



Australian Government

Department of Infrastructure,
Transport, Regional Development,
Communications and the Arts



Human user or occupant obligations when using a vehicle with an ADS

This paper **explores** new policy

April 2024

Overview

Human drivers of conventional vehicles must comply with a range of obligations, including road rules and drug and alcohol restrictions. For human users of vehicles with highly and fully automated driving features, obligations will be different.

This paper explores obligations for human users of vehicles with highly and fully automated driving features and seeks your feedback.

To support your understanding of this paper, you can also refer to the [Key concepts paper](#).

Key points

At higher levels of automation, human users may not have a safety critical driving role.

Rules and obligations might vary with different vehicle control and seating configurations. If manual controls are accessible, we may need to consider the risks of a user voluntarily taking over manual driving control from the Automated Driving System (ADS). This includes the risk of a person who is unlicensed taking control and the risk of a drug or alcohol affected person taking control.

At higher levels of driving automation, vehicle users may be able to engage in 'secondary activities', such as leisure or work. However, users may still need to fulfil obligations not related to driving, or decide to take over driving to complete a journey outside of the ADS's operational design domain. Therefore, it may be appropriate to regulate secondary activities.

Currently, human drivers have a range of road rule and other traffic obligations that are not part of the dynamic driving task. The ADS may not be able to perform these obligations. These non-driving obligations will need to be reassigned to other individuals or parties.

Consultation questions

We welcome feedback on all elements of the regulatory framework. In relation to human user obligations, we are especially interested in the following.

15. What are your views on how we should approach laws for human user obligations in highly and fully automated vehicles? In your response, please consider:
- a. Which types of vehicle control and seating configurations are being considered or developed by industry for vehicles with highly or fully automated driving features? Can vehicle control/seating design help to determine the obligations for users of these vehicles?
 - b. In vehicles with higher levels of driving automation that are configured with manual driving controls, should there be specific requirements about seating position when the ADS is engaged? Do you support any of the options identified, or propose any other options?
 - c. How should driver licensing requirements apply to users of vehicles with highly and fully automated driving features with accessible manual controls? Do you support any of the options identified, a combination of options, or propose any other options?
 - d. How should drug and alcohol restrictions apply to users of vehicles with highly and fully automated driving features? Do you support any of the options identified, a combination of options, or propose any other options?
 - e. Do you think there should be a requirement to always have a person capable of driving travelling in a vehicle with highly or fully automated features? Why or why not?
 - f. Do you support permitting a person seated in the driving position in vehicles with highly or fully automated driving features to undertake secondary activities? Do you support any of the options identified, a combination of options, or propose any other options?
 - g. How should non-dynamic driving task obligations be assigned or shared in vehicles with highly and fully automated driving features? Do you agree with our analysis?

We welcome your views about human user obligations more generally, even where there is not a specific question.

Background

Human drivers of conventional road vehicles must comply with a range of obligations, including road rules and drug and alcohol restrictions. If a driver breaks these rules, they are subject to criminal and administrative penalties, and could be exposed to civil liability if they negligently cause injury, death or property damage.

Human drivers must remain in control of the vehicle, even when Advanced Driver Assistance Systems are being used. Some vehicles supplied to the Australian market today are fitted with driver assistance features such as advanced emergency braking, adaptive cruise control and lane keeping. However, drivers of conventional vehicles with these features must still exercise proper control of the vehicle at all times and are fully responsible for driving, monitoring road conditions, and intervening when needed. Current Australian laws reflect these requirements. The human driver is responsible for legal consequences arising from the incorrect or unsafe driving of a vehicle. For more information on ADAS features, please see the [What is an automated vehicle?](#) paper.

Vehicles with an ADS

Automated vehicles will be equipped with an ADS, which is the combination of hardware and software that is collectively capable of performing the dynamic driving task on a sustained basis without human input. The dynamic driving task is defined as all the operational and tactical functions required to operate a vehicle in on-road traffic. This includes steering; acceleration and deceleration; object and event detection and response; manoeuvre planning; and enhancing visibility through lighting and signalling. The dynamic driving task does not include strategic tasks, such as choosing the destination.

When an ADS is engaged, the vehicle is not being 'driven' by a human driver. This is a significant change from conventional vehicles, even those with the most modern driver assistance features. When an ADS is engaged, the human user can have confidence that they do not need to supervise the driving task or intervene unless the ADS issues a transition demand (i.e. a demand for a fallback-ready user to take over driving in a level 3 vehicle).

Recognising this technological advancement, transport ministers have agreed to some reforms:

- The proposed Automated Vehicle Safety Law (AVSL) will require that, for each ADS, a corporation known as an Automated Driving System Entity (ADSE) assumes responsibility for the safe operation of the ADS, including its performance of the dynamic driving task.
- When an ADS feature is engaged, human users will **not** be required to monitor or supervise the way the ADS is performing the driving task.
- When a conditionally automated (level 3) ADS feature is engaged, the human user in the driver's seat, also known as the fallback-ready user, will be required to respond to an ADS transition demand, and take over manual driving control.

For more background information on the proposed AVSL and other agreed reforms, see the [Earlier work on the automated vehicle regulatory framework](#) paper.

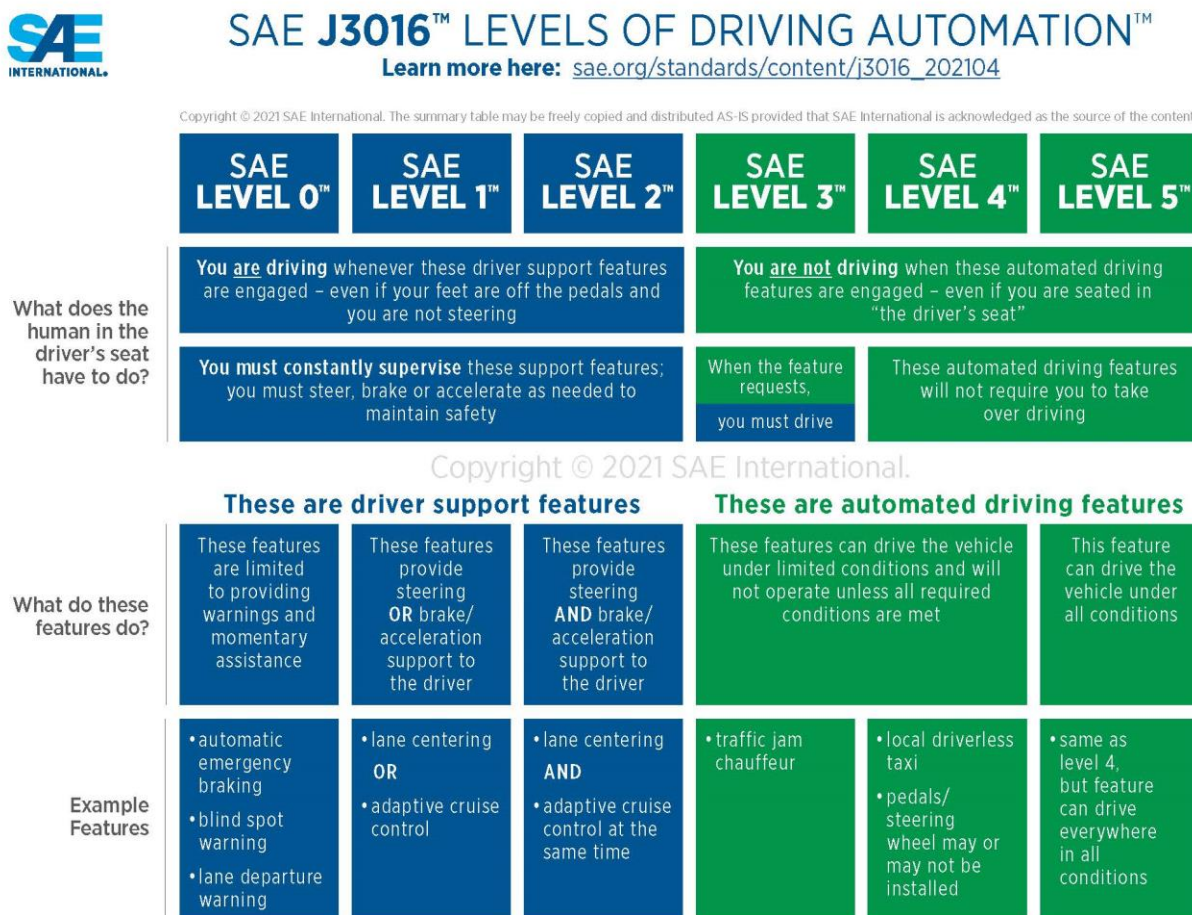
Automation levels

'Highly' and 'fully' automated driving features refer to features at Society for Automotive Engineers (SAE) driving automation levels 4 and 5 (Figure 1). Together, these are referred to as 'higher levels of driving automation' in this paper. At these levels, vehicles may or may not have manual driving controls (such as pedals and a steering wheel) that are accessible to the occupants.¹

¹ This paper is relevant to both light vehicles and heavy vehicles. However, detailed heavy vehicle regulation matters such as fatigue, will be the subject of ongoing work and refinement – these are not discussed or analysed in this paper.

For more information about the SAE levels of automation, see the [What is an automated vehicle](#) paper.

Figure 1: SAE levels of automation



Source: SAE International (2021)

Conditionally automated vehicles

At level 3 (conditional automation), when an ADS that encounters a situation it cannot manage will issue a transition demand to a fallback-ready user.

Infrastructure and transport ministers have agreed that a fallback-ready user in a vehicle with a level 3 ADS feature engaged will be required to safely take control and drive after the ADS issues a transition demand. This means that the fallback-ready user:

- must respond to an ADS transition demand to take over control of the vehicle
- must hold an appropriate driver licence for the class of vehicle
- must remain seated in the driving position in the vehicle while the ADS is engaged
- is subject to the same alcohol and drug restrictions as drivers of conventional vehicles
- be subject to the existing fatigue requirements as a driver when using a heavy vehicle
- must not perform an activity that impedes them from being ready and able to take control of the vehicle when a transition demand is issued.

As well as obligations about how the dynamic driving task is performed, road traffic laws contain obligations that are not related to the dynamic driving task, for example seatbelt requirements. In this paper we refer to these as non-driving obligations.

Infrastructure and transport ministers have also agreed that fallback-ready users will be required to fulfil existing non-driving obligations that the ADS cannot perform, including:

- assisting or exchanging information with other people if they are involved in a crash
- wearing a seatbelt
- ensuring passengers wear a seatbelt or use a proper child restraint
- removing fallen things from the road
- ensuring lights are not used to dazzle other road users (where the light function does not perform part of the normal vehicle design and is not under ADS control)
- ensuring horns and other warning devices are not used unless they are necessary to warn other road users
- taking reasonable steps to prevent people from travelling in particular parts of the vehicle that are not safe for passengers to use
- not performing any activity that impedes them from being ready and able to take over control when a transition demand is issued by the ADS
- being in a position to have a clear view of the road, and traffic, ahead, behind, and to each side of them
- not having a person or animal in their lap
- using portable warning triangles in vehicles over 12 tonnes
- following directions of a police officer or authorised person
- ensuring the vehicle they are in is registered.

In relation to passengers in conditionally automated vehicles, infrastructure and transport ministers have agreed that they must not travel in the vehicle unless a person is positioned to, and capable of, operating the vehicle (i.e. a fallback-ready user is present); and they must not interfere with the ADS, or the fallback-ready user's ability to respond to ADS requests or take control of the vehicle.

Highly and fully automated vehicles

This paper examines potential issues and gaps in responsibility when a highly and fully automated ADS (levels 4 and 5) is engaged and seeks input on how those gaps are best addressed – including about the mix of regulatory or industry-led solutions that are most appropriate and adaptable.

When considering what obligations should be placed on users at higher levels of automation, there will likely be a number of factors to consider, including the impact on:

- road safety
- personal safety
- accessibility and mobility
- traffic efficiency
- development of particular use cases and business models.

Some obligations also have strong links to other obligations. While each issue is presented separately, consideration should be given to how these obligations work together as a whole.

When a highly automated driving feature is engaged, vehicle users will not have a safety-critical driving role

When an ADS at higher levels of driving automation is engaged, the person seated in the driving position will not be called on by the ADS to take over control of the vehicle for a safety-critical driving reason. This is because an ADS capable of level 4 or higher driving automation will be able to bring the vehicle to a minimal risk condition. A minimal risk condition is a stable, stopped condition, for example, pulling over out of an active lane of traffic to stop on a shoulder.

This contrasts with conditionally automated features at level 3, which will require a fallback-ready user to respond to a transition demand as a dynamic driving task fallback measure.^{2,3} This means the fallback-ready user will be expected to be ready to take over driving for portions of the journey as a matter of course.

However, there are other safety risks that need to be managed during a journey beyond the performance of the dynamic driving task, such as how non-driving obligations will be managed, how journeys can be safely continued at operational design domain⁴ exit, and how to manage safety risks that may occur due to where the ADS has come to a stop. The risks to be managed may differ depending on the kind of capability an ADS has.

Depending on its design, an ADS feature at level 4 could operate the vehicle throughout an entire trip, as long as the entire trip is within its operational design domain, for example, where a robotaxi will only operate and accept bookings within a geofenced area. Other ADS features at the same level of automation may only be able to operate for part of a trip, for example where the first part of a trip is on sealed roads with lane markings, but the final part of the journey must be completed by a human driver because it is on gravel roads which are outside the ADS's operational design domain. Ultimately, whether an ADS feature at level 4 can complete an entire trip will depend on how and when the person operating the vehicle chooses to use it.

A level 4 ADS feature that will only perform the dynamic driving task for part of a trip may be designed to alert a person in the driver's seat when the vehicle is approaching the limit of its operational design domain (such as approaching the exit from a motorway) so that the journey can continue with a human driver. However, if a person does not take over driving to continue the trip, the ADS would be able to bring the vehicle to a minimal risk condition. This may cause inconvenience, delay completion of a journey, contribute to congestion, or result in the vehicle being stopped in a roadside position that is unexpected, and potentially unsafe.

The ADSE will be required to provide education and training to ensure that people who own or use an ADS are aware of their obligations when they use the ADS, including understanding the ADS's operational design domain, level of automation and use limitations. With that information, users would be able to plan their journeys with those limitations in mind – including preparing to drive for a portion of a journey, if needed.

-
- ² In SAE J3016 *Taxonomy and definitions for terms related to driving automation systems for on-road motor vehicles*, the term 'request to intervene' is used instead of 'transition demand'.
- ³ Recent Australian research by [RMIT University](#) on takeover performance and transition includes [Is driving experience all that matters? Drivers' takeover performance in conditionally automated driving](#) (July 2023) and [Influence of non-driving related tasks on driving performance after takeover transition in conditionally automated driving](#) (December 2023). [The Queensland Department of Transport and Main Roads together with QUT and iMove](#), through the Cooperated and Automated Vehicle Initiative, published a series of safety studies in packages considering driving task handover in AVs.
- ⁴ The operational design domain is the conditions in which an ADS feature is designed to be used (e.g. location, weather conditions, driving modes)

Vehicle control and seating configurations

There are a number of possible vehicle control and seating configurations at higher levels of driving automation.⁵

As a baseline, we can presume that many highly automated vehicles could have both an ADS and the same kind of manual driving controls that are currently in conventional vehicles. Manual driving controls would give users the option of driving manually, and would allow for a journey to continue outside an ADS's operational design domain. Manual controls may be necessary in vehicles where the ADS is not designed or capable to complete a full end-to-end journey with no human driver.

Vehicles could have an ADS as well as manual driving controls that are physically inaccessible, for example, because of a physical barrier to the driver's seat or where the driving controls are locked out, nonresponsive or retract so that they can't be used. This means that the manual driving controls would not respond to any attempted use. This configuration might be used in commercial vehicles, such as taxis or vehicles designed for specific industries.

Vehicles without any manual driving controls altogether could be new designs, potentially with entirely new seating configurations. ADS features may be capable of completing entire trips from end to end. Operation of these vehicles may be supported by a passenger transport service that can use remote operation to provide information or assistance to passengers, or help the vehicle to continue the journey if the ADS encounters a problem. For more information about measures we are considering to manage the safety of remote operation, see the [Remote operation of vehicles with an ADS](#) paper.

Consultation question

15a. Which types of vehicle control and seating configurations are being considered or developed by industry for vehicles with highly or fully automated driving features? Can vehicle control/seating design help to determine the obligations for users of these vehicles?

Requiring a person to sit in the driving position

Seating configurations in vehicles with higher levels of automation may include layouts where a passenger or multiple passengers have a clear view and access to a position close to the manual driving controls (such as front bench seating in utility vehicles and minivans). This could affect what is determined to be the driver's seat position.

A vehicle occupant could move from a passenger seating position to a driver seating position mid-journey. Although this is also possible in a conventional vehicle, the risk does not typically arise because conventional vehicles cannot travel without the presence of a driver.

Industry may also mitigate this risk through vehicle design, for example, with physical barriers or other technical solutions. However, in the absence of guaranteed industry-based solutions, we are considering the options to manage the risks of unsafe seating movements of passengers mid-journey.

An option to manage this risk could be to require a person to sit in the driving position if the vehicle has accessible, operable manual driving controls. With the driving position already occupied,

⁵ Note that the Australian Design Rules set national road vehicle standards, including standards relevant to vehicle controls and seats. More information is available at the Department of Infrastructure, Transport, Regional Development, Communications and the Arts' web page [Current Australian Design Rules](#).

passengers are much less likely to make an unsafe decision to move to the driving position and take over manual human driving from the ADS.

A second option is to prohibit human users from moving between seats in a vehicle. This requirement would complement existing rules requiring passengers to wear a seatbelt, effectively making it an offence to unbuckle the seatbelt to change seats. Although enforceability of this option may be difficult, it is aligned with restrictions already applying under existing laws.

A third option is to allow users to sit anywhere in the vehicle, even if that leaves the driving seat position empty. This could enable more flexibility on other issues such as licensing and drug and alcohol obligations.

Table 2: Options for seating position requirements

Option 1: Require a person to sit in the driver seat	Option 2: Prohibit users from moving between seats	Option 3: Permit users to sit anywhere in the vehicle
A person must be sitting in the driver seat position when the ADS is engaged.	No user can change seats. Could be implemented alongside option 3.	A user could choose to sit in any seat in the vehicle.

Across all options, all passengers must comply with existing seatbelt obligations. This means they must occupy a seating position with an approved seatbelt and wear a seatbelt properly adjusted and fastened while the vehicle is moving and stationary, but not parked.

Consultation question

15b. In vehicles with higher levels of driving automation that are configured with manual driving controls, should there be specific requirements about seating position when the ADS is engaged? Do you support any of the options identified, or propose any other options?

Driver Licensing

The purpose of driver licensing is to ensure an individual has the relevant qualification and skills to safely operate a vehicle. We need to consider the relative need for this safeguard in an automated vehicle context. Licensing requirements may also be affected by the configuration of vehicle controls in future vehicles.

There are multiple policy considerations to balance in developing licensing requirements. These include:

- **Safety risks** – unlicensed users may take control either purposefully or inadvertently, increasing safety risks for themselves, other passengers, and other road users. There is also a risk of stranding unlicensed users if an ADS must disengage and cannot re-engage.
- **Accessibility and equity** – many of these vehicles could complete entire journeys without requiring human control or receptivity. These vehicles could provide an independent transport option for people who are unlicensed or cannot drive.
- **Automated vehicle uptake** – unlicensed users will be a new category of consumer who could have or use an automated vehicle for their own personal use. Licensing requirements could also impact the development of other business models and use cases.
- **Uncertainty in technology development** – there is limited real-world experience with people other than drivers in the driving position in vehicles with higher levels of driving automation; therefore, its impacts are uncertain.

- **Enforceability** – if this requirement is introduced, enforcement officers will need clarity about which individuals in the vehicles must be licensed.

An approach that requires a licenced person to sit in the driving position would have benefits of:

- having a person available to drive in the event that the ADS cannot continue driving, for example, if it reaches the limit of its operational design domain or the ADS has a technical failure
- reducing the risks of other passengers who may not be capable of driving from attempting to take control of the vehicle.

However, this approach would limit how unlicensed people could use automated vehicles. They would not be able to travel independently, even if their journey requires no human input from a driver. Enabling an unlicensed person to travel in the vehicle as long as they do not sit in the driver’s seat position somewhat addresses the takeover risk, but may not address other issues.

Table 3: Options for licensing requirements

Option 1: There must be a licensed person sitting in the driver’s seat (the primary physical position to operate the driving controls)	Option 2: No licensing requirements	Option 3: Any person sitting in the driver’s seat must be licensed
<p>There must be a person who is licensed sitting in the driver’s seat.</p> <p>A person who is unlicensed must not:</p> <ul style="list-style-type: none"> • start an automated vehicle and/or engage the ADS • travel unaccompanied. 	<p>A person who is unlicensed can:</p> <ul style="list-style-type: none"> • start an automated vehicle and/or engage the ADS • travel unaccompanied • sit anywhere in the vehicle, including the driver’s seat or a passenger seat. 	<p>If a person sits in the driver’s seat position, they must be licensed.</p> <p>A person who is unlicensed:</p> <ul style="list-style-type: none"> • must not sit in the driver’s seat position • can start an automated vehicle and/or engage the ADS • can travel unaccompanied in a passenger seat position.

Across all options, as soon as a person takes control of the driving task (for example, by using the steering controls, accelerator or brake) they become the driver and must be licensed under current laws.

Across all options, if the vehicle type can prevent manual takeover either through ADS function or a physical barrier, if this functionality is activated for the journey, Option 2 would apply. This will likely cover public and commercial passenger transport vehicles more than private vehicles.

Consultation question

15c. How should driver licensing requirements apply to users of vehicles with highly and fully automated driving features with accessible manual controls? Do you support any of the options identified, a combination of options, or propose any other options?

Drug and alcohol restrictions

Drivers of conventional vehicles must comply with drug and alcohol restrictions. This is because drugs and alcohol have been shown to impair driving ability and increase the likelihood of crashes.

When a level 4 or 5 feature is engaged, there is a risk that a person who is affected by drugs or alcohol may be tempted to take control of the vehicle from the ADS. This might occur, for example, if the ADS issues an alert to the passenger that it has reached its operational design domain limit. This could prompt a drink- or drug-affected person to begin driving, or leave them stranded in the vehicle.

One option to address this risk is to prohibit people who are drug or alcohol-affected from travelling in the vehicle unless there is a person who complies with drug and alcohol restrictions travelling with them. This could potentially impact uptake of vehicles with these features, resulting in continued reliance on conventional vehicles where drink and drug driving remain a significant contributor to the road toll.

Alternatively, enabling drug or alcohol-affected people to travel independently in the vehicle, so long as they do not sit in the driver’s seat position, somewhat addresses the takeover risk, but may give rise to other factors such as the risk of the person being stranded if the ADS cannot complete the journey.

The vehicle type may be able to lock out access to manual controls for the duration of a journey. This is more likely to apply in highly automated vehicles with features capable of end-to-end journeys, for example, a robotaxi service operating in a defined area.

Table 4: Options for drink- and drug-driving restrictions

Option 1: No drink- and drug-driving offences apply	Option 2: A person sitting in the driver’s seat is compliant with all drink- and drug-driving restrictions	Option 3: There must be a person sitting in the driver’s seat who is compliant with all the drink- and drug-driving restrictions
<p>A person not complying with drink- and drug-driving restrictions can:</p> <ul style="list-style-type: none"> • start an automated vehicle and/or engage the ADS • travel unaccompanied • sit anywhere in the vehicle, including the driver’s seat or a passenger seat. 	<p>If a person sits in the driver seat position, they must comply with drug and alcohol restrictions.</p> <p>A person not complying with drink- and drug-driving restrictions:</p> <ul style="list-style-type: none"> • must not sit in the driver’s seat position • can start an automated vehicle and/or engage the ADS • can travel unaccompanied in a passenger seat position. 	<p>There must be a person who complies with drink- and drug-driving restrictions sitting in the driver’s seat.</p> <p>A person not complying with drink- and drug-driving restrictions must not:</p> <ul style="list-style-type: none"> • start an automated vehicle and/or engage the ADS • travel unaccompanied.

Across all options, as soon as a person takes control of the driving task (for example, by using the steering controls, accelerator or brake) they become the driver and are subject to all drink- and drug-driving laws. In some jurisdictions, taking steps to start a vehicle makes the person subject to all drink and drug driving offences from that point.

Across all options, if the vehicle type can prevent manual takeover either through ADS function or a physical barrier, if this functionality is activated for the journey, Option 1 would apply. This will likely cover public and commercial passenger transport vehicles more than private vehicles.

Consultation question

15d. How should drug and alcohol restrictions apply to users of vehicles with highly and fully automated driving features? Do you support any of the options identified, a combination of options, or propose any other options?

Having a person capable of driving the vehicle

When considering obligations in relation to licensing and drug and alcohol restrictions, one option to consider is whether there are benefits in requiring a *person capable of driving* – that is a person who is sitting in the driving position in the vehicle and is appropriately licenced and compliant with the applicable drug and alcohol laws for the class of vehicle they are travelling in, noting that these can differ between jurisdictions.

In the first deployments of automated vehicles with level 4 and higher ADS features, the operational design domain of the highly automated features may be limited and therefore may require a person who can perform the manual driving task for portions of the journey that are beyond the feature's operational design domain. Although manual takeovers may not be required as a safety-critical measure, a *person capable of driving* is likely to drive for portions of the journey if they expect to travel beyond the vehicle's operational design domain. A *person capable of driving* could also play a safety role where the vehicle has been brought to a minimal risk condition; they could move the vehicle to a more suitable location.

In accordance with existing laws, any person who takes control of the vehicle to drive needs to be appropriately licensed and compliant with drug and alcohol laws. As such, these laws could be relied on to deter a person from commencing driving if they don't meet these obligations, especially given how significant existing penalties are for these offences. Requiring a *person capable of driving* to sit in the driving seat position would place these obligations on the person while the ADS is engaged to ensure they have the fundamental skills and capacity to drive if the ADS reaches the limits of its operational design domain.

However, emerging automated vehicle markets in overseas jurisdictions show that leading business use cases for automated vehicles including commercial passenger transport services and freight services. These examples demonstrate that the use of highly automated vehicles travelling without a *person capable of driving* is growing increasingly common.

Industry developments also show that there are mechanisms available to help manage emerging risks from the absence of a *person capable of driving*. These include the use of remote operation to provide assistance to passengers or help the ADS navigate a situation it cannot manage and customer service assistants for public transport scenarios. For many scenarios, there may be technology or business model solutions that help to overcome any difficulties that might arise from the absence of a *person capable of driving* in the vehicle.

Additionally, some vehicles at higher levels of automation may not feature manual driving controls at all. In these cases, although there would be no need for a *person capable of driving*, some non-driving obligations may need to be assigned to users inside the vehicle.

Consultation question

15e. Do you think there should be a requirement to always have a *person capable of driving* travelling in a vehicle with highly or fully automated features? Why or why not?

Secondary activities

One of the key potential benefits from the introduction of higher levels of automation is the capacity for people to engage in 'secondary activities' when they would have otherwise been driving.

Secondary activities or tasks that might be performed by users of vehicles at higher levels of automation could include:

- working (checking emails, working on a laptop, talking on a mobile phone)
- resting (sleeping or sitting still and not focusing on the journey)
- consuming entertainment or social media on a portable device or on the vehicle's human-machine interface or screen
- performing personal productivity tasks on portable devices or the vehicle's human-machine interface or screen (for example, paying bills)
- interacting with other passengers (for example, facing and engaging with people in the rear passenger seats or cross-facing seats, depending on the configuration or seating layout)
- reading books, newspapers, or magazines.

There may be productivity and social connectivity if secondary activities are possible for the person seated in the driving position in vehicles with highly or fully automated driving features.

Even though a highly automated ADS driving feature will not issue a transition demand (that requires a person take over driving for a safety-critical reason), it may still be appropriate to regulate secondary activities at higher levels of driving automation. For example:

- Even though not safety-critical, an ADS may issue an alert to a passenger when it is approaching the end of its operational design domain to allow the person to take over driving and continue the journey without the vehicle needing to come to a stop. If this alert is issued at a time when it is unexpected and the person is distracted by another task, they may fail to takeover and cause unnecessary congestion or disruption.
- If a user responds to an alert from the ADS and chooses to resume driving, they become a driver. The transition from ADS control to human control needs to be done safely and effectively.

One option is to permit a person sitting in the driving position to undertake some secondary activities but prohibit others, depending on the risk to the likelihood of a successful resumption of driving. Although this may promote safety by reducing user distraction, productivity and social connectivity benefits may not be fully realised. This requirement would reduce the person's time and ability to engage in some secondary activities which they might have been able to do safely (recognising that at higher levels of driving automation users will not have a safety-critical driving role).

This approach will also require a judgement about the risk and possible impact of each secondary activity on human takeover performance. At this stage, there is not enough real-world evidence about which activities are safe and which are unsafe.

To address the lack of evidence to inform a prescriptive approach to secondary activities, a second option is to prohibit performing an activity that impedes an effective takeover, taking into account instructions provided by the ADSE to ADS users through the vehicle's human-machine interface. This is an outcomes-based approach, similar to the approach taken for fallback-ready users.

A third option is to not prohibit any secondary activities. This option recognises that the ADSE must provide information and instruction to ADS users on how to safely and effectively operate a feature, and that at higher levels of automation, the user of the vehicle is not performing a safety-critical driving role.

Table 5: Options for the regulation of secondary activities

Option 1: Permit some secondary activities and prohibit some others	Option 2: Prohibit performing an activity that impedes an effective takeover in response to an alert from the ADS to resume driving	Option 3: Do not prohibit secondary activities
<p>Some types of secondary activities are permitted and may be performed by the person seated in the driving position in a vehicle with manual driving controls.</p> <p>Other secondary activities are not permitted.</p>	<p>Rather than prohibiting particular activities in a prescriptive way, this would broadly prohibit performing an activity that impedes an effective takeover in response to an alert from the ADS to resume driving.</p>	<p>Secondary activities would not be prohibited. The ADSE is expected to provide instructions to the user on how to safely use the driving feature, including responding to an alert from the ADS to resume driving.</p>

Consultation question

15f. Do you support permitting a person sitting in the driving position in vehicles with highly or fully automated driving features to undertake secondary activities? Do you support any of the options identified, a combination of options, or propose any other options?

Assigning non-driving obligations

The Australian Road Rules and other state and territory laws specify behaviour for all road users that support the safe and efficient use of roads in Australia. Many rules relate to the dynamic driving task, such as rules about how a vehicle should move around on a public road (obeying road signs, using indicators, stopping in appropriate places, and so on).

However, there is also a range of road rule and other obligations that are not part of the dynamic driving task. This section does not set out an exhaustive list, but note for example:

- exchanging information with other people if involved in a crash
- wearing a seatbelt
- rendering assistance
- ensuring passengers, including children, wear a seatbelt or proper restraint

Without a human driver in the vehicle to assume responsibility for these obligations, these non-driving obligations will need to be reassigned to other individuals or parties in order to maintain existing levels of safety, cooperation and social responsibility among road users.

If it is determined that a person will have other obligations (such a licence requirements, drug and alcohol restrictions or secondary activity restrictions) it may be appropriate to assign non-driving obligations to that person. However, there may be instances when the vehicle is travelling with no occupants or occupants that may not be capable of fulfilling some of the requirements.

Other parties

In considering how to reassign non-driving obligations, a range of parties may be suitable alternatives, depending on the scenario:

- the ADSE, where there are relevant obligations proposed as part of the AVSL

- under certain business models (for instance, taxi fleets or other commercial services) there may be an identifiable vehicle operator, remote operator or commercial service provider
- the registered owner of the vehicle
- one or more passengers travelling in the vehicle
- a new category of human user (such as a supervisor, steward, lead passenger, or a person or operator who engages the ADS).

In reallocating non-driving obligations to any of these alternative parties, considerations include:

- Is the non-driving task sufficiently similar to, or integrated with, the dynamic driving task so it is most logically assigned to the party doing the dynamic driving task?
- Which party has the greatest capacity or availability to perform the non-driving task?
- Has industry developed a technical solution to perform or assist with performance of the non-driving task?
- How will the non-driving task be assigned when using conditionally automated features at level 3 automation? Should this assignment be replicated at higher levels of driving automation?
- Can the non-driving task be partially, if not wholly, undertaken by the ADS?

Non-driving obligations could potentially be divided into two categories:

- obligations that can be *partially* met by the ADS when it is engaged, and therefore could be partially assigned to the ADSE (Table 6)
- obligations that are impractical or impossible for an ADSE to meet, which must therefore be reassigned to another party, such as a human occupant (Table 7).

Table 6: Partial assignment of non-driving obligations to the ADSE

Australian road rule	Who will be assigned for conditionally automated features at level 3?	To what extent could this rule be assigned to an ADSE, in relation to vehicles with higher levels of driving automation?	To what extent could this rule be assigned to another party?
<p>287: Duties of a driver involved in a crash</p> <p>A driver involved in a crash must stop at the scene of the crash and give the driver’s required particulars to a police officer, another driver, a person injured in a crash, or the owner of damaged property.</p> <p>The driver has up to 24 hours to provide this information, but it is preferable that this is exchanged at the scene of the accident.</p> <p>This rule also requires a driver involved in a crash to stop and give assistance to anyone who is injured.</p>	<p>In a conditionally automated vehicle, these obligations apply to the fallback-ready user.</p>	<p>The ADS can carry out some but not all of these obligations. There are performance requirements for an ADS in response to a crash and procedures for data exchange with law enforcement.</p> <p>While stopping is part of the dynamic driving task and an ADS must be able to safely stop after a crash, providing details to another person is not part of the dynamic driving task. An ADS may not be capable of identifying who the driver of the other vehicle is, or who is a property owner.</p> <p>It may not be technically feasible for the ADS to identify if a person is injured or has been killed in the crash. If the ADS is required to provide details to other people involved in the crash, the type of information exchanged under this rule will need to be changed.</p> <p>The AVSL includes requirements for the ADSE to have certain data recording and sharing capability, including where this data is required to determine liability. An ADS must stop after a crash and provide information to law enforcement. An ADSE should not be responsible for providing assistance.</p> <p>This does not preclude the ADS from performing these obligations if it has the technical capability to do so (e.g. recognising a person is injured and calling emergency services).</p>	<p>Passengers could have obligations to provide assistance if it is reasonable for them to do so (excluding children and people who are medically unfit or otherwise impaired).</p> <p>The intent of the requirement for drivers to exchange details is to enable police to investigate any offences and insurance to assign liability. Given the passenger will not have been undertaking the driving task, this may not be appropriate. The registered vehicle owner could be responsible for complying with obligations for exchanging information within the allotted time.</p>

Australian road rule	Who will be assigned for conditionally automated features at level 3?	To what extent could this rule be assigned to an ADSE, in relation to vehicles with higher levels of driving automation?	To what extent could this rule be assigned to another party?
<p>Rule 219: Lights not to be used to dazzle other road users</p> <p>A driver must not use, or allow to be used, any light fitted to or in the driver’s vehicle to dazzle, or in a way that is likely to dazzle, another road user.</p>	<p>This obligation will apply to the fall-back ready user when a conditionally automated feature is engaged.</p>	<p>Where the lights form part of the normal vehicle design and are under ADS control, the obligations is assigned to the ADSE.</p> <p>Where the lights do not form part of the normal vehicle design and is not under ADS control, the ADSE cannot comply with the rule.</p>	<p>This duty could be assigned to passengers and the person seated in the driver’s seat position in the vehicle when the light function does not form part of the normal vehicle design and is not under ADS control.</p> <p>For example, a passenger must not bring a torch into the vehicle and shine the torch into the windscreens of oncoming vehicles. The passenger would be in breach of Rule 219.</p>

Table 7: Assignment of non-driving obligations to a human occupant or other party

Australian road rule / source	Who will be assigned for conditionally automated features at level 3?	To what extent could this rule be assigned to an ADSE in relation to vehicles with higher levels of driving automation?	At higher levels of driving automation, who should be assigned this obligation? Why?
<p>265, 266, and 267: Ensuring passengers wear a seatbelt or a proper restraint</p> <p>These rules require that a driver ensure passengers are wearing seatbelts or the appropriate child restraint.</p> <p>They also provide that passengers aged 16 years and over are responsible for ensuring they wear their own seatbelt.</p>	<p>The intent of the rule is to ensure all passengers are safely restrained when travelling in a vehicle.</p> <p>In a conditionally automated vehicle, this obligation will be fulfilled by a fallback-ready user when a conditionally automated feature is engaged.</p>	<p>While the ADS could potentially be designed to detect whether seatbelts are in use, it is not appropriate to place this duty on an ADSE because of the varying requirements about how passengers under the age of 16 are restrained based on their age and the range of exemptions from seatbelt rules.</p> <p>Such an obligation is too complex for the ADSE to comply with because they will not be able to access these factors. This includes the age of the passenger, types of child restraint required, how the restraint is fitted and used, and the provisions to produce a medical certificate for a person exempt from wearing a seatbelt and to make sure that the person is complying with the conditions of the medical certificate.</p>	<p>Passengers over the age of 16 are responsible for their own compliance with these rules. This will not change in automated vehicles.</p> <p>It could potentially be applied to the person sitting in the driver's seat position when a highly or fully automated feature is engaged.</p> <p>However, there is a gap for children under the age of 16. This responsibility could be responsible for complying with the rule. This is distinct from a child travelling in the same vehicle as another person (for example, on a transport service), who may not know the child and should not be responsible for their compliance.</p> <p>The registered vehicle owner (or fleet operator) could be responsible for compliance of unaccompanied minors. In the case of transport services, operators can develop procedures to manage this obligation (e.g. impose an age limit to ride, provide a vehicle supervisor or attendant).</p>
<p>293: Removing fallen things from the road</p> <p>This rule requires a driver to remove things from the road or take action to remove things that fall off the vehicle or is put on the road if they may cause injury or obstruction.</p>	<p>This obligation will apply to the fallback-ready user when a conditionally automated feature is engaged.</p>	<p>The ADS cannot remove objects from the road. This duty needs to be shared amongst those in a position to mitigate the safety risk.</p>	<p>This duty could potentially be applied to the person sitting in the driver's seat position when a highly or fully automated feature is engaged.</p> <p>It could also apply to any passenger when a highly or fully automated feature is engaged where there is no other person available, and it is reasonable for them to fulfil these</p>

Australian road rule / source	Who will be assigned for conditionally automated features at level 3?	To what extent could this rule be assigned to an ADSE in relation to vehicles with higher levels of driving automation?	At higher levels of driving automation, who should be assigned this obligation? Why?
<p>Rules 226 and 227: Use of Portable Warning Triangles</p> <p>These rules require that a person must not drive a heavy vehicle unless it is equipped with warning triangles. The driver must place the warning triangles on the road at set distances leading up to the vehicle if they stop, or if the load falls off.</p> <p>The person must produce the portable warning triangles for inspection if the person is directed to do so by a police officer or an authorised person.</p>	<p>This obligation will apply to the fall-back ready user when a conditionally automated feature is engaged.</p>	<p>The ADS cannot place warning triangles on the road. This duty needs to be shared amongst those in a position to mitigate the safety risk.</p>	<p>(excluding children and people who are medically unfit or otherwise impaired).</p> <p>Where a vehicle does not have a human occupant, the obligations for complying with this rule could be assigned to the registered vehicle owner or a fleet or commercial operator.</p> <p>This duty could be assigned to the person seated in the driver's seat position or passengers, noting the likelihood that these vehicles are likely to be operating in a commercial capacity.</p> <p>If there is no person seated in the driving seat position and no passengers, and no other party in the vehicle is supervising or escorting the vehicle, the obligation could be assigned to the registered vehicle owner or the commercial service operator (who may be able to arrange for third parties to fulfil this obligation within a reasonable time).</p> <p>Where a vehicle does not have a human occupant, the obligation could be unassigned so that nobody is responsible.</p>
<p>Automated Vehicle Occupant Registration Obligations – Various State and Territory Regulations</p> <p>These rules place a range of obligations on people using vehicles, including for instance, that a person must not drive or use an unregistered vehicle on a</p>	<p>This obligation will apply to the fall-back ready user when a conditionally automated feature is engaged.</p>	<p>Whilst an ADS might have the technical capacity to confirm if a vehicle is registered and not engage if unregistered, this approach could be challenging for practical reasons. The vehicle's registration status could also change during a journey.</p> <p>An ADSE's key responsibility is for the safety of the ADS. On balance, the ADSE should not have this additional responsibility.</p>	<p>A passenger or a person seated in the driver's seat position who engages the ADS or directs the ADS to make a trip could hold registration obligations with exclusions based on age and whether a passenger transport service is being used.</p> <p>Vehicle owners may be better placed to fulfil this duty. Passengers could be exempt from state and territory registration laws. As part of</p>

Australian road rule / source	Who will be assigned for conditionally automated features at level 3?	To what extent could this rule be assigned to an ADSE in relation to vehicles with higher levels of driving automation?	At higher levels of driving automation, who should be assigned this obligation? Why?
road or drive or use a vehicle that does not comply with applicable vehicle standards.			this approach, vehicle owners must not allow an automated vehicle to operate on the road if it is unregistered or does not comply with vehicle standards.
<p>Rules 268 and 298: Duties on drivers not to drive if people are in particular parts of the vehicle</p> <p>These rules place duties on drivers not to drive if people are in parts of the vehicle not designed primarily for carriage of passengers or goods.</p>	<p>This obligation will apply to the fall-back ready user when a conditionally automated feature is engaged.</p>	<p>Rule 268 currently applies to passengers as well as a driver, so there is no regulatory gap under existing rule 268.</p> <p>Rule 298 stipulates that a driver must not drive a motor vehicle towing a trailer with a person in or on it.</p> <p>For practical reasons it may be difficult for the ADSE to hold this obligation. The ADS might not have the technical capability to detect if a person is in or on a trailer.</p>	<p>This duty could apply to a passenger or a person seated in the driving seat position. The duty could be extended to clearly apply to the person in the trailer.</p>

Consultation question

15g. How should non-dynamic driving task obligations be assigned in vehicles with highly and fully automated driving features? Do you agree with our analysis?