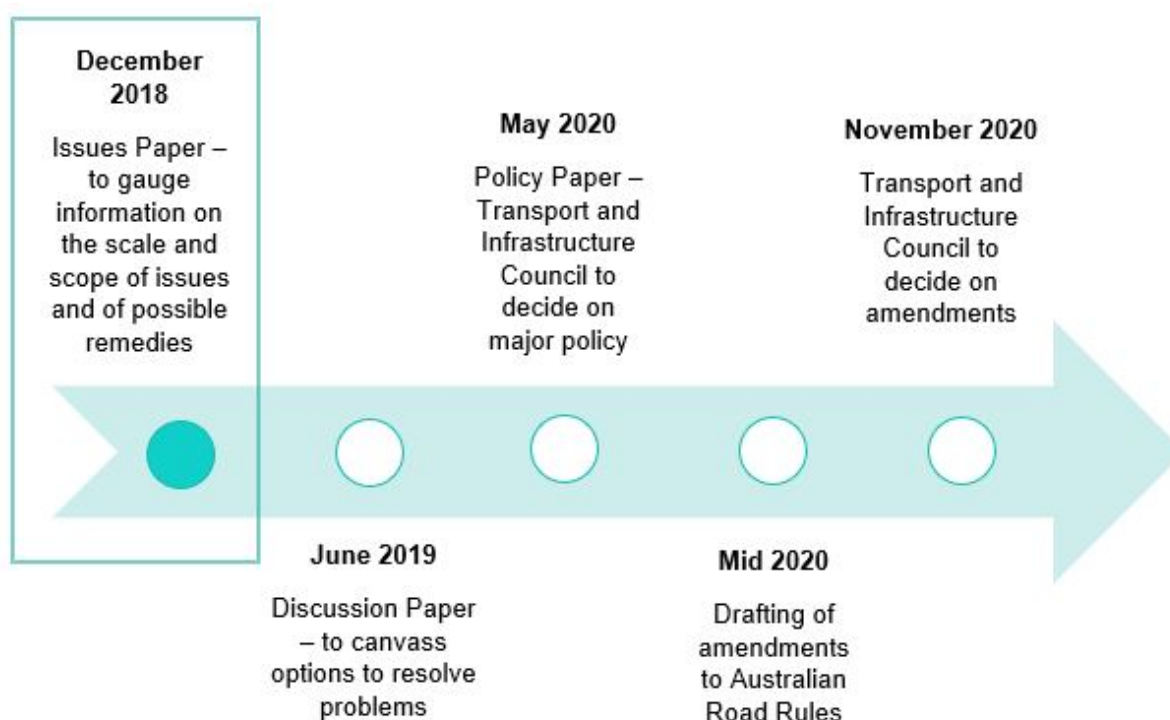
Executive summary

Context

In May 2018, the Transport and Infrastructure Council directed the National Transport Commission (NTC) to review the Australian Road Rules that regulate driver distraction to determine whether they sufficiently address the key factors that cause driver distraction.

This project seeks to ensure that the rules achieve better outcomes for road users regardless of the technology used. The project should establish whether the current rules manage the risks posed by all sources of distraction and, if required, recommend what changes should be made to the Australian Road Rules.

Chapter 1 details the project objectives, the desired outcome, process and proposed timeframes. The NTC process will be transparent and consultative. The key deliverables and milestones are outlined in the diagram below.



We are asking stakeholders to consider the questions asked in this paper and to provide feedback (and any relevant data and evidence) to ensure we have identified the relevant key issues that will inform our assessment of the most appropriate action.

The problem

Driver distraction is a significant road safety risk that is not as well understood as other risk factors such as drink-driving and speeding. Research in this area is limited and relatively immature in comparison with other road safety risks. However, various studies have consistently found that drivers are engaged in distracting activities a significant portion of their driving time.

The Australian Road Rules relating to driver distraction focus on specific types of technology being used by drivers, rather than the function of such technologies. They prevent or limit the use of particular technology devices – mobile phones, visual display units and television

receivers – while permitting their use as driver’s aids. The current national rules date back to 1999, when texting and calling were the most common features of a mobile phone.

Devices now routinely have multiple functions, often dictated by software installation rather than the hardware. As a result, many functions are available to drivers in their vehicles, and device interactions are not specifically addressed or adequately covered by the road rules. In addition, a number of ambiguous elements exist, and similar functions on different devices are not treated equally. Innovation has blurred the lines between functions that might distract drivers and functions that may improve safety outcomes (such as intelligent speed assist). The Australian Road Rules do not recognise or distinguish between functions likely to cause distraction from those needed for the driving task or where the driving task is aided.

In addition, the Australian Road Rules do not address non-technology activities that have been proven to cause distraction. While it is commonly accepted that the rule regulating ‘proper control’ (rule 297) addresses the impacts of distraction on driving performance, there is no guidance to drivers and enforcement agencies regarding the factors (external and internal) and activities that could result in distraction.

This project seeks to develop rules that focus on better outcomes for road users regardless of the causes of distraction and the technology used. The project should result in rules that manage the distraction regardless of the cause while encouraging innovation and ensuring technology that has the potential to improve road safety. Evidence relating to the problem of driver distraction is discussed in Chapter 2.

Issues

Chapter 3 outlines the key issues we currently believe may need to be considered when developing a technology-neutral approach to regulation for driver distraction. These issues are:

- clear and consistent approach in the Australian Road Rules
- responsibility for distraction
- technologies that can assist (and distract from) the driving task
- transition towards automation; and
- prescriptive and performance-based approaches.

List of questions for comment

Defining the driving task

1. Does the proposed definition include all the key functions required to safely perform the driving task?

A common definition of driver distraction

2. Does the proposed definition capture all the behaviours that lead to driver distraction and a reduction in driving performance?

Types of driver distraction

3. How could a distinction between manageable and unmanageable levels of driver distraction be used to inform the way distraction is regulated? What evidence-based distinctions could be considered?

Clear and consistent approach in the Australian Road Rules

4. Should conventional and technology-based causes of distraction be treated equally in the Australian Road Rules? Why?

Responsibility for distraction

5. Can you provide examples of effective non-regulatory approaches to driver distraction that assist drivers to self-regulate their behaviour in a dynamic driving environment?

Shared responsibility

6. Can you provide examples of strategies successfully implemented by other international jurisdictions and industries (for example, aviation) that could be applicable to driver distraction?

The concept of chain of responsibility

7. Are there other parties besides the vehicle driver who can influence the risk of driver distraction? If so, are there mechanisms to ensure those parties are doing all that is reasonably practicable to ensure safety?

Technologies that can assist with (and distract from) the driving task

8. Can you provide examples of effective strategies for ensuring that new in-vehicle technology and mobile apps minimise driver distraction?

Transition towards automation

9. Can you provide examples of strategies to ensure that users of partially automated vehicles are fully informed about their responsibilities, and the limitations of their vehicle's technology?

Prescriptive and performance-based approach to regulation

10. What evidence is available in support of a performance-based approach or a prescriptive approach for managing the risks of driver distraction?

Next steps

We are inviting comments, data and evidence in response to the above questions and/or any other relevant issues until **14 February 2019**.

We will use stakeholder feedback through this formal consultation process to develop a discussion paper for release in June 2019.

1 Context

Key points

- The National Transport Commission is reviewing Australian road regulations to establish whether there is a better way to regulate general factors that cause driver distraction and the safe use of technology devices and recommend what changes, if any, should be made to the Australian Road Rules.
- This paper provides an overview of the problem, current road rules applicable to driver distraction and seeks to identify the key issues to establish the appropriate case for action ahead of developing potential solutions.
- Any individual or organisation can make a submission to the NTC on this issues paper by **14 February 2019**.

1.1 Project objectives and desired outcome

The National Transport Commission (NTC) is reviewing the Australian Road Rules for regulating driver distraction to determine whether they sufficiently address the key factors that cause driver distraction.

This project will:

- identify safety risks from all kinds of behaviours associated with driver distraction (general and technological)
- analyse issues, challenges and opportunities that need to be considered prior to developing options for potential solutions
- provide options for a consistent approach in the Australian Road Rules for regulating distraction in motor vehicle drivers; and
- provide recommendations to jurisdictions, industry and the community for mitigating the effects of driver distraction on the driving task and ultimately public safety.

For the purpose of this project, a reference to a 'driver' includes both the driver and the rider of a motor vehicle. The Australian Road Rules define a 'motor vehicle' as:

A vehicle (other than a motorised scooter) that is built to be propelled by a motor that forms part of the vehicle.

This definition includes cars, buses, trucks and motor bikes.

This project will not:

- provide reform options for regulating distraction of vulnerable road users (for example, cyclists and pedestrians); or
- address broader issues and risks regarding the social impacts of emerging technologies such as addiction to portable devices and social media.

This project seeks to ensure that the road rules achieve better outcomes for road users regardless of the technology used. The project should establish whether the current road rules manage the risks posed by all sources of distraction and, if required, recommend what changes should be made to the Australian Road Rules.

Any proposed changes need to consider their potential for changing driver behaviour and enforceability, while encouraging innovation and ensuring that the use of technology that has the potential to improve road safety is not prohibited.

Issues paper

This paper focuses on improving our understanding of the factors that may cause driver distraction, the behaviours induced by those factors and their potential impacts on road safety.

This issues paper will:

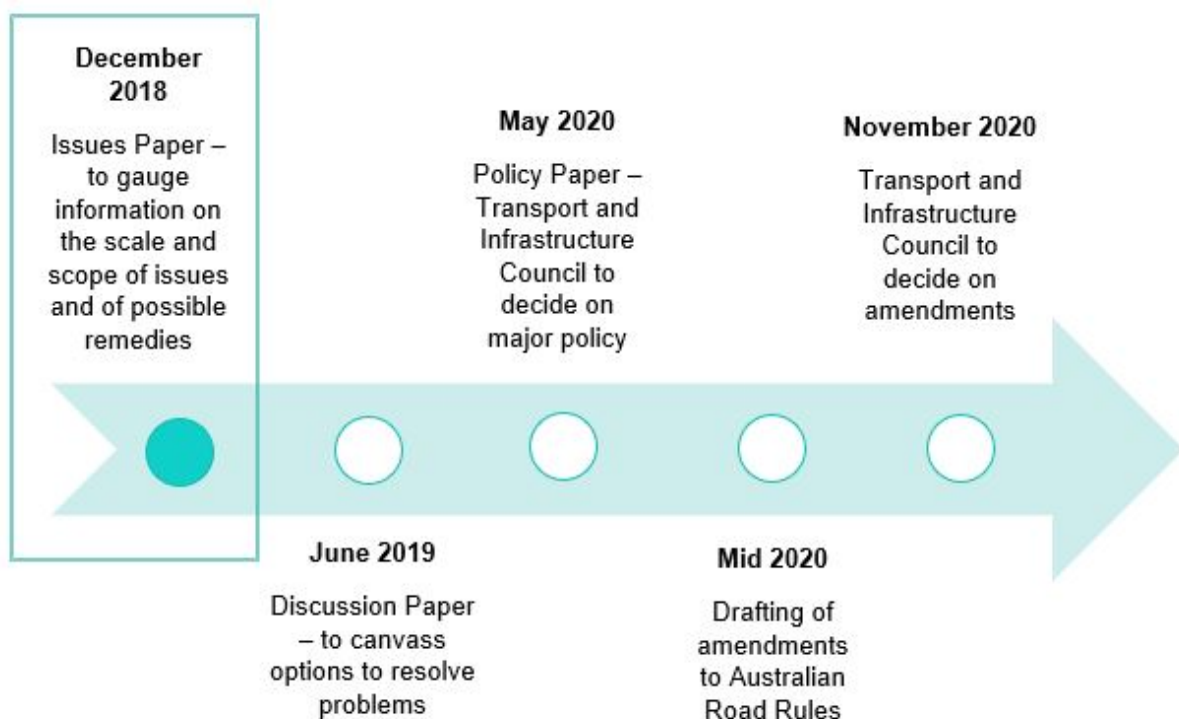
- discuss the forms of driver distraction and their impact on road safety
- identify the factors associated with distraction
- review the Australian Road Rules in relation to driver distraction; and
- provide an analysis of the key issues to consider prior to developing potential solutions.

Throughout the issues paper, we are seeking your feedback (and any relevant data and evidence) to ensure we have identified the relevant key issues that will inform our assessment of the most appropriate action

1.2 Process and proposed time frame

There will be three steps to the NTC process which will be conducted in a transparent and consultative manner. The deliverables and time frame are outlined in Figure 1 below.

Figure 1. Project time frame



1. Issues Paper

The first step is the publication of this Issues Paper, with an invitation to interested bodies and persons to provide their input. It is the opportunity to define the problem, to identify and understand the key issues that require further analysis and to establish the appropriate case for action for the project.

2. Discussion Paper

The project team aims to prepare a discussion paper for release in June 2019. This paper will have completed an assessment of the case for action and will provide a range of options for potential solutions and will involve public consultation. In November 2018, a broad range of different stakeholders provided diverse perspectives and insightful recommendations that will also inform this paper.

3. Policy Paper

In November 2019, the NTC is scheduled to prepare a draft policy paper. The development of this paper will involve targeted consultation with the states and territories and industry peak bodies. This paper will detail draft policy and regulatory recommendations. It will be presented to the Transport and Infrastructure Council (TIC) in May 2020 for consideration.

1.3 Consultation

The views of a broad range of stakeholders is crucial to guide any policy positions. As such we are asking stakeholders to consider the questions asked in this paper.

However, those questions are provided as a guide only. Stakeholders are welcome to provide us with feedback on any aspect of the issues paper.

You may also wish to consider the following questions:

- Is the definition of the problem accurate?
- What are the likely costs and operational impacts of the problem for government bodies, businesses/operators and other organisations?
- What are the likely costs and operational impacts of the problem on the broader community?
- Is government action needed?
- Are there other related issues you consider relevant?
- What are the broad options for reform?

1.3.1 When to submit

We are seeking submissions on this issues paper by **14 February 2019**. We will consider submissions in the development of a discussion paper and final policy paper for presentation to the Transport and Infrastructure Council in May 2020.

1.3.2 How to submit

Any individual or organisation can make a submission to the NTC.

To make an online submission, please visit www.ntc.gov.au and select 'Submissions' from the top navigation menu. Or, you can mail your comments to:

National Transport Commission

Attn: Luis Gutiérrez

Public submission – Developing technology-neutral road rules for driver distraction

Level 3/600 Bourke Street

MELBOURNE VIC 3000.

Where possible, you should provide evidence, such as data and documents, to support your views. Unless you clearly ask us not to, we will publish all submissions online. However, we will not publish submissions that contain defamatory or offensive content. The *Freedom of Information Act 1982* (Cwlth) applies to the NTC.

2 The problem

Key points

- Driver distraction is a significant road safety risk that is not well understood.
- Research in this area is limited and relatively immature in comparison with other road safety risks. However, various studies have consistently found that drivers are engaged in distracting activities a significant portion of their driving time.
- The Australian Road Rules relating to driver distraction focus on specific types of technology being used by drivers, rather than the distracting behaviours encouraged by such technologies.

2.1 Driver distraction

Driver distraction has been defined as diverting attention away from activities critical for safe driving towards a competing activity (Regan, Hallett and Gordon, 2011). It presents a significant safety risk on Australian roads. Driver distraction can occur voluntarily (like making a call or unwrapping a cheeseburger) or involuntarily (like diverting attention to a screaming baby or a cup of coffee spilling). The factors that capture driver attention involuntarily are not initiated by the driver and generally difficult or impossible to ignore (Regan, Hallett and Gordon, 2011). In the case of voluntary distraction, drivers have some ability to self-regulate their driving behaviour to compensate for the loss in their driving performance, while involuntary distraction may not provide them with the same scope to self-regulate (Regan, Hallett and Gordon, 2011).

A recent Australian study found that drivers are engaged in a non-driving task while at the wheel every 96 seconds (Young et al., 2018). Studies in the United States suggest that driver distraction could be involved in at least 10 per cent of road fatalities (Rupp, Gentzler and Smither, 2016). In Western Australia, the 2017 preliminary summary of fatalities on Western Australian roads found that 28 fatalities (17 per cent) in 2017 were from inattention related crashes (Road Safety Commission, 2018). This is an increase of more than 100 per cent on the previous five-year average.

A study in Victoria estimated fatality and serious injury costs to the community for in-vehicle technology distraction over a five-year period at about \$1.2 billion (Fitzharris, Young and Bowman, 2012). According to that same study, a 25 per cent reduction over that period would translate to saving 12 lives, avoiding serious injury for 239 people and savings of \$321 million to the community. In Australia, distraction has been found to be a factor in 16 per cent of crashes where a vehicle occupant was hospitalised for at least 24 hours (Beanland et al, 2013).

However, driver distraction as a safety issue is not as well understood as other road safety risk factors such as drink-driving and speeding. Research in this area has limitations and is relatively immature in comparison with other road safety risks.

Further, the Australian Road Rules do not define driver distraction nor identify the behaviours that may cause distraction and thus decrease driving performance. The lack of a consistent definition for driver distraction can make it difficult for:

- the public and enforcement agencies to identify the behaviours that could result in distraction
- researchers to compare findings between different studies; and

- government agencies to estimate the role of distraction in crashes and critical incidents (Regan, Hallett and Gordon, 2011).

Nevertheless, before developing a consistent definition for driver distraction, it is essential to have a clear understanding of the functions that drivers must execute to safely operate a vehicle. The execution of these functions could be significantly compromised by drivers engaging in distracting tasks and the magnitude of this effect may improve our understanding which behaviours result in higher safety risks.

2.1.1 Defining the driving task

As mentioned in the section above, the NTC considers that developing a definition of the driving task is a crucial first step for better understanding the activities and behaviours that could cause distraction and therefore affect driving performance. This means identifying its core functions.

The Australian Road Rules Maintenance Advisory Group (ARRMAG) has already considered this issue and resolved to adopt Brown's (1986) definition as a starting point. According to that definition, the driving task is a complex, multi-task activity with the following core functions:

- route finding
- route following
- velocity control
- avoiding collisions
- complying with rules; and
- vehicle monitoring (for example, speedometer, tachometer, distance driven).

Brown's classification of driving is useful for looking at the driving task at a functional level and understanding the tasks required to operate a vehicle. However, this definition was coined many years ago, and a more contemporary definition for the driving task may be needed.

Such a definition could be constructed from recent work to define the driving task for automated vehicles. The Society of Automotive Engineers (SAE) International Standard J3016 defines the dynamic driving task as all of the real-time operational and tactical functions (steering and speed control) required to operate a vehicle in on-road traffic, excluding strategic functions such as trip scheduling and selecting destinations and waypoints, which would be executed by a human.

To provide a definition that outlines the tasks required from a human to safely operate a vehicle, the driving task for the purpose of this project could be defined as:

A complex, multi-task activity that involves the following functions:

- *route finding*
- *route following*
- *lateral motion control*
- *longitudinal motion control*
- *monitoring the driving environment*
- *manoeuvre planning*
- *responding to objects or events*
- *making other road users aware of the driver's presence; and*

- *complying with road rules.*

Question

1. Does the proposed definition include all the key functions required to safely perform the driving task?

2.1.2 A common definition for driver distraction

As discussed at the start of section 2.1, driver distraction is a type of inattention that results from diverting attention away from the driving task towards a competing activity. This inattention can occur voluntarily or involuntarily, and its causes can be driving-related (for example, focusing on the erratic behaviour of another road user) and non-driving-related (for example, composing a text message) (Regan, Hallett and Gordon, 2011).

We propose that, for the purpose of this project, we define driver distraction as follows:

Driver distraction is the voluntary or involuntary diverting of attention, in a visual, manual, auditory or cognitive sense, away from the driving task to focus on a competing secondary activity.

The driving task is as previously defined in section 2.1.1 of this paper.

Question

2. Does the proposed definition capture all the behaviours that lead to driver distraction and a reduction in driving performance?

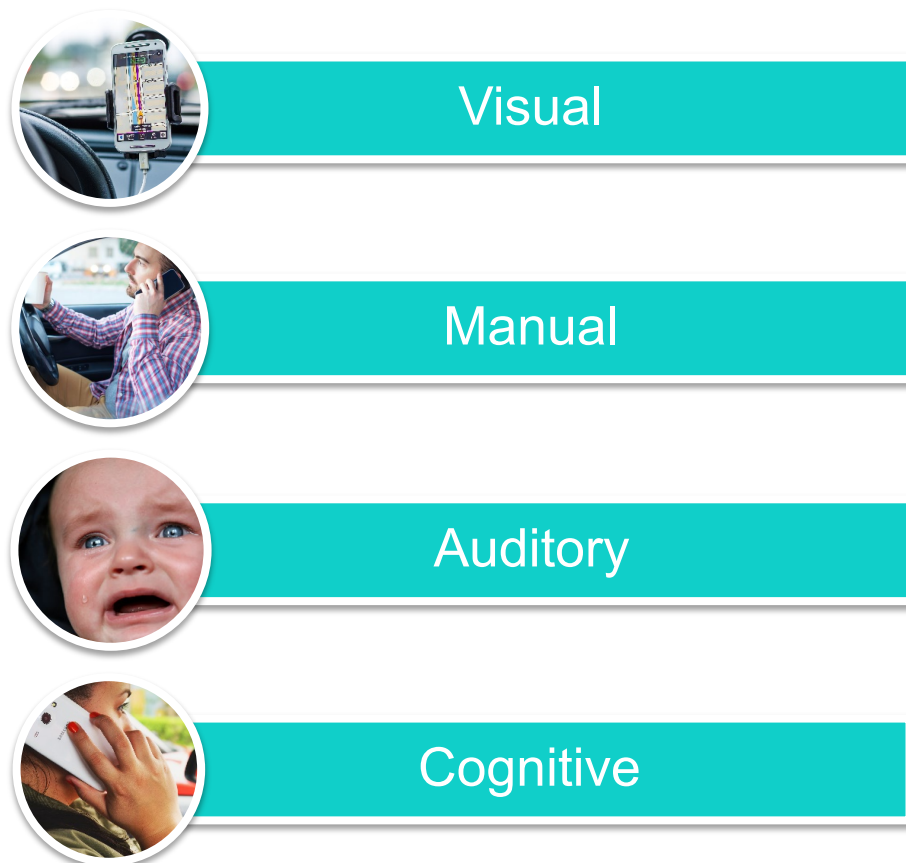
2.1.3 Types of driver distraction

Distractions can be technology-based, such as using navigation systems and mobile phones, or more conventional such as interacting with passengers or eating.

There are four broad categories of distraction from the driving task (Figure 2):

- visual distraction: tasks that require the driver to look away from the roadway to visually obtain information (National Highway Traffic Safety Administration, 2010)
- manual distraction: tasks that require the driver to take a hand (or both hands) off the steering wheel and manipulate a device (National Highway Traffic Safety Administration, 2010)
- auditory distraction: occurs when the driver focuses their attention on auditory signals rather than on the road environment (Regan, Hallett and Gordon, 2011)
- cognitive distraction: tasks that are defined as the mental workload associated with a task that involves thinking about something other than the driving task (National Highway Traffic Safety Administration, 2010).

Figure 2. Examples of the types of distraction from the driving task



The cognitive, manual, auditory or visual demands that secondary activities place on the driver will have a significant influence on how much such activities will distract drivers. Secondary activities that place little demand on drivers may be successfully time-shared with the driving task, resulting in little or no reduction in driving performance (Young and Regan, 2007).

However, as the complexity of a number of activities increases, so does the cognitive, visual, manual and auditory demand placed on drivers. This higher demand could make them more difficult to be time-shared with driving, resulting in a larger decrease in driving performance and thus increased risk of a crash.

Question

3. How could a distinction between manageable and unmanageable levels of driver distraction be used to inform the way distraction is regulated? What evidence-based distinctions could be considered?

2.1.4 Factors associated with driver distraction

2.1.4.1 Conventional factors

Drivers often engage in a number of activities that, while legal, can potentially distract them from the driving task and therefore limit their ability to maintain proper control of the vehicle. These activities include eating, drinking, smoking and interacting with passengers, some of which are legal and deemed acceptable activities while driving.

Eating and drinking

Studies have revealed that a proportion of drivers involved in traffic accidents are distracted by eating or drinking and have found that an activity such as eating a cheeseburger while smoking and driving can increase the risk of being involved in a crash (Regan and Young, 2003).

Real-life example: Eating a sandwich

In May 2012, a driver knocked down and killed an off-duty firefighter riding a bicycle on a country road. The driver was found to be eating a sandwich at the wheel and sentenced for causing death by careless driving ("Sandwich-eating driver sentenced for careless driving death," 2013).

Passengers

While the potentially distracting effects of passengers are less understood, several studies have revealed that the presence of passengers can increase crash risk for young drivers due to distraction, to the point where they were less likely to detect traffic light changes or road signs (Regan and Young, 2003).

On-road advertising

Advertising is another external factor that could distract drivers from the driving task. Evidence suggests that roadside advertising can adversely influence driver attention (Young et al., 2009). This study found that roadside billboards attracted different levels of attention depending on road type and, in the worst cases, drivers were paying more attention to billboards than to more relevant road signs.

Further research has also found that electronic billboards attract longer glances from drivers than regular traffic signs (Dukic et al., 2013). However, the study could not conclusively determine whether electronic billboards constitute a traffic safety hazard based on the available evidence at the time.

Several Australian jurisdictions have developed guidelines and manuals to determine the advertising device types that may be permitted on roads based on technical criteria. Such criteria usually include the risk of distraction with an emphasis of minimising driver distraction at critical locations, such as intersections, which require an increased level of driver attention. The NTC is not aware of research into assessing the effectiveness of these guidelines in minimising driver distraction from advertising.

2.1.4.2 Technology-based factors

Given the constant proliferation of new mobile and in-vehicle technologies, it is essential to understand driver interaction and engagement with such technologies from a safety perspective (Chen and Donmez, 2016). A factor that influences the level of cognitive, visual and manual demand on the driver is the physical design and the interface of the device used, such as the number of buttons required to operate the device or the menu structure to enter the required inputs (Young and Regan, 2007).

The lack of clarity in legislation means that drivers do not really know what does and does not conflict with the driving task, with multiple devices being used while operating vehicles (both in-vehicle and portable). While manufacturers sometimes provide instruction manuals with guidelines on the appropriate use, these are often not read or are easily ignored by the end-user, meaning that incentive to engage with technology is not balanced with knowledge of its distractive and safety consequences (Parnell, Stanton and Plant, 2017).

Further, a large body of research has found that driver age and driving experience can influence the distracting effects of technology devices. According to studies, older people find it difficult to share attention between two simultaneous tasks due to their decreased

visual and cognitive capacity and are, therefore, more susceptible to getting distracted when interacting with devices (Young and Regan, 2007).

Similarly, studies have found that novice drivers may also be more vulnerable to the effects of distraction than experienced drivers given their limited driving experience. Their lack of driving skills necessary to operate a vehicle with minimal focus does not leave spare attentional capacity to allocate to a secondary non-driving task. This may make it more difficult for inexperienced drivers to successfully divide their attention between simultaneous tasks, reducing their driving performance (Young and Regan, 2007).

Global navigation satellite systems

Global navigation satellite systems have become a common driving tool, providing navigation instructions on smartphones, portable units or in-vehicle dashboard systems.

The NTC is not aware of any statistics for accidents caused by GPS-related distracted driving. Some experimental studies have found that GPS-assisted driving degrades driving performance, particularly with the use of visual navigation aids. These studies found this situation comparable to driver distraction while driving with a mobile phone (Brown and Laurier, 2012).

In-vehicle information systems

A study on in-vehicle information systems suggest that real-time delivery of smart driving information may not increase driver workload or adversely affect driver distraction. The study also suggests that smart driving interface designs could have a significant impact on the level of attention these systems demand from drivers (Birrell and Young, 2011).

For example, recent research on Apple's CarPlay and Google's Android Auto (which allow the driver to pair their phone with the vehicle to perform many of the same tasks offered by systems provided by vehicle manufacturers) has found that they provide more functionality and result in lower levels of workload than the native in-vehicle systems. However, both systems showed moderately high levels of demand and a few weaknesses, indicating room for improvements to the user experience to further reduce road safety risk (Strayer et al., 2018).

An interface design that increases the complexity of tasks could place a higher workload on drivers, resulting in higher distraction and decreased driving performance.

Real-life example: Connecting a phone to car's infotainment system

In December 2017, a young driver was distracted whilst attempting to connect a phone's Bluetooth to the car audio. During this activity, the young driver struck and fatally killed a cyclist. The driver admitted being distracted for up to 10 seconds whilst trying to connect the phone to the car's audio (Schelle, 2018).

Mobile phones

The growth in level of ownership and use of mobile phones has created a pervasive cause of driver distraction. Drivers who look at their mobile phones while driving are three times more likely to be involved in a crash than non-users (Dingus et al., 2016). Dialling on, as well as, locating and answering a hand-held phone, increases the chances of having a crash by four times (Simmons, Hicks and Caird, 2016). Further, texting, browsing and emailing on a mobile phone while driving increases crash risk by ten times (Simmons, Hicks and Caird, 2016).

In addition, a recent Australian naturalistic driving study (Young et al., 2018) has found:

- Using a mobile phone could account for 7 per cent of all non-driving tasks.

- Using a mobile phone (hand-held or hands-free) could be a factor in 23 per cent of safety related incidents.
- Hand-held phone use is likely more common than hands-free (82.1 per cent of phone tasks).

There are also studies comparing the impact on driving performance for talking on both hand-held and hands-free mobile phones. These studies suggest that, although the manual distraction from handling a mobile phone can present a significant safety risk, the cognitive distraction from being engaged in a conversation can also have a considerable effect on driving (Young and Regan, 2007). This means that having a conversation on a hands-free phone while driving could be as distracting as using a hand-held phone. However, hands-free use requires more research to fully understand the crash risk due to mixed and limited research results to date.

Real-life example: Making a video call whilst driving

A 19-year-old learner driver was reportedly making a video call on their phone when they crashed the car, seriously injuring the passengers. One of the passengers suffered brain bleeding and fractures to the neck, spine, ribs and jaw. The phone records show the call lasted two minutes and 11 seconds before the driver failed to navigate a bend, crashing into a wall without braking or steering to avoid it (“Jail for learner driver who caused horror car crash while video calling on her phone,” 2018).

Wearable devices

Wearable technology is becoming increasingly popular. According to estimations, by May 2018 Apple had sold approximately 46 million Apple Watches worldwide (Asymco quoted in iClarified, 2018). While Google stopped producing Google Glass in 2015, more modern head-mounted displays similar to Google Glass are in development. Other companies such as Fitbit, Xiaomi, Garmin and Huawei are also producing wearable devices. The global market for wearable technology has consistently grown since 2012 and is forecast to grow to around \$8.4 billion by 2018 (Statista, 2018).

Studies on the impacts of these devices are still limited. However, a study on the safety of wearing a smartwatch while driving found that drivers glanced more frequently towards their smartwatch compared with their smartphone (Giang et al., 2015). The same study also found that drivers’ brake response times were longer when receiving a notification prior to a lead vehicle braking event on the smartwatch compared with the smartphone.

In addition, a study on the safety impacts from using Google Glass found that while this device distracts drivers slightly less than a smartphone, it could also create a false sense of safety. This means it could encourage drivers to engage with the device more frequently (He et al., 2018).

Head-up displays

Limited research on the use of head-up displays and driving performance suggests that driving performance using a head-up display may be better than using a conventional look-down display. A study on commercial vehicle operators in Taiwan found that response time to an urgent event was faster and speed control more consistent with the head-up display than with the look-down display. In addition, using a head-up display caused less mental stress for the drivers than a look-down display and they are easier for first-time users to become familiar with (Liu and Wen, 2004).

Advanced driver assistance systems

Advanced driver assistance systems are vehicle-based safety systems that seek to improve road safety through crash avoidance, crash severity mitigation and protection, and automatic post-crash notification of collision (European Road Safety Observatory, 2016). These

systems include adaptive cruise control, anti-lock braking systems, adaptive headlights, automatic parking, blind spot monitors, collision avoidance systems, electronic stability control, forward collision warnings and lane departure warning systems, among others.

Research in this area is limited and, while some of these systems have been found to have a positive safety effect, the safety effects of some of these technologies have not yet been demonstrated (European Road Safety Observatory, 2016).

Adaptive cruise control is a driver assistance system designed to maintain a set speed and specified distance from a lead vehicle. A study on this technology (Wu and Boyle, 2015) found it difficult to assess whether greater use encourages more opportunities to engage in non-driving tasks or whether drivers tend to use it more often when distracted or impaired in order to maintain their driving performance. However, many drivers perceive safety benefits associated with this aid even though the safety implications are not always clear.

That same study found driver age to be a factor in the use of adaptive cruise control. Drivers who were less likely to use it in distracting or impaired situations tended to be older, less likely to re-purchase a similar vehicle with this feature and generally confused about how to operate it. In contrast, drivers who reported higher use of adaptive cruise control also used the system in situations that can be considered distracting or risky, which can negate the overall benefits of this driving aid.

A study on rear-end collision avoidance systems indicates that drivers could dramatically benefit from collision warnings. Collision warnings redirect driver attention to the driving task but do not trigger a braking response. By redirecting attention to the road, the rear-end collision warnings reduced the number and severity of collisions, improving safety outcomes for both distracted and undistracted drivers. Beyond the direct benefit of avoiding collisions with the lead vehicle, drivers who received the warning decelerated more gradually, which may decrease the risk of being struck from the rear (Lee et al., 2002).

While the findings highlight the importance of timing of warnings (early warnings are more beneficial than late warnings), drivers who receive a late warning may benefit compared with those who do not use rear-end collision avoidance systems.

Technology used by commercial drivers

Commercial freight and passenger vehicle drivers are sometimes required to use several devices as part of their usual work. Future legislation seeking to regulate driver distraction from the use of technology devices may need to consider these drivers separately to accommodate their needs and strike a balance between minimising their distraction and allowing them to perform their job.

Heavy trucks and buses make up about 2.8 per cent of vehicles and about 6.7 per cent of the vehicle kilometres travelled on Australia's roads (National Transport Commission, 2018). During the 12 months to the end of September 2018, heavy vehicles were involved in (although not necessarily responsible for) 15.3 per cent of total road deaths (Bureau of Infrastructure, Transport and Regional Economics, 2018).

Trucks are common on Australian roads; they are part of traffic in both rural and metropolitan areas. Projections indicate that Australia's freight task is set to grow significantly by 2030. Heavy vehicle safety remains an important issue to address for the industry and the public (Raftery, Grigo and Woolley, 2011). This year, the National Heavy Vehicle Regulator issued a call for improved road safety following an increase in the number of fatalities and incidents involving trucks. The National Heavy Vehicle Regulator urged the heavy vehicle industry to develop strategies that emphasise reducing distractions on the road (Safety Institute of Australia, 2018). Heavy vehicle drivers usually perform in a stressful working environment, with the size of the vehicle imposing a high level of demand on the driver to control the vehicle over long periods.

The presence of emerging mobile technology in heavy vehicles has become more prevalent in recent years. The technology heavy vehicle drivers interact with on a regular basis includes navigation devices, fuel-economy coaching appliances, fleet management and workflow devices, in-cab fleet tracking and communication systems and, more recently, electronic logging devices (Martinez, 2018). While all these devices support drivers in performing their typical tasks, it is necessary to ensure they don't have a negative impact on the driving performance.

Comparably to heavy vehicle drivers, bus drivers regularly perform in a high-stress working environment characterised by high workloads and conflicting demands. The size of the bus also imposes a high level of demand on the driver. In addition, bus drivers are expected to undertake a range of secondary tasks not required from non-commercial drivers such as monitoring passengers, luggage and bus stops. This high workload can make bus drivers vulnerable to distraction (Young and Lenné, 2012). Considerations on the technologies these drivers are allowed to use during their work will need to include user interfaces and their potential impacts on distraction.

On-demand transport drivers are required to use equipment and dedicated apps as part of their usual work. For example, ridesharing vehicle drivers are required to use dedicated apps for managing trip requests, accessing pick-up locations and GPS-based navigation support (Uber, 2018). Reform options for driver distraction rules may need to accommodate the need for these apps while ensuring that the associated tasks do not decrease driving performance.

Taxi drivers also rely on equipment that is essential to their job. Taxi-cab equipment includes a broad range of safety devices (such as cameras) for drivers and passengers as well as fare calculation devices (meters), dispatch systems, GPS-based navigation aids and CB radios. As with ridesharing services, reform options for driver distraction rules will need to balance the ability to use this equipment with ensuring driving performance is not affected.

2.2 Current legislation to address driver distraction

2.2.1 Australian Road Rules

The project will focus on three rules within the Australian Road Rules – those that regulate proper control of a vehicle (rule 297), the use of television receivers and visual display units (rule 299) and the use of mobile phones (rule 300) by drivers.

These rules are largely enacted consistently by the states and territories. Further detail on the variations in the enactment of these rules is provided at Appendix A.

While road safety legislation in a number of states and territories includes prohibitions on the use of mobile phones by driver licence class, the NTC's work will only look into the relevant provisions in the Australian Road Rules, which provides a nationally-harmonised template for road rules for each Australian state and territory.

2.2.1.1 Road rule 297 – the driver to have proper control of the vehicle

(1) A driver must not drive a vehicle unless the driver has proper control of the vehicle.

This rule indicates the outcome sought by the legislator. However, while it is possible to assume that the successful execution of the core functions of the driving task should result in the driver having proper control, it is not clear what acceptable compliance looks like as those functions are not defined in the Australian Road Rules.

In addition, this rule regulates a broad range of driver behaviours. A driver's ability to maintain proper control of a vehicle can be affected by various causes, one of which could be distraction.

Each state and territory other than Western Australia have enacted rule 297(1). However, Western Australia refers to drivers being incapable of having 'proper control of a vehicle' while driving under the influence of alcohol and/or drugs or in a dangerous manner in provisions relating to dangerous driving causing death or grievous bodily harm and dangerous driving causing bodily harm (sections 59 and 59A in the *WA Road Traffic Act 1974*).

In addition to its offence of driving without proper control of the vehicle, Victoria includes a separate offence of travelling on an electric personal transporter without having proper control of it.

2.2.1.2 Road rule 299 – television receivers and visual display units in motor vehicles

(1) A driver must not drive a vehicle that has a television receiver or visual display unit in or on the vehicle operating while the vehicle is moving, or is stationary but not parked, if any part of the image on the screen:

- a. is visible to the driver from the normal driving position; or*
- b. is likely to distract another driver.*

This rule refers to the use of specific devices while driving and includes exemptions for:

- bus drivers, as long as the device displays a destination sign or other bus sign
- motorcyclists, as long as the device is a driver's aid and is not hand-held
- drivers using these devices as driver's aids; and
- emergency and police vehicles.

The Australian Road Rules do not provide a definition of 'driver's aids'. However, rule 299 provides the following examples of driver's aids:

- closed-circuit television security cameras
- dispatch systems
- navigational or intelligent highway and vehicle system equipment
- rear-view screens
- ticket-issuing machines; and
- vehicle monitoring devices.

Rule 299 does not address the risk of distraction from drivers lawfully operating visual display units while the vehicle is moving. These devices' interface designs can affect the level of attention these systems demand from drivers (Birrell and Young, 2011).

South Australia is the only jurisdiction that has enacted rule 299 without variation. Other jurisdictions have minor variations to rule 299.

2.2.1.3 Road rule 300 – use of mobile phones

(1) The driver of a vehicle must not use a mobile phone while the vehicle is moving, or is stationary but not parked, unless:

- a. the phone is being used to make or receive an audio phone call and the body of the phone:
 - i. is secured in a mounting affixed to the vehicle while being so used; or*
 - ii. is not secured in a mounting affixed to the vehicle and is not being held by the driver, and the use of the phone does not require the driver, at**

any time while using it, to press anything on the body of the phone or to otherwise manipulate any part of the body of the phone; or

- b. the phone is being used as a driver's aid and:
 - i. the body of the phone is secured in a mounting affixed to the vehicle while being so used; and*
 - ii. the use of the phone does not require the driver, at any time while using it, to press any thing on the body of the phone or otherwise to manipulate any part of the body of the phone; or**
- c. the vehicle is an emergency vehicle or a police vehicle; or*
- d. the driver is exempt from this rule under another law of this jurisdiction.*

Like rule 299, this rule refers to the use of specific devices as opposed to focusing on the device's functions that could potentially have distracting effects on the driver. Different devices that provide similar functionalities are not regulated by rule 300.

Police and emergency vehicles are exempted from the prohibition to use hand-held mobile phones.

As with rule 299 above, this rule provides examples of the same driver's aids.

Each state and territory have provisions regulating the use of mobile phones by drivers. South Australia is the only jurisdiction that has enacted rule 300 without variation. Queensland achieves the policy intent of rule 300 by prohibiting the driver from using a mobile phone in the driver's hand while the vehicle is moving or stationary but not parked. Other jurisdictions have some variations on rule 300.

2.2.2 Careless driving provisions in state and territory legislation

Careless driving provisions in state and territory legislation do not specifically address the behaviours that could cause distraction, nor do they provide guidance to drivers and enforcement agencies regarding compliance with the law. As with rule 297 of the Australian Road Rules regarding proper control of a vehicle, the issue of careless driving can be the result of various behaviours, some of which could include distraction. Further, careless driving is a factor that is considered after a crash has occurred, and relevant provisions do not provide enforcement agencies with support to minimise safety risks from driver distraction.

The Australian Capital Territory and New South Wales are the only jurisdictions that do not have a careless driving offence.

All other jurisdictions have an offence of either driving without due care or attention or driving carelessly. Queensland and Western Australia specify that the offence applies to the driver of a motor vehicle. Victoria has a separate offence for the driver of a motor vehicle and the driver of a vehicle other than a motor vehicle. The offences in the Northern Territory, South Australia and Tasmania apply to the driver of a vehicle.

Tasmania also has an offence of travelling in or on a wheeled recreational device or wheeled toy without due care and attention.

Appendix B sets out the jurisdictional provisions relating to careless driving of a vehicle.

2.2.3 International driver distraction regulation and guidelines

Countries around the world are taking measures to address distracted driving. In some countries, general laws relating to safe driving are applicable to driver distraction. In contrast, other countries have adopted specific legislation regarding particular sources of driver distraction, especially the use of mobile phones (World Health Organization, 2011). At least

32 countries have enacted laws banning mobile phone use while driving, and Portugal has made using any kind of phone, including hands-free, illegal while driving (US Department of Transportation, 2009).

The NTC has prepared the following list from literature to provide examples of the different international approaches to regulating driver distraction.

2.2.3.1 Non-technology-specific approaches

- The United Kingdom does not regulate the use of hands-free mobile phones with specific mobile phone laws. However, their use and other sources of distraction can be addressed through provisions on careless driving (World Health Organization, 2011).
- Sweden's approach is not to ban the use of mobile phones while driving, focusing instead on raising public awareness about the risk of distracted driving (World Health Organization, 2011).
- All provinces in Canada have general laws targeting driving 'without due care and attention' (World Health Organization, 2011).
- The Canadian province of Alberta prohibits drivers from holding or using hand-held mobile communication or entertainment and information devices such as mobile phones, laptops or MP3 players while driving. The legislation also restricts drivers from entering information on GPS units, reading, writing and personal grooming (Alberta Transportation, 2017).
- In the United States, Washington DC legislation specifically targets the offence of 'distracted driving' from technology and more general sources. Activities covered include reading, writing, performing personal grooming, interacting with pets or unsecured cargo, or engaging in any other activity that causes distraction and results in inattentive driving (District of Columbia, 2004).

2.2.3.2 Technology-specific approaches

- Most European countries have legislation banning hand-held devices. Most countries apply fines for transgression of these laws and many places have also included demerit points recorded against the offender's licence (World Health Organization, 2011).
- Other countries, like Portugal, have extended their bans on mobile phones to include hands-free kits (World Health Organization, 2011).
- In the United States, 16 states prohibit drivers of all ages from using hand-held mobile phones while driving. All drivers are banned from text messaging in 47 states, the District of Columbia, Guam, Puerto Rico and the US Virgin Islands (Kitch, 2018).
- While no state in America bans all mobile phone use for all drivers, 38 states and Washington DC ban mobile phone use by novice or teen drivers, and 21 states and Washington DC prohibit mobile phone use for school bus drivers (Kitch, 2018).
- California banned hand-held use while driving in 2016. It also clarified that a driver may only use a device if it is mounted on the windshield, dashboard or centre console and is operated by a single swipe or tap, addressing, for example, GPS use (Kitch, 2018).
- In Buenos Aires, Argentina, legislation prohibits using a hand-held phone and writing or reading text messages while driving, with fines and other penalties depending on the severity of the violation (World Health Organization, 2011).

- In India, until recent years, the *Motor Vehicles Act 1988* (the only legislation regulating road safety) did not specify the use of a communication device to be a violation. The enforcement agencies used the provision regarding 'driving dangerously' to penalise the use of mobile phones while driving. In the *Motor Vehicles (Amendment) Bill 2016*, which was passed in April 2016, the amendment included the 'use of handheld communications devices while driving' in its definition of dangerous driving (SaveLIFE Foundation, 2017).
- Morocco applies fines for using hand-held phones while driving (World Health Organization, 2011).

2.2.4 International harmonisation

While not exhaustive, the list of examples in the previous section shows a lack of consistency in approaches to regulate driver distraction. This inconsistency can also be observed within countries with states or provinces adopting different approaches.

However, there are international initiatives that aim to guide Member States on addressing the risks from driver distraction:

- Article 8.6 of the *Vienna Convention on Road Traffic 1968*, was amended in 2006 to include a ban on using mobile phones while driving (World Health Organization, 2011).
- In the Valletta Declaration of March 2017, the Council of the European Union's Member States invited industry to develop and promote new technologies that reduce the effects of human error and distraction (Council of the European Union, 2017).
- The United Nations General Assembly has sought to ensure greater uniformity in road safety rules by encouraging its Member States to adhere to its regulations (World Health Organization, 2011).
- The United Nations Economic and Social Council proposed amendments to the Consolidated Resolution on Road Traffic (R.E.1), section 1.5 – Use of mobile phones, recommending that, in addition to prohibiting the use of hand-held phones, drivers observe the following rules (United Nations Economic and Social Council, 2017):
 - switching off their phones and other communication devices before driving off and leaving them on voicemail
 - refraining from viewing messages and other information on the phone and other communication devices
 - stopping in an appropriate place if they decide to use a mobile phone or other communication device, or if they wish to listen to or read any messages received.

3 Analysis of issues

Key points

The NTC has identified the following key issues to be considered in developing technology-neutral approaches to regulate driver distraction:

- the Australian Road Rules need to provide a clear and consistent approach
- responsibility for distraction
- technologies that can assist with (and distract from) the driving task
- transition towards automation; and
- prescriptive and performance-based approaches.

3.1 Clear and consistent approach in the Australian Road Rules

The NTC's analysis of the Australian regulatory framework has found that current road rules related to driver distraction:

- have not kept pace with the arrival of the smartphone and modern technology devices (including those built into the vehicle)
- inconsistently treat the sources of distraction and safety risks associated with certain behaviours; and
- can be confusing for road users and enforcement agencies regarding what technology devices are legal and illegal to use when driving.

The current Australian Road Rules focus on specific types of technology that cause driver distraction rather than the cognitive workload placed by the technology or other distracting activities. The current rules only preclude the limit or use of particular technology devices – mobile phones, visual display units and television receivers – while permitting their use as driver aids. The current national rules date back to 1999, when texting and calling were the most common features of a mobile phone.

Devices now routinely have multiple functions, often dictated by software installation rather than the hardware. As a result, many modern functions available to drivers in their vehicles, and device interactions with those functions, are not specifically addressed or adequately covered by the road rules. In addition, new features are being added via software updates, and similar functions on different devices are not treated equally. Innovation has made it difficult to differentiate between functions that could distract drivers and functions that may improve safety outcomes (such as intelligent speed assist). The Australian Road Rules do not distinguish between functions likely to cause distraction and those needed for the driving task (or where they can improve driving performance).

Enacting specific legislation could be a highly effective tool for reducing road trauma if enforcement is consistent, effective and sustained over time, acting as a deterrent. Legislation can also act as a tool for shaping behaviour and fostering a culture of road safety that results in sustained reductions in road traffic injuries (World Health Organization, 2011).

The lack of clear guidance on what compliance looks like for driver distraction could reduce the effectiveness of the Australian Road Rules in achieving the desired road safety outcomes.

Question

4. Should conventional and technology-based causes of distraction be treated equally in the Australian Road Rules? Why?

3.2 Responsibility for distraction

The Australian Road Rules relating to driver distraction focus on the behaviour of drivers of vehicles, regardless whether other parties influence driver distraction. The current approach relies on three conditions:

- drivers following the law
- drivers self-regulating their driving to compensate for any momentary decrease in attention to the driving task from non-banned secondary activities; and
- effective enforcement in case of non-compliance with the road rules.

3.2.1 Drivers' compliance with the law

Drivers sometimes engage in activities that divert their attention from the driving task. A Commonwealth Government survey found that a significant number of drivers engage in activities prohibited by road legislation (Department of Infrastructure, Regional Development and Cities, 2018). In addition, drivers can involuntarily become non-compliant with the rule requiring proper control (rule 297) through events that are difficult to ignore such as a screaming baby, a sudden warning alarm in the vehicle, a cup of coffee spilling, a flashing advertising billboard or the erratic behaviour of another driver (Regan, Hallett and Gordon, 2011).

3.2.2 Driver self-regulation

A review of driver distraction research found evidence that drivers can adopt a level of self-regulation or compensatory behaviour when interacting with in-vehicle devices (Young and Regan, 2007). Drivers attempt to mitigate the risks from interacting with in-vehicle devices by:

- decreasing speed
- changing the relative amount of attention given to the driving and secondary tasks in response to changes in the road environment; and
- increasing following distance.

However, some of those studies also found that under certain conditions a driver's self-regulatory behaviour can fail, significantly reducing their driving performance. For example, drivers tend to pay less attention to other traffic (as measured by the reduced frequency of checking the rear-view and side mirrors) on low-traffic roads while engaging in a mobile phone conversation (Young and Regan, 2007).

3.2.3 Enforcing the law for driver distraction

Enforcing the road rules for driver distraction can be difficult in situations in which there is limited visibility of what is occurring inside vehicles, such as low light conditions, tinted windows and heavy traffic conditions. Enforcement statistics may not provide an accurate representation of the problem because a significant number of drivers also scan the environment for police and know how to cover their infringing behaviour to avoid police enforcement (Oviedo-Trespalacios et al., 2017). In addition, there is no feasible way to

ensure that a driver's attention remains sufficiently focused on the driving task (Hartley, 2007).

Police often use strategies such as motorcycle units and cameras to detect the use of hand-held phones by drivers. However, several jurisdictions have indicated that enforcement alone is unlikely to be effective to manage distracted driving in a safer way (The Centre for Accident Research & Road Safety – Queensland, 2017). Given the need for resources to implement these strategies and the high frequency of distraction while driving (as reported by driver surveys), it is necessary to consider whether enforcing existing or improved legislation can effectively change driver behaviour.

Question

5. Can you provide examples of effective non-regulatory approaches to driver distraction that assist drivers to self-regulate their behaviour in a dynamic driving environment?

3.2.4 Safe System approach

While it is correct to assume that the driver is the primary party responsible for the safe implementation of the driving task, it is useful to consider driver distraction in the context of the full road transport ecosystem and all the different parties that can influence road safety outcomes. Regulation is one of many inputs to a safe system, and the NTC's work on assessing the Australian Road Rules for driver distraction needs to recognise the guiding principles of the Safe System approach.

The *National Road Safety Strategy 2011–2020* is based on the Safe System approach to improving road safety. This strategy seeks to reduce fatal and serious injury crashes on Australian roads (Commonwealth of Australia, 2018a).

The Safe System approach involves a holistic view of the road transport system and the interactions among roads and roadsides, travel speeds, vehicles and road users. It considers all groups using the road system, including drivers, motorcyclists, passengers, pedestrians, cyclists and commercial and heavy vehicle drivers (Commonwealth of Australia, 2018b).

The guiding principles of the Safe System approach are:

- People make mistakes and the transport system must accommodate these. The errors on the roads should not result in death or serious injury
- There are physical limits to the amount of force our bodies can tolerate before we get injured; and
- The transport system must ensure that the forces in collisions do not exceed the limits of human tolerance. This means seeking to minimise impact forces when designing and maintaining roads and vehicles as well as managing speeds (Commonwealth of Australia, 2018b).

3.2.4.1 Shared responsibility

The Safe System approach recognises that, while individual road users are expected to be responsible for complying with traffic laws and behaving in a safe manner, the burden of road safety responsibility should not rest with the individual road user exclusively. The transport system managers also have a primary responsibility to provide a safe operating environment for road users. These managers include the government and industry organisations that design, build, maintain and regulate roads and vehicles, and technology providers. These and other parties responsible for the performance of the road transport

system have a role in ensuring that people's mistakes do not result in death or serious injury (Commonwealth of Australia, 2018b).

Road safety responsibilities also extend to professional groups and the broader community. For example, health professionals have a role in helping their clients to manage their safety on the roads. Parents influence the road safety education of their children through both their direct supervision of learner drivers and as role models with their driving and road user behaviour (Commonwealth of Australia, 2018b).

Companies and other employers also play a major role in building a road safety culture among their staff, particularly in workplace health and safety. Company drivers travel more than twice the annual distance of private car drivers and have about 50 per cent more incidents (Commonwealth of Australia, 2018b). This raises the issue of motor vehicles as a workplace and suggests potential safety gains from organisations and employers implementing road safety policies (Commonwealth of Australia, 2018b).

Applying the Safe System approach to driver distraction would involve considering the responsibility of a number of parties, including the driver. Transport system managers, industries, professional groups and the broader community would be responsible for minimising the causes and impacts of distraction.

Question

6. Can you provide examples of strategies successfully implemented by other international jurisdictions and industries (for example, aviation) that could be applicable to driver distraction?

3.2.4.2 The concept of chain of responsibility

On 1 October 2018, the Heavy Vehicle National Law was amended to impose the duty to ensure the safety of transport activities to every party in the heavy vehicle transport supply chain. This means that all parties have an obligation to eliminate or minimise potential harm by doing all that is reasonably practicable to ensure safety. This can be achieved by having safety management systems and controls in place such as business practices, training, procedures and review processes (National Heavy Vehicle Regulator, 2018).

The parties in the heavy vehicle transport supply chain can include:

- employers
- prime contractors (if the driver is self-employed)
- schedulers
- loading managers
- loaders and unloaders; and
- consignors and consignees of any goods in vehicles.

Driver distraction is prevalent in commercial vehicle operations and an important contributing factor in safety-critical events for commercial drivers (Olson et al., 2009).

Question

7. Are there other parties besides the vehicle driver who can influence the risk of driver distraction? If so, are there mechanisms to ensure those parties are doing all that is reasonably practicable to ensure safety?

3.3 Technologies can assist with (and distract from) the driving task

Smartphones and similar devices have introduced new factors for driver distraction. A recent survey by the Australian Government found that 64 per cent of respondents report using their mobile phone while driving, including 40 per cent who make calls while driving and 21 per cent who use their mobile phone for other activities such as browsing the internet and taking photos (Department of Infrastructure, Regional Development and Cities, 2018). The same survey also shows a significant increase in the proportion of participants considering 'driving distraction/driving while on a mobile' as the main factor leading to road crashes, growing from 8 per cent in 2013 to 18 per cent in 2017.

In addition, automakers and driving applications keep adding options to allow drivers to perform additional non-driving tasks such as using social media, emailing and texting. For example, General Motors is developing a marketplace platform that will allow in-vehicle online shopping for goods and services (Business Insider Australia, 2017). While the design of these new functionalities would likely include considerations for safety, some risks may not be identified before the products enter the market.

In-vehicle technology is also becoming more complicated to use, with some vehicles now featuring multi-functional buttons on the steering wheel and dashboard, touch screens, voice commands, head-up displays on windshields and mirrors and computer-generated images. The NTC considers that there may be potential for new technologies to minimise driver distraction through improved system integration and interface and device design.

While original equipment manufacturers have taken steps to ensure human factors principles are considered during the design phase, various countries have issued guidelines seeking to harmonise design principles and processes for in-vehicle information systems and devices. For example, the National Highway Traffic Safety Administration (US) published driver distraction guidelines that provide requirements for in-vehicle displays and applications (National Highway Traffic Safety Administration, 2013). The NTC is not aware of the existence of any Australian guidelines at present.

Question

8. Can you provide examples of effective strategies for ensuring that new in-vehicle technology and mobile apps minimise driver distraction?

3.4 Transition towards automation

Developing long-term regulations for driver distraction will necessarily involve consideration of current and emerging vehicle technologies and the progression towards automated driving. Some existing and soon to be produced vehicles offer partial levels of automation with the promise of improved safety and a reduced workload for drivers. This reduction on driver workload could result in an increased risk of human driver distraction during periods in which the driving automation system is executing some of the functions of the dynamic driving task.

There are different ways in which an automated vehicle can be defined, categorised and understood. The NTC defines automated vehicle levels of automation consistently with international approaches, which draw on the SAE International Standard J3016.

The SAE International Standard J3016 has six levels of driving automation from no automation (level 0) to full automation (level 5). Table 1 reproduces the SAE International Standard J3016. A key feature of the standard is that at level 2 (partial automation), although the automated driving system undertakes the lateral and longitudinal vehicle control subtask,

the human driver maintains responsibility for object and event detection and must respond appropriately and safely when required.

Table 1. Levels of driver automation defined in SAE International Standard J3016

SAE level	Name	Narrative definition	Dynamic driving task (DDT)		DDT fallback	Operational design domain (ODD)
			Sustained lateral and longitudinal vehicle motion control	Object and event detection and response (OEDR)		
Human driver performs part or all of the DDT						
0	No driving automation	The performance by the human driver of the entire DDT, even when enhanced by active safety systems	Human driver	Human driver	Human driver	N/A
1	Driver assistance	The sustained and ODD-specific execution by a driving automation system of either the lateral or the longitudinal vehicle motion control subtask of the DDT (but not both simultaneously) with the expectation that the human driver performs the remainder of the DDT	Human driver and system	Human driver	Human driver	Limited
2	Partial driving automation	The sustained and ODD-specific execution by a driving automation system of both the lateral and longitudinal vehicle motion control subtasks of the DDT with the expectation that the human driver completes the OEDR subtask and supervises the driving automation system	System	Human driver	Human driver	Limited
Automated driving system (system) performs part or all of the DDT (while engaged)						
3	Conditional driving automation	The sustained and ODD-specific performance by an ADS of the entire DDT with the expectation that the DDT fallback-ready user is receptive to ADS-issued requests to intervene, as well as to DDT performance-relevant system failures in other vehicle systems, and will respond appropriately	System	System	Fallback-ready human user (becomes the driver during fallback)	Limited
4	High driving automation	The sustained and ODD-specific performance by an ADS of the entire DDT and DDT fallback without any expectation that a user will respond to a request to intervene	System	System	System	Limited
5	Full driving automation	The sustained and unconditional (not ODD-specific) performance by an ADS of the entire DDT and DDT fallback without any expectation that a user will respond to a request to intervene	System	System	System	Unlimited

Source: SAE International 2018, p. 19

The transition period towards fully automated vehicles needs to acknowledge and accommodate the broad adoption of partially automated vehicles (level 2), which may challenge the expected road safety benefits automation seeks to achieve. If the workload on the driver is too small during periods of automation, driver vigilance could suffer, increasing braking and steering reaction times in the presence of a sudden critical event. This condition

is known as passive fatigue and it can reduce driver performance (Cunningham and Regan, 2018).

Equally, boredom could also result from the low workload on the driver in periods of automated driving, prompting drivers to engage in other activities instead of monitoring and supervising the vehicle (Cunningham and Regan, 2018). Inattentive drivers in a partially automated vehicle may pose a safety risk to other road users because they may be less likely to anticipate critical events that spark a takeover request and be ill-prepared to safely take back control (Cunningham and Regan, 2018).

A report on a recent fatality in which a truck and a partially automated Tesla vehicle (level 2) were involved, points to the issue of boredom and distraction during periods of automated driving. The National Transportation Safety Board determined that the probable cause of the crash was the truck driver's failure to yield the right of way to the car, combined with the car driver's inattention due to overreliance on vehicle automation, resulting in the car driver's lack of reaction to the presence of the truck (National Transportation Safety Board, 2016).

The [NTC's automated vehicle program](#) is considering safety issues for levels 3, 4 and 5 and will develop an approach for managing human user responsibility for those levels of automation.

Question

9. Can you provide examples of strategies to ensure that users of partially automated vehicles are fully informed about their responsibilities, and the limitations of their vehicle's technology?

3.5 Prescriptive and performance-based approaches to regulation

The Australian Road Rules contain a mix of performance and prescriptive-based provisions.

A performance-based rule describes the outcome sought by the legislator. In relation to the rules the NTC is reviewing for this project, Rule 297 exemplifies the performance-based approach:

A driver must not drive a vehicle unless the driver has proper control of the vehicle.

In contrast, rules 299 and 300 fit within the definition of a prescriptive rule:

Rule 299(1): A driver must not drive a vehicle that has a television receiver or visual display unit in or on the vehicle operating while the vehicle is moving, or is stationary but not parked...

Rule 300(1): The driver of a vehicle must not use a mobile phone while the vehicle is moving, or is stationary but not parked...

Both approaches have advantages and disadvantages. The advantage of performance-based rules is that they provide people with flexibility to find their best approach for compliance. They allow for future innovation and technology changes. However, performance-based rules can also create uncertainty about what acceptable compliance may look like (National Transport Commission, 2011).

Conversely, prescriptive rules provide certainty, clarity and uniformity to drivers. They are also easier to enforce and thus preferred by enforcement officers. However, their disadvantages are their inflexibility, higher likelihood of becoming outdated, and potential to hinder innovation (National Transport Commission, 2011).

Question

10. What evidence is available in support of a performance-based approach or a prescriptive approach for managing the risks of driver distraction?

3.5.1 Non-regulatory measures

If a future technology-neutral approach for driver distraction includes a degree of performance-based regulations, non-regulatory measures (guidelines, public education campaigns) may be required to support drivers' self-regulatory behaviour and decision making.

This will most likely require the implementation of initiatives to make the motoring public aware of all the different tasks that can potentially cause distraction as well as the strategies required to minimise the need for such tasks while driving. Drivers would also need to be educated and trained in the safest way to interact with existing and emerging technologies to minimise distraction (Regan and Young, 2003). Vehicle and device manufacturers could also have a role in supporting drivers by providing user manuals and tutorials indicating the most ergonomic and least distracting methods for using their technologies (Regan and Young, 2003).

Public education campaigns on the risks of driver distraction may be required to target young drivers who are at risk given their lack of experience and limited ability. According to the Transport Accident Commission, Victorian drivers between 18 and 25 years old are over-represented in road trauma despite the significant decrease in road fatalities since 1989. In 2016 this age bracket represented 19 per cent of drivers who lost their lives in Victorian roads, even though this group represents only around 10 per cent of Victorian licence holders (Transport Accident Commission, 2018).

Appendix A Enactment of Australian Road Rules by states and territories

State/territory	Mobile phone use	Driver licence class prohibition
<p>Australian Capital Territory</p>	<p><i>Road Transport (Road Rules) Regulation 2017</i></p> <p>297 Driver to have proper control of vehicle etc</p> <p>(1) A driver must not drive a vehicle unless the driver has proper control of the vehicle.</p> <p>Maximum penalty: 20 penalty units.</p> <p>299 Television receiver or visual display unit in motor vehicle</p> <p>(1) A driver must not drive a vehicle that has a television receiver or visual display unit in or on the vehicle operating while the vehicle is moving, or is stationary but not parked, if any part of the image on the screen—</p> <ul style="list-style-type: none"> (a) is visible to the driver from the normal driving position; or (b) is likely to distract another driver. <p>Maximum penalty: 20 penalty units.</p> <p>(2) This section does not apply to the driver if—</p> <ul style="list-style-type: none"> (a) the driver is driving a bus and the visual display unit is, or displays, a destination sign or other bus sign; or (ba) the visual display unit is a mobile data terminal fitted to a police vehicle or an emergency vehicle; or (bb) the visual display unit is part of a mobile phone that is being used as a driver's aid as permitted by section 300 (1) (ab); or (c) the visual display unit is, or is part of, a driver's aid that is— <ul style="list-style-type: none"> (i) an integrated part of the vehicle design; or (ii) secured in a mounting affixed to the vehicle while being used. <p>Examples—driver's aids</p> <ul style="list-style-type: none"> • closed-circuit television security cameras • dispatch systems • navigational or intelligent highway and vehicle system equipment 	<p>No prohibitions on specific driver licence classes.</p>

	<ul style="list-style-type: none"> • rear-view screens • ticket-issuing machines • vehicle monitoring devices <p>(3) For subsection (2) (c) (ii), a visual display unit is secured in a mounting affixed to the vehicle only if—</p> <ul style="list-style-type: none"> (a) the mounting is commercially designed and manufactured for that purpose; and (b) the unit is secured in the mounting, and the mounting is affixed to the vehicle, in the manner intended by the manufacturer. <p>300 Use of mobile phone</p> <p>(1) The driver of a vehicle must not use a mobile phone while the vehicle is moving, or is stationary but not parked, unless—</p> <ul style="list-style-type: none"> (a) the phone is being used to make or receive an audio phone call and the body of the phone— <ul style="list-style-type: none"> (i) is secured in a mounting affixed to the vehicle while being so used; or (ii) is not secured in a mounting affixed to the vehicle and is not being held by the driver, and the use of the phone does not require the driver, at any time while using it, to press anything on the body of the phone or to otherwise manipulate any part of the body of the phone; or (ab) the phone is being used as a driver’s aid and— <ul style="list-style-type: none"> (i) the body of the phone is secured in a mounting affixed to the vehicle while being so used; and (ii) the use of the phone does not require the driver, at any time while using it, to press anything on the body of the phone or otherwise to manipulate any part of the body of the phone; or (b) the vehicle is an emergency vehicle or a police vehicle; or (c) the phone is being used to stream, play or listen to music or audio files and both of the following apply: <ul style="list-style-type: none"> (i) the body of the phone is not being held by the driver; (ii) the use of the phone does not require the driver, at any time while using it, to press anything on the body of the phone or to otherwise manipulate any part of the body of the phone. <p>Maximum penalty: 20 penalty units.</p> <p>Examples—driver’s aids</p> <ul style="list-style-type: none"> • closed-circuit television security cameras • dispatch systems • navigational or intelligent highway and vehicle system equipment • rear-view screens • ticket-issuing machines 	
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	<ul style="list-style-type: none"> • vehicle monitoring devices <p>(2) For this subsection, a mobile phone is secured in a mounting affixed to the vehicle only if—</p> <ul style="list-style-type: none"> (a) the mounting is commercially designed and manufactured for that purpose; and (b) the mobile phone is secured in the mounting, and the mounting is affixed to the vehicle, in the manner intended by the manufacturer. <p>(3) For this section, a driver does not use a phone to receive a text message, video message, email or similar communication if—</p> <ul style="list-style-type: none"> (a) the communication is received automatically by the phone; and (b) on and after receipt, the communication itself (rather than any indication that the communication has been received) does not become automatically visible on the screen of the phone. <p>(3A) In this regulation: affixed to, in relation to a vehicle, includes forming part of the vehicle.</p> <p>(4) In this section: audio phone call does not include an email, text message, video call, video message or other similar communication. body, in relation to a mobile phone, means the part of the phone that contains the majority of the phone’s mechanisms. held includes held by, or resting on, any part of the driver’s body, but does not include held in a pocket of the driver’s clothing or in a pouch worn by the driver. mobile phone—</p> <ul style="list-style-type: none"> (a) includes any other wireless hand-held device designed or capable of being used for telecommunication; but (b) does not include a CB radio or any other two-way radio. <p>Examples—other hand-held devices iPad or other tablet computer</p> <p>use, in relation to a mobile phone, includes any of the following actions by a driver:</p> <ul style="list-style-type: none"> (a) holding the body of the phone in the driver’s hand (whether or not engaged in a phone call), except while in the process of giving the body of the phone to a passenger in the vehicle; (b) entering or placing, other than by the use of voice, anything into the phone, or sending or looking at anything that is in the phone; (c) turning the phone on or off; (d) operating any other function of the phone. 	
New South Wales	<i>Road Rules 2014</i> 297 Driver to have proper control of a vehicle etc (1) A driver must not drive a vehicle unless the driver has proper control of the vehicle.	<i>Road Rules 2014</i> 300–1 NSW rule: use of mobile phones by drivers who are holders of learner

	<p>Maximum penalty: 20 penalty units.</p> <p>299 Television receivers and visual display units in vehicles</p> <p>(1) A driver must not drive a vehicle that has a television receiver or visual display unit in or on the vehicle operating while the vehicle is moving, or is stationary but not parked, if any part of the image on the screen:</p> <ul style="list-style-type: none"> (a) is visible to the driver from the normal driving position, or (b) is likely to distract another driver. <p>Maximum penalty: 20 penalty units.</p> <p>Note. <i>Park</i> is defined in the Dictionary, and <i>vehicle</i> is defined in rule 15.</p> <p>(2) This rule does not apply to the driver if:</p> <ul style="list-style-type: none"> (a) the driver is driving a bus and the visual display unit is, or displays, a destination sign or other bus sign, or <ul style="list-style-type: none"> (aa) * * * * * (b) the visual display unit is used as a driver's aid and either: <ul style="list-style-type: none"> (i) is an integrated part of the vehicle design, or (ii) is secured in a mounting affixed to the vehicle while being used, or (ba) the visual display unit is a mobile data terminal fitted to a police vehicle or an emergency vehicle, or (c) the driver or vehicle is exempt from this rule under another law of this jurisdiction. <p>Examples of driver's aids.</p> <ol style="list-style-type: none"> 1 Closed-circuit television security cameras. 2 Dispatch systems. 3 Navigational or intelligent highway and vehicle system equipment. 4 Rearview screens. 5 Ticket-issuing machines. 6 Vehicle monitoring devices. <p>Note 1. <i>Bus, emergency vehicle</i> and <i>police vehicle</i> are defined in the Dictionary.</p> <p>Note 2. Rule 299 (2) (aa) of the Australian Road Rules has not been reproduced in these Rules. The paragraph has been left blank in order to preserve uniformity of numbering with the Australian Road Rules.</p>	<p>and provisional P1 or P2 licences</p> <p>(1) The driver of a vehicle (except an emergency vehicle or police vehicle) who is the holder of a learner licence or a provisional P1 or P2 licence must not use a mobile phone, whether or not held by the driver, while the vehicle is moving or is stationary but not parked.</p> <p>Maximum penalty: 20 penalty units.</p> <p>Note. <i>Emergency vehicle, park, police vehicle, provisional P1 licence</i> and <i>provisional P2 licence</i> are defined in the Dictionary, and <i>learner licence</i> is defined in the Act.</p> <p>(2) In this rule, <i>mobile phone</i> and <i>use</i> have the same meanings as in rule 300.</p> <p>Note. This rule is an additional NSW road rule. There is no corresponding rule in the Australian Road Rules.</p>
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Note 3. Subrule (2) (b) is not uniform with the corresponding paragraph in rule 299 of the Australian Road Rules. Different rules may apply in other Australian jurisdictions.

(3) For the purposes of subrule (2) (b) (ii), a visual display unit is secured in a mounting affixed to the vehicle only if:

- (a) the mounting is commercially designed and manufactured for that purpose, and
- (b) the unit is secured in the mounting, and the mounting is affixed to the vehicle, in the manner intended by the manufacturer.

300 Use of mobile phones

(1) The driver of a vehicle must not use a mobile phone while the vehicle is moving, or is stationary but not parked, unless:

(a) the phone is being used to make or receive an audio phone call or to perform an audio playing function and the body of the phone:

- (i) is secured in a mounting affixed to the vehicle while being so used, or
- (ii) is not secured in a mounting affixed to the vehicle and is not being held by the driver, and the use of the phone does not require the driver, at any time while using it, to press any thing on the body of the phone or to otherwise manipulate any part of the body of the phone, or

(b) the phone is functioning as a visual display unit that is being used as a driver's aid and the phone is secured in a mounting affixed to the vehicle, or

(c) the vehicle is an emergency vehicle or a police vehicle, or

(d) the driver is exempt from this rule under another law of this jurisdiction.

Maximum penalty: 20 penalty units.

Examples of driver's aids.

- 1 Closed-circuit television security cameras.
- 2 Dispatch systems.
- 3 Navigational or intelligent highway and vehicle system equipment.
- 4 Rearview screens.
- 5 Ticket-issuing machines.
- 6 Vehicle monitoring devices.

Note 1. *Emergency vehicle*, *park* and *police vehicle* are defined in the Dictionary.

	<p>Note 2. Subrule (1) is not uniform with the corresponding subrule in rule 300 of the Australian Road Rules. Different rules may apply in other Australian jurisdictions.</p> <p>(2) For the purposes of this rule, a mobile phone is secured in a mounting affixed to the vehicle only if:</p> <ul style="list-style-type: none"> (a) the mounting is commercially designed and manufactured for that purpose, and (b) the mobile phone is secured in the mounting, and the mounting is affixed to the vehicle, in the manner intended by the manufacturer. <p>(3) For the purposes of this rule, a driver does not use a phone to receive a text message, video message, email or similar communication if:</p> <ul style="list-style-type: none"> (a) the communication is received automatically by the phone, and (b) on and after receipt, the communication itself (rather than any indication that the communication has been received) does not become automatically visible on the screen of the phone. <p>(3–1) This rule does not apply to the driver of a vehicle who is the holder of a learner licence or a provisional P1 or P2 licence.</p> <p>Note 1. Provisional P1 licence and provisional P2 licence are defined in the Dictionary and learner licence is defined in the Act.</p> <p>Note 2. Rule 300–1 provides for the use of mobile phones by drivers who are holders of learner licences or provisional P1 or P2 licences.</p> <p>Note 3. This subrule is an additional NSW subrule. There is no corresponding subrule in rule 300 of the Australian Road Rules.</p> <p>(4) In this rule:</p> <p>affixed to, in relation to a vehicle, includes forming part of the vehicle.</p> <p>audio phone call does not include an email, text message, video call, video message or other similar communication.</p> <p>body, in relation to a mobile phone, means the part of the phone that contains the majority of the phone’s mechanisms.</p> <p>held includes held by, or resting on, any part of the driver’s body, but does not include held in a pocket of the driver’s clothing or in a pouch worn by the driver.</p> <p>mobile phone does not include a CB radio or any other two-way radio.</p> <p>use, in relation to a mobile phone, includes any of the following actions by a driver:</p> <ul style="list-style-type: none"> (a) holding the body of the phone in her or his hand (whether or not engaged in a phone call), except while in the process of giving the body of the phone to a passenger in the vehicle, 	
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	<p>(b) entering or placing, other than by the use of voice, anything into the phone, or sending or looking at anything that is in the phone,</p> <p>(c) turning the phone on or off,</p> <p>(d) operating any other function of the phone.</p>	
Northern Territory	<p><i>Traffic Regulations – Australian Road Rules</i> 297 Driver to have proper control of a vehicle etc. (1) A driver must not drive a vehicle unless the driver has proper control of the vehicle. Offence provision.</p> <p>299 Television receivers and visual display units in motor vehicles (1) A driver must not drive a motor vehicle that has a television receiver or visual display unit in or on the vehicle operating while the vehicle is moving, or is stationary but not parked, if any part of the image on the screen:</p> <ul style="list-style-type: none"> (a) is visible to the driver from the normal driving position; or (b) is likely to distract another driver. <p>Offence provision. <i>Note</i> Motor vehicle and park is defined in the dictionary, and vehicle is defined in rule 15.</p> <p>(2) This rule does not apply to the driver if:</p> <ul style="list-style-type: none"> (a) the driver is driving a bus and the visual display unit is, or displays, a destination sign or other bus sign; or (b) the vehicle is not a motor bike and the visual display unit is, or is part of, a driver's aid and either – <ul style="list-style-type: none"> (i) is an integrated part of the vehicle design; or (ii) is secured in a mounting affixed to the vehicle while being used; or (ba) the visual display unit is a mobile data terminal fitted to a police vehicle or an emergency vehicle; or <p><i>Note</i> Police vehicle and emergency vehicle are defined in the dictionary.</p> <ul style="list-style-type: none"> (c) the driver or vehicle is exempt from this rule under another law of this jurisdiction. <p>(3) For the purposes of subrule (2)(b)(ii), a visual display unit is secured in a mounting affixed to the vehicle if, and only if:</p> <ul style="list-style-type: none"> (a) the mounting is commercially designed and manufactured for that purpose; and (b) the unit is secured in the mounting, and the mounting is affixed to the vehicle, in the manner intended by the manufacturer. 	<p><i>Traffic Regulations</i> 15A Prohibition on mobile phone usage A learner or a provisional driver, while driving a motor vehicle, must not use a mobile phone while the vehicle is moving, or is stationary but not parked. <i>Note</i> <i>The prohibition under this regulation extends to any use of a mobile phone, including the use of hands-free devices.</i></p>

	<p><i>Examples of driver's aids</i></p> <p>1 <i>Closed-circuit television security cameras.</i></p> <p>2 <i>Dispatch systems.</i></p> <p>3 <i>Navigational or intelligent highway and vehicle system equipment.</i></p> <p>4 <i>Rearview screens.</i></p> <p>5 <i>Ticket-issuing machines.</i></p> <p>6 <i>Vehicle monitoring devices.</i></p> <p><i>Note</i></p> <p>Bus <i>is defined in the dictionary</i></p> <p>300 Use of mobile phones</p> <p>(1) The driver of a vehicle must not use a mobile phone while the vehicle is moving, or is stationary but not parked, unless:</p> <ul style="list-style-type: none"> (a) the phone is being used to make or receive a phone call (other than a text message, video message, email or similar communication) and the body of the phone: <ul style="list-style-type: none"> (i) is secured in a mounting affixed to the vehicle while being so used; or (ii) is not secured in a mounting affixed to the vehicle and is not being held by the driver, and the use of the phone does not require the driver, at any time while using it, to press any thing on the body of the phone or to otherwise manipulate any part of the body of the phone; or (b) the vehicle is an emergency vehicle or a police vehicle; or (c) the driver is exempt from this rule under another law of this jurisdiction. <p>Offence provision.</p> <p><i>Note</i></p> <p>Emergency vehicle, park and police vehicle <i>are defined in the dictionary.</i></p> <p>(2) For the purposes of this rule, a mobile phone is secured in a mounting affixed to the vehicle if, and only if:</p> <ul style="list-style-type: none"> (a) the mounting is commercially designed and manufactured for that purpose; and (b) the mobile phone is secured in the mounting, and the mounting is affixed to the vehicle, in the manner intended by the manufacturer. <p>(3) For the purposes of this rule, a driver does not use a phone to receive a text message, video message, email or similar communication if:</p> <ul style="list-style-type: none"> (a) the communication is received automatically by the phone; and (b) on and after receipt, the communication itself (rather than any indication that the communication has been received) does not become automatically visible on the screen of the phone. <p>(4) In this rule:</p>	
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	<p>affixed to, in relation to a vehicle, includes forming part of the vehicle.</p> <p>body, in relation to a mobile phone, means the part of the phone that contains the majority of the phone's mechanisms.</p> <p>held includes held by, or resting on, any part of the driver's body, but does not include held in a pocket of the driver's clothing or in a pouch worn by the driver.</p> <p>mobile phone does not include a CB radio or any other two-way radio.</p> <p>use, in relation to a mobile phone, includes any of the following actions by a driver:</p> <ul style="list-style-type: none"> (a) holding the body of the phone in her or his hand (whether or not engaged in a phone call), except while in the process of giving the body of the phone to a passenger in the vehicle; (b) entering or placing, other than by the use of voice, anything into the phone, or sending or looking at anything that is in the phone; (c) turning the phone on or off; (d) operating any other function of the phone. <p><i>Traffic Regulations</i></p> <p>86B Mobile phone as driver's aid</p> <p>The driver of a vehicle is exempt from rule 300 if:</p> <ul style="list-style-type: none"> (a) the phone is being used to perform a navigational or intelligent highway and vehicle system function in the vehicle; and (b) the body of the phone is secured in a mounting affixed to the vehicle while being used. 	
Queensland	<p><i>Transport Operations (Road Use Management—Road Rules) Regulation 2009</i></p> <p>244O Using mobile phones on device –</p> <p>(1) A person must not use a mobile phone that the person is holding in the person's hands while the person is using a personal mobility device.</p> <p>Maximum penalty—20 penalty units.</p> <p>(2) In this section—</p> <p>use, in relation to a mobile phone, includes any of the following—</p> <ul style="list-style-type: none"> (a) holding the phone to, or near, the ear, whether or not engaged in a phone call; (b) writing, sending or reading a text message on the phone; (c) turning the phone on or off; (d) operating any other function of the phone. <p>297 Driver to have proper control of a vehicle etc.</p> <p>(1) A driver must not drive a vehicle unless the driver has proper control of the vehicle.</p> <p>Maximum penalty—20 penalty units.</p> <p>299 Television receivers and visual display units in motor vehicles</p>	<p><i>Transport Operations (Road Use Management—Driver Licensing) Regulation 2010</i></p> <p>68 Use of mobile phones by particular driver licence holders</p> <p>(1) This section applies to a person driving a car on a road—</p> <p>(a) who—</p> <ul style="list-style-type: none"> (i) holds a class C learner licence granted or renewed after 30 June 2007, or a P1 provisional licence; and (ii) is under 25 years; or

	<p>(1) A driver must not drive a motor vehicle that has a television receiver or visual display unit in or on the vehicle operating while the vehicle is moving, or is stationary but not parked, if any part of the image on the screen—</p> <ul style="list-style-type: none"> (a) is visible to the driver from the normal driving position; or (b) is likely to distract another driver. <p>Maximum penalty—20 penalty units.</p> <p>(2) This section does not apply to the driver if—</p> <ul style="list-style-type: none"> (a) the driver is driving a bus and the visual display unit is, or displays, a destination sign or other bus sign; or (b) the visual display unit— <ul style="list-style-type: none"> (i) is, or is part of, a driver’s aid; and (ii) is not being held by the driver in the driver’s hand; or <p><i>Examples of driver’s aids—</i></p> <ul style="list-style-type: none"> • closed-circuit television security cameras • dispatch system • mobile phones or tablet computers equipped with GPS receivers, or paired with GPS receivers by bluetooth, being used as navigational aids • navigational or intelligent highway and vehicle system equipment • rearview screens • ticket-issuing machines • vehicle monitoring devices <p>(ba) the visual display unit is a mobile data terminal fitted to a police vehicle or an emergency vehicle.</p> <p>300 Use of mobile phones</p> <p>(1) The driver of a vehicle (except an emergency vehicle or police vehicle) must not use a mobile phone that the driver is holding in the driver’s hand while the vehicle is moving, or is stationary but not parked.</p> <p>Maximum penalty—20 penalty units.</p> <p>(2) In this section—</p> <p>mobile phone does not include a CB radio or any other two-way radio.</p> <p>use, in relation to a mobile phone, includes any of the following—</p> <ul style="list-style-type: none"> (a) holding the phone to, or near, the ear, whether or not engaged in a phone call; (b) writing, sending or reading a text message on the phone; (c) turning the phone on or off; (d) operating any other function of the phone. 	<p>(b) who holds a class C P1 probationary licence or P1 restricted licence because of a young driver disqualification offence.</p> <p>(2) The person must not use a mobile phone while the car is—</p> <ul style="list-style-type: none"> (a) moving; or (b) stationary but not parked. <p>Maximum penalty—20 penalty units.</p> <p>69 Use of mobile phones by passengers</p> <p>(1) This section applies to a passenger in a car driven on a road by a person—</p> <ul style="list-style-type: none"> (a) who holds a class C learner licence or P1 provisional licence and is under 25 years; or (b) who holds a class C P1 probationary licence or P1 restricted licence because of a young driver disqualification offence. <p>(2) The passenger must not use a mobile phone in loudspeaker mode while the car is—</p> <ul style="list-style-type: none"> (a) moving; or (b) stationary but not parked. <p>Maximum penalty—20 penalty units.</p>
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<p>South Australia</p>	<p><i>Australian Road Rules</i></p> <p>297—Driver to have proper control of a vehicle etc (1) A driver must not drive a vehicle unless the driver has proper control of the vehicle. Offence provision.</p> <p>299—Television receivers and visual display units in vehicles (1) A driver must not drive a vehicle that has a television receiver or visual display unit in or on the vehicle operating while the vehicle is moving, or is stationary but not parked, if any part of the image on the screen—</p> <ul style="list-style-type: none"> (a) is visible to the driver from the normal driving position; or (b) is likely to distract another driver. <p>Offence provision.</p> <p>Note—</p> <p>Park is defined in the dictionary, and vehicle is defined in rule 15.</p> <p>(2) This rule does not apply to the driver if—</p> <ul style="list-style-type: none"> (a) the driver is driving a bus and the visual display unit is, or displays, a destination sign or other bus sign; or (ab) the vehicle is a motor bike and the visual display unit is, or is part of, a driver's aid, and the driver is not holding the visual display unit in his or her hand; or (b) the vehicle is not a motor bike and the visual display unit is, or is part of, a driver's aid and either— <ul style="list-style-type: none"> (i) is an integrated part of the vehicle design; or (ii) is secured in a mounting affixed to the vehicle while being used; or (ba) the visual display unit is a mobile data terminal fitted to a police vehicle or an emergency vehicle; or (bb) the visual display unit is part of a mobile phone that is being used as a driver's aid as permitted by rule 300(1)(ab); or (c) the driver or vehicle is exempt from this rule under another law of this jurisdiction. <p>Examples of driver's aids—</p> <ol style="list-style-type: none"> 1 Closed-circuit television security cameras. 2 Dispatch systems. 3 Navigational or intelligent highway and vehicle system equipment. 4 Rearview screens. 5 Ticket-issuing machines. 6 Vehicle monitoring devices. <p>Note—</p>	<p><i>Road Traffic (Road Rules—Ancillary and Miscellaneous Provisions) Regulations 2014</i></p> <p>44—Prohibition of use of mobile phone by holder of learner's permit, P1 licence etc</p> <p>(1) Despite anything in rule 300 (Use of mobile phones), a driver of a vehicle (except an emergency vehicle or police vehicle) who is a learner or P1 driver must not use a mobile phone while the vehicle is moving or is stationary but not parked.</p> <p>Maximum penalty: \$2 500.</p>
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	<p>Bus, emergency vehicle and police vehicle are defined in the dictionary.</p> <p>(3) For the purposes of subrule (2)(b)(ii), a visual display unit is secured in a mounting affixed to the vehicle if, and only if—</p> <ul style="list-style-type: none"> (a) the mounting is commercially designed and manufactured for that purpose; and (b) the unit is secured in the mounting, and the mounting is affixed to the vehicle, in the manner intended by the manufacturer. <p>300—Use of mobile phones</p> <p>(1) The driver of a vehicle must not use a mobile phone while the vehicle is moving, or is stationary but not parked, unless—</p> <ul style="list-style-type: none"> (a) the phone is being used to make or receive an audio phone call and the body of the phone— <ul style="list-style-type: none"> (i) is secured in a mounting affixed to the vehicle while being so used; or (ii) is not secured in a mounting affixed to the vehicle and is not being held by the driver, and the use of the phone does not require the driver, at any time while using it, to press any thing on the body of the phone or to otherwise manipulate any part of the body of the phone; or (ab) the phone is being used as a driver's aid and— <ul style="list-style-type: none"> (i) the body of the phone is secured in a mounting affixed to the vehicle while being so used; and (ii) the use of the phone does not require the driver, at any time while using it, to press any thing on the body of the phone or otherwise to manipulate any part of the body of the phone; or (b) the vehicle is an emergency vehicle or a police vehicle; or (c) the driver is exempt from this rule under another law of this jurisdiction. <p>Offence provision.</p> <p>Note—</p> <p>Emergency vehicle, park and police vehicle are defined in the dictionary.</p> <p>Examples of driver's aids—</p> <ol style="list-style-type: none"> 1 Closed-circuit television security cameras. 2 Dispatch systems. 3 Navigational or intelligent highway and vehicle system equipment. 4 Rearview screens. 5 Ticket-issuing machines. 6 Vehicle monitoring devices. <p>(2) For the purposes of this rule, a mobile phone is secured in a mounting affixed to the vehicle if, and only if—</p> <ul style="list-style-type: none"> (a) the mounting is commercially designed and manufactured for that purpose; and 	
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	<p>(b) the mobile phone is secured in the mounting, and the mounting is affixed to the vehicle, in the manner intended by the manufacturer.</p> <p>(3) For the purposes of this rule, a driver does not use a phone to receive a text message, video message, email or similar communication if—</p> <p>(a) the communication is received automatically by the phone; and</p> <p>(b) on and after receipt, the communication itself (rather than any indication that the communication has been received) does not become automatically visible on the screen of the phone.</p> <p>(4) In this rule—</p> <p>affixed to, in relation to a vehicle, includes forming part of the vehicle;</p> <p>audio phone call does not include an email, text message, video call, video message or other similar communication;</p> <p>body, in relation to a mobile phone, means the part of the phone that contains the majority of the phone's mechanisms;</p> <p>held includes held by, or resting on, any part of the driver's body, but does not include held in a pocket of the driver's clothing or in a pouch worn by the driver;</p> <p>mobile phone does not include a CB radio or any other two-way radio;</p> <p>use, in relation to a mobile phone, includes any of the following actions by a driver—</p> <p>(a) holding the body of the phone in her or his hand (whether or not engaged in a phone call), except while in the process of giving the body of the phone to a passenger in the vehicle;</p> <p>(b) entering or placing, other than by the use of voice, anything into the phone, or sending or looking at anything that is in the phone;</p> <p>(c) turning the phone on or off;</p> <p>(d) operating any other function of the phone.</p> <p>SA NOTE—</p> <p>For South Australia, in addition to this rule, see regulation 44 of the <i>Road Traffic (Road Rules—Ancillary and Miscellaneous Provisions) Regulations 2014</i>.</p>	
Tasmania	<p><i>Road Rules 2009</i></p> <p>297. Driver to have proper control of a vehicle, &c.</p> <p>(1) A driver must not drive a vehicle unless the driver has proper control of the vehicle.</p> <p>Penalty: Fine not exceeding 10 penalty units.</p> <p>299. Television receivers and visual display units in motor vehicles</p>	No prohibitions on specific driver licence classes.

	<p>(1) A driver must not drive a vehicle that has a television receiver or visual display unit in or on the vehicle operating while the vehicle is moving, or is stationary but not parked, if any part of the image on the screen –</p> <ul style="list-style-type: none"> (a) is visible to the driver from the normal driving position; or (b) is likely to distract another driver. <p>Penalty: Fine not exceeding 5 penalty units.</p> <p><i>Note: Motor vehicle and park are defined in the dictionary, and vehicle is defined in rule 15 .</i></p> <p>(2) This rule does not apply to the driver if –</p> <ul style="list-style-type: none"> (a) the driver is driving a bus and the visual display unit is, or displays, a destination sign or other bus sign; or (aa) the vehicle is a motor bike and the visual display unit is, or is part of, a driver's aid; or (b) the vehicle is not a motor bike and the visual display unit is, or is part of, a driver's aid and either – <ul style="list-style-type: none"> (i) is an integrated part of the vehicle design; or (ii) is secured in a mounting affixed to the vehicle while being used; or (ba) the visual display unit is a mobile data terminal fitted to a police vehicle or an emergency vehicle; or <p><i>Note: Police vehicle and emergency vehicle are defined in the dictionary.</i></p> <ul style="list-style-type: none"> (bb) the visual display unit is part of a mobile phone that is being used as a driver's aid as permitted by rule 300(1)(ab) ; or (c) the driver or vehicle is exempt from this rule under another law of this jurisdiction. <p>(3) For the purposes of subrule (2)(b)(ii) , a visual display unit is secured in a mounting affixed to the vehicle if, and only if –</p> <ul style="list-style-type: none"> (a) the mounting is commercially designed and manufactured for that purpose; and (b) the unit is secured in the mounting, and the mounting is affixed to the vehicle, in the manner intended by the manufacturer. <p><i>Examples of driver's aids</i></p> <ol style="list-style-type: none"> 1. Closed-circuit television security cameras. 2. Dispatch systems. 	
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	<p>3. Navigational or intelligent highway and vehicle system equipment.</p> <p>4. Rearview screens.</p> <p>5. Ticket-issuing machines.</p> <p>6. Vehicle monitoring devices.</p> <p><i>Note: Bus is defined in the dictionary.</i></p> <p>300. Use of mobile phones</p> <p>(1) The driver of a vehicle must not use a mobile phone while the vehicle is moving, or is stationary but not parked, unless –</p> <p style="padding-left: 40px;">(a) the phone is being used to make or receive an audio phone call and the body of the phone –</p> <p style="padding-left: 80px;">(i) is secured in a mounting affixed to the vehicle while being so used; or</p> <p style="padding-left: 80px;">(ii) is not secured in a mounting affixed to the vehicle and is not being held by the driver, and the use of the phone does not require the driver, at any time while using it, to press any thing on the body of the phone or to otherwise manipulate any part of the body of the phone; or</p> <p style="padding-left: 40px;">(ab) the phone is being used as a driver's aid and –</p> <p style="padding-left: 80px;">(i) the body of the phone is secured in a mounting affixed to the vehicle while being so used; and</p> <p style="padding-left: 80px;">(ii) the use of the phone does not require the driver, at any time while using it, to press any thing on the body of the phone or otherwise to manipulate any part of the body of the phone; or</p> <p style="padding-left: 40px;">(b) the vehicle is an emergency vehicle or a police vehicle; or</p> <p style="padding-left: 40px;">(c) the driver is exempt from this rule under another law of this jurisdiction.</p> <p>Penalty: Fine not exceeding 5 penalty units.</p> <p><i>Note: Emergency vehicle, park and police vehicle are defined in the dictionary.</i></p> <p><i>Example of driver's aids</i></p> <p>1. Closed-circuit television security cameras.</p> <p>2. Dispatch systems.</p> <p>3. Navigational or intelligent highway and vehicle system equipment.</p> <p>4. Rearview screens.</p>	
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	<p>5. Ticket-issuing machines.</p> <p>6. Vehicle monitoring devices.</p> <p>(2) For the purposes of this rule, a mobile phone is secured in a mounting affixed to the vehicle if, and only if –</p> <ul style="list-style-type: none"> (a) the mounting is commercially designed and manufactured for that purpose; and (b) the mobile phone is secured in the mounting, and the mounting is affixed to the vehicle, in the manner intended by the manufacturer. <p>(3) For the purposes of this rule, a driver does not use a phone to receive a text message, video message, email or similar communication if –</p> <ul style="list-style-type: none"> (a) the communication is received automatically by the phone; and (b) on and after receipt, the communication itself (rather than any indication that the communication has been received) does not become automatically visible on the screen of the phone. <p>(4) In this rule –</p> <p>affixed to, in relation to a vehicle, includes forming part of the vehicle;</p> <p>audio phone call does not include an email, text message, video call, video message or other similar communication;</p> <p>body, in relation to a mobile phone, means the part of the phone that contains the majority of the phone's mechanisms;</p> <p>held includes held by, or resting on, any part of the driver's body, but does not include held in a pocket of the driver's clothing or in a pouch worn by the driver;</p> <p>mobile phone does not include a CB radio or any other two-way radio;</p> <p>use, in relation to a mobile phone, includes any of the following actions by a driver:</p> <ul style="list-style-type: none"> (a) holding the body of the phone in her or his hand (whether or not engaged in a phone call); (b) entering or placing, other than by the use of voice, anything into the phone, or sending or looking at anything that is in the phone; (c) turning the phone on or off; (d) operating any other function of the phone. 	
Victoria	<i>Road Safety Road Rules 2017</i> 244O Person to have proper control of an electric personal transporter	<i>Road Safety Road Rules 2017</i> 300 Use of mobile phones

	<p>A person must not travel on an electric personal transporter on a road or road related area unless the person has proper control of the electric personal transporter.</p> <p>Penalty: 5 penalty units.</p> <p>244V Use of mobile phones by users of electric personal transporters</p> <p>(1) A person travelling on an electric personal transporter on a road or road related area must not use a mobile phone while the electric personal transporter is moving unless—</p> <p>(a) the phone is being used to make or receive an audio phone call or to perform an audio playing function and the body of the phone—</p> <p>(i) is secured in a mounting affixed to the electric personal transporter while being so used; or</p> <p>(ii) is not being held by the person, and the use of the phone does not require the person, at any time while using it, to press anything on the body of the phone or to otherwise manipulate any part of the body of the phone; or</p> <p>(b) the phone is being used to perform a navigational or intelligent highway and vehicle system function and the body of the phone is secured in a mounting affixed to the electric personal transporter while being so used.</p> <p>Penalty: 10 penalty units.</p> <p>(2) For the purposes of this rule, a person does not use a phone to receive a text message, video message, email or similar communication if—</p> <p>(a) the communication is received automatically by the phone; and</p> <p>(b) on and after receipt, the communication itself (rather than any indication that the communication has been received) does not become automatically visible on the screen of the phone.</p> <p>(3) In this rule—</p> <p>affixed to, in relation to an electric personal transporter, includes forming part of the electric personal transporter;</p> <p>audio phone call does not include an email, text message, video call, video message or other similar communication;</p> <p>body, in relation to a mobile phone, means the part of the phone that contains the majority of the phone's mechanisms;</p> <p>held includes held by, or resting on, any part of the person's body, but does not include held in a pocket of the person's clothing or in a pouch worn by the person;</p> <p>mobile phone does not include a CB radio or any other two-way radio;</p> <p>use, in relation to a mobile phone, includes any of the following actions by a person—</p> <p>(a) holding the body of the phone in the person's hand (whether or not engaged in a phone call);</p>	<p>(1A) The driver of a motor vehicle must not use a mobile phone while the vehicle is moving, or is stationary but not parked, if the driver is—</p> <p>(a) a learner driver; or</p> <p>(b) the holder of a probationary driver licence; or</p> <p>(c) the holder of a motor cycle licence who has held the licence for a period of less than 3 years.</p> <p>Penalty: 10 penalty units.</p> <p>Note</p> <p>Learner driver is defined in the dictionary.</p> <p>(1B) In calculating the period for which a person has held a motor cycle licence referred to in subrule (1A)(c), any period for which the person's driver licence has been suspended, or the person has been disqualified from driving, must be excluded.</p>
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	<p>(b) entering or placing, other than by the use of voice, anything into the phone, or sending or looking at anything that is in the phone;</p> <p>(c) turning the phone on or off;</p> <p>(d) operating any other function of the phone.</p> <p>297 Driver to have proper control of a vehicle etc.</p> <p>(1) A driver must not drive a vehicle unless the driver has proper control of the vehicle.</p> <p>Penalty: 5 penalty units.</p> <p>299 Television receivers and visual display units in motor vehicles</p> <p>(1) A driver must not drive a vehicle that has a television receiver or visual display unit in or on the vehicle operating while the vehicle is moving, or is stationary but not parked, if any part of the image on the screen—</p> <p>(a) is visible to the driver from the normal driving position; or</p> <p>(b) is likely to distract another driver.</p> <p>Penalty: 10 penalty units.</p> <p>Note</p> <p>Park is defined in the dictionary. Vehicle is defined in rule 15.</p> <p>(2) This rule does not apply to the driver if—</p> <p>(a) the driver is driving a bus and the visual display unit is, or displays, a destination sign or other bus sign; or</p> <p>Note</p> <p>Bus is defined in the Road Safety Act 1986.</p> <p>(aa) the vehicle is a motor bike and the visual display unit is, or is part of, a driver's aid, and the driver is not holding the visual display unit in their hand; or</p> <p>(b) the vehicle is not a motor bike and the visual display unit is, or is part of, a driver's aid and either—</p> <p>(i) is an integrated part of the vehicle design; or</p> <p>(ii) is secured in a mounting affixed to the vehicle while being used; or</p> <p>(ba) the visual display unit is a mobile data terminal fitted to a police vehicle, emergency vehicle or an enforcement vehicle; or</p> <p>Note</p> <p>Police vehicle, emergency vehicle and enforcement vehicle are defined in the dictionary.</p> <p>(bb) the visual display unit is part of a mobile phone that is being used to perform a navigational or intelligent highway vehicle system function as permitted by rule 300(1)(b) or (c); or</p>	
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	<p>(c) the Corporation or the Regulator has, by notice in writing, exempted the driver from subrule (1).</p> <p>Examples of driver's aids</p> <p>1 Closed-circuit television security cameras.</p> <p>2 Dispatch systems.</p> <p>3 Navigational or intelligent highway and vehicle system equipment.</p> <p>4 Rear view screens.</p> <p>5 Ticket-issuing machines.</p> <p>6 Vehicle monitoring devices.</p> <p>(3) For the purposes of subrule (2)(b)(ii), a visual display unit is secured in a mounting affixed to the vehicle if, and only if—</p> <p>(a) the mounting is commercially designed and manufactured for that purpose; and</p> <p>(b) the unit is secured in the mounting, and the mounting is affixed to the vehicle, in the manner intended by the manufacturer.</p> <p>(4) For the purpose of this rule, a vehicle may be parked even though—</p> <p>(a) the key to the vehicle is located in the vehicle's ignition lock; or</p> <p>(b) the engine of the vehicle is running.</p> <p>(5) For the purposes of this rule, a vehicle is stationary but not parked if it is stationary in a marked lane or line of traffic on a road.</p> <p>Note</p> <p><i>Line of traffic</i> and <i>marked lane</i> are defined in the dictionary</p> <p>300 Use of mobile phones</p> <p>(1) The driver of a motor vehicle must not use a mobile phone while the motor vehicle is moving, or is stationary but not parked, unless the driver holds a full driver licence and—</p> <p>(a) the phone is being used to make or receive an audio phone call or to perform an audio playing function and the body of the phone—</p> <p>(i) is secured in a mounting affixed to the vehicle while being so used; or</p> <p>(ii) is not being held by the driver, and the use of the phone does not require the driver, at any time while using it, to press anything on the body of the phone or to otherwise manipulate any part of the body of the phone; or</p> <p>(b) the phone is being used to perform a navigational or intelligent highway vehicle system function and the body of the phone—</p> <p>(i) is secured in a mounting affixed to the vehicle while being so used; or</p> <p>(ii) is not being held by the driver, and the use of the phone does not require the driver, at any time while using it, to press anything on the body of the phone or to otherwise manipulate any part of the body of the phone; or</p>	
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	<p>(d) the motor vehicle is an emergency vehicle, enforcement vehicle or a police vehicle.</p> <p>Penalty: 10 penalty units.</p> <p>Note</p> <p>Emergency vehicle, enforcement vehicle, park and police vehicle are defined in the dictionary. Motor vehicle is defined in the Road Safety Act 1986.</p> <p><i>[Note that the text of subrules 1A and 1B are reproduced in the next column as they set out prohibitions on the use of a mobile phone by a learner driver, the holder of a probationary driver licence or the holder of a motor cycle licence who has held the licence for less than 3 years.]</i></p> <p>(1C) The rider of a bicycle, or a person travelling in or on a wheeled recreational device, or the driver of a vehicle that is not a motor vehicle, must not use a mobile phone while the bicycle, wheeled recreational device or vehicle is moving, or is stationary but not parked, unless—</p> <p>(a) the phone is being used to make or receive an audio phone call or to perform an audio playing function and the body of the phone—</p> <p>(i) is secured in a mounting affixed to the bicycle, wheeled recreational device or vehicle while being so used; or</p> <p>(ii) is not being held by the person and the use of the phone does not require the person, at any time while using it, to press anything on the body of the phone or to otherwise manipulate any part of the body of the phone; or</p> <p>(b) the phone is being used to perform a navigational or intelligent highway vehicle system function and the body of the phone—</p> <p>(i) is secured in a mounting affixed to the bicycle, wheeled recreational device or vehicle while being so used; or</p> <p>(ii) is not being held by the person and the use of the phone does not require the person, at any time while using it, to press anything on the body of the phone or to otherwise manipulate any part of the body of the phone.</p> <p>Penalty: 10 penalty units.</p> <p>Note</p> <p>Wheeled recreational device and bicycle are defined in the dictionary.</p> <p>(1D) For the purposes of this rule, stationary but not parked includes being stationary—</p> <p>(a) in a marked lane or line of traffic on a road; or</p> <p>(b) in a bicycle lane or bicycle storage area.</p> <p>Note</p> <p>Bicycle storage area, line of traffic and marked lane are defined in the dictionary. Bicycle lane is defined in rule 153.</p>	
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	<p>(2) For the purposes of this rule, a mobile phone is secured in a mounting affixed to the motor vehicle, bicycle, wheeled recreational device or vehicle that is not a motor vehicle if, and only if—</p> <ul style="list-style-type: none"> (a) the mounting is commercially designed and manufactured for that purpose; and (b) the mobile phone is secured in the mounting, and the mounting is affixed to the motor vehicle, bicycle, wheeled recreational device or vehicle that is not a motor vehicle, in the manner intended by the manufacturer. <p>(3) For the purposes of this rule, the driver of a motor vehicle, or the rider of a bicycle, or a person travelling in or on a wheeled recreational device, or the driver of a vehicle that is not a motor vehicle, does not use a phone to receive a text message, video message, email or similar communication if—</p> <ul style="list-style-type: none"> (a) the communication is received automatically by the phone; and (b) on and after receipt, the communication itself (rather than any indication that the communication has been received) does not become automatically visible on the screen of the phone. <p>(3A) For the purposes of this rule, a motor vehicle may be parked even though—</p> <ul style="list-style-type: none"> (a) the key to the vehicle is located in the vehicle's ignition lock; or (b) the engine of the vehicle is running. <p>(4) In this rule—</p> <p>affixed to, in relation to a vehicle or wheeled recreational device, includes forming part of the vehicle or wheeled recreational device;</p> <p>audio phone call does not include an email, text message, video call, video message or other similar communication;</p> <p>body, in relation to a mobile phone, means the part of the phone that contains the majority of the phone's mechanisms;</p> <p>held includes held by, or resting on, any part of a person's body, but does not include held in a pocket of a person's clothing or in a pouch worn by the person;</p> <p>mobile phone does not include a CB radio or any other two-way radio;</p> <p>use, in relation to a mobile phone, includes any of the following actions by a person—</p> <ul style="list-style-type: none"> (a) holding the body of the phone in the person's hand (whether or not engaged in a phone call), except while in the process of giving the body of the phone to a passenger in a vehicle driven by the person; (b) entering or placing, other than by the use of voice, anything into the phone, or sending or looking at anything that is in the phone; (c) turning the phone on or off; (d) operating any other function of the phone. 	
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Western Australia	<p><i>Road Traffic Code 2000</i></p> <p>210A. Proper control of motorised scooters A person shall not on any road or path —</p> <ul style="list-style-type: none"> (a) travel on a motorised scooter while under the influence of alcohol, drugs or alcohol and drugs to such an extent as to be incapable of having proper control of the motorised scooter; or (b) travel on a motorised scooter recklessly or without due care and attention. <p>Modified penalty: 2 PU</p> <p>Note: Western Australia does not have the equivalent of Road Rule 297(1).</p> <p>264. Use of visual display units etc. in vehicle (1) A driver shall not drive a motor vehicle that has a television receiver or visual display unit in or on the vehicle operating while the vehicle is moving, or is stationary but not parked, if any part of the image on the screen —</p> <ul style="list-style-type: none"> (a) is visible to the driver from the normal driving position; or (b) is likely to distract another driver. <p>Points: 3 Modified penalty: 6 PU</p> <p>(2) Subregulation (1) does not apply to a driver if —</p> <ul style="list-style-type: none"> (a) the driver is driving a public bus and the visual display unit is, or displays, a destination sign or other bus sign; or (ba) the driver is the rider of a motorcycle and the visual display unit is, or is part of, a driver's aid and is attached to the rider's arm (but not hand-held); or (b) the visual display unit is, or is part of, a driver's aid and either — <ul style="list-style-type: none"> (i) is an integrated part of the vehicle design; or (ii) is secured in a mounting affixed to the vehicle while being used; or (c) the driver is driving a taxi and the visual display unit is displaying work-related information; or (d) the visual display unit is the display unit of a video recording device or a mobile data terminal fitted to a police or emergency vehicle. <p>(3) For the purposes of subregulation (2)(b)(ii), a visual display unit is secured in a mounting affixed to the vehicle if, and only if —</p> <ul style="list-style-type: none"> (a) the mounting is commercially designed and manufactured for that purpose; and (b) the unit is secured in the mounting, and the mounting is affixed to the vehicle, in the manner intended by the manufacturer. <p>Examples of driver's aids</p> <ol style="list-style-type: none"> 1 Closed-circuit television security cameras. 2 Dispatch systems. 3 Navigational or intelligent highway and vehicle system equipment. 4 Rearview screens. 	No prohibitions on specific driver licence classes.
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	<p>5 Ticket-issuing machines. 6 Vehicle monitoring devices.</p> <p>265. Use of mobile phones</p> <p>(1) In this regulation —</p> <p>body, in relation to a mobile phone, means the part of the phone that contains the majority of the phone’s mechanisms;</p> <p>held includes held by, or resting on, any part of the driver’s body, but does not include held in a pocket of the driver’s clothing or in a pouch worn by the driver;</p> <p>mobile phone does not include a CB radio or any other two-way radio;</p> <p>use, in relation to a mobile phone, includes any of the following actions by the driver of a vehicle —</p> <ul style="list-style-type: none"> (a) hold the phone; (b) enter or place anything into the phone, or send or look at anything that is in the phone; (c) turn the phone on or off; (d) operate any other function of the phone. <p>(2) A driver of a vehicle must not use a mobile phone while the vehicle is moving, or is stationary but not parked, unless —</p> <ul style="list-style-type: none"> (a) the phone is being used to make or receive a phone call, other than a text message, video message, email or similar communication, and the body of the phone — <ul style="list-style-type: none"> (i) is secured in a mounting affixed to the vehicle while being so used; or (ii) is not secured in a mounting affixed to the vehicle and is not being held by the driver, and the use of the phone does not require the driver, at any time while using it, to press any thing on the body of the phone or otherwise to manipulate any part of the body of the phone; or (b) the visual display of the phone is being used as a driver’s aid in accordance with regulation 264 and the use of the phone does not require the driver, at any time while using it, to press any thing on the body of the phone or otherwise to manipulate any part of the body of the phone. <p>Points:</p> <ul style="list-style-type: none"> (a) during a holiday period: 6; (b) other than during a holiday period: 3. <p>Modified penalty: 8 PU.</p> <p>(3) For the purposes of this regulation, a driver does not use a mobile phone if —</p> <ul style="list-style-type: none"> (a) a text message, video message, email or similar communication is received automatically by the phone; and 	
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	(b) on and after the receipt, the communication itself, rather than any indication that the communication has been received, does not become automatically visible on the screen of the phone.	
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Appendix B Careless driving provisions in state and territory legislation

State/territory	Careless driving
Australian Capital Territory	No careless driving offence.
New South Wales	No careless driving offence.
Northern Territory	<i>Traffic Regulations</i> 18 Careless walking or riding (1) A person must not walk, or drive a vehicle, on a road or public place without due care or attention or without reasonable consideration for other persons using the road or public place.
Queensland	<i>Transport Operations (Road Use Management) Act 1995</i> 83 Careless driving of motor vehicles Any person who drives a motor vehicle on a road or elsewhere without due care and attention or without reasonable consideration for other persons using the road or place is guilty of an offence. Maximum penalty—40 penalty units or 6 months imprisonment.
South Australia	<i>Road Traffic Act 1961</i> 45—Careless driving (1) A person must not drive a vehicle without due care or attention or without reasonable consideration for other persons using the road. [Different penalties, depending on if aggravated offence or not]
Tasmania	<i>Road Rules 2009</i> 366. Travelling in or on wheeled recreational device or wheeled toy without due care, &c. A person must not travel in or on a wheeled recreational device or wheeled toy on a road without – (a) due care and attention; or (b) reasonable consideration for other road users. Penalty: Fine not exceeding 5 penalty units. 367. Driving without due care, &c. (1) A person must not drive without due care and attention. Penalty: Fine not exceeding 10 penalty units.
Victoria	<i>Road Safety Act 1986</i> 65 Careless driving (1) A person who drives a motor vehicle on a highway carelessly is guilty of an offence and liable for a first offence to a penalty of not more than 12 penalty units and for a subsequent offence to a penalty of not more than 25 penalty units. (2) A person must not drive a vehicle, other than a motor vehicle, on a highway carelessly. Penalty: For a first offence, 6 penalty units; For a subsequent offence, 12 penalty units. (3) In this section— vehicle does not include— (a) a non-motorised wheel-chair; or

	(b) a motorised wheel-chair that is not capable of a speed of more than 10 kilometres per hour.
Western Australia	<p><i>Road Traffic Act 1974</i></p> <p>59BA Careless driving causing death, grievous bodily harm or bodily harm</p> <p>(1) If a motor vehicle driven by a person (the driver) is involved in an incident occasioning the death of, or grievous bodily harm or bodily harm to, another person and the driver was, at the time of the incident, driving the motor vehicle without due care and attention, the driver commits an offence.</p> <p>Penalty for this subsection: imprisonment for 3 years or a fine of 720 PU and, in any event, the court convicting the person must order that the person be disqualified from holding or obtaining a driver's licence for a period of not less than 3 months.</p> <p>62 Careless driving</p> <p>Every person who drives a motor vehicle without due care and attention commits an offence.</p> <p>Penalty: a fine of 30 PU.</p>

Glossary

Term	Definition
Adaptive cruise control	Advanced capabilities in a cruise control system such as braking and accelerating in a range set by the driver.
Adaptive headlights	Safety feature designed to make driving at night or in low light conditions safer by reacting to the steering, speed and elevation of the car and automatically adjusting to illuminate the road ahead.
Automated driving system	Complex combinations of various components that can be defined as systems where perception, decision making and operation of the automobile are performed by electronics and machinery instead of a human driver.
Australian Road Rules	Model road rules developed by the National Transport Commission and applied in state and territory legislation.
Collision avoidance system	Safety system designed to prevent or reduce the severity of a collision by using radar and sometimes laser and camera to detect and warn about an imminent crash.
Driver	Defined in the Australian Road Rules as the person who drives a vehicle (except a motor bike, bicycle, animal or animal-drawn vehicle).
Driver aids	Technologies used by drivers to prevent crashes and make driving more convenient.
Electric personal transporter	A class of compact, electric vehicle for transporting an individual at speeds that do not normally exceed 25 km/h.
Electronic stability control	Computerised safety system designed to improve a vehicle's stability by detecting and reducing loss of traction and applying individual brakes to help bring the car safely back on track, without the danger of fish-tailing.
Global navigation satellite systems	A general term describing any satellite constellation that provides positioning, navigation and timing services on a global or regional basis.
Google Glass	An optical head-mounted display designed in the shape of a pair of eyeglasses that displays information in a smartphone-like hands-free form.
Head-up display	A transparent display located at the windshield that presents data without requiring drivers to look away from their usual viewpoints.
Heavy vehicle	A vehicle with a gross vehicle mass of 4.5 tons or over.

Term	Definition
Intelligent speed assist	A safety technology that alerts drivers when they exceed the speed limit.
In-vehicle information system	A device that provides drivers with information that is otherwise unavailable to them such as road and traffic conditions, navigation information, weather conditions, hazard alerts and communication services.
Levels of driving automation	Society of Automotive Engineers' automation level definitions that define the different driving modes for automated vehicles based on the dynamic driving task requirements.
Level 2 automated vehicle	Level of driving automation in which the driving automation system can control both the steering and the speed simultaneously, with the expectation that the human driver remains in charge of object and event detection and response and supervises the driving automation system. This is commonly referred to as partial automation.
National Heavy Vehicle Regulator	Australia's national, independent regulator for all vehicles over 4.5 tonnes gross vehicle mass.
National Transport Commission	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.
Operational design domain	Specific operating domains in which an automated driving system is designed to operate including but not limited to roadway types, speed range, environmental conditions (weather, daytime/night-time, etc.) and other domain constraints.
Original equipment manufacturer	A company that produces parts and equipment that may be marketed by another manufacturer.
Smartwatch	A mobile device worn on the wrist, typically with a touchscreen interface, with many of the same functionalities as a smartphone.
Wearable device	Electronic device that can be worn on the body, either as an accessory or as part of material used in clothing.

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