



Australian Government

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



Requirements when a vehicle with an ADS is first provided

This paper **expands** on previous policy work

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Overview

An approval is required to provide a road vehicle in Australia and, generally, vehicles must be entered on the Register of Approved Vehicles (RAV) before being provided for the first time in Australia. For vehicles with an Automated Driving System (ADS), there will be additional requirements.

This paper explains road vehicle approvals in Australia and how they will differ for automated vehicles.

Key points

There will be a general requirement included in the Road Vehicle Standards (RVS) legislation that an RVS approval for a vehicle with an ADS can only be issued to an applicant that has been certified as an Automated Driving System Entity (ADSE).

Approval of the vehicle under the RVS legislation and certification of the ADSE under the AVSL will be done by different regulators, but processes will be streamlined to the extent possible.

Vehicles with an ADS will need to meet existing technical vehicle standards in the Australian Design Rules (ADRs), however, it is expected that new ADRs will also be developed that are specific to ADSs.

Early work on technical standards for ADSs was focused on an Australia-specific standard, however, the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (the department) now plans to harmonise with United Nations (UN) standards relevant to ADSs as they are developed.

Road vehicle approvals in Australia

The requirements for road vehicles being provided in Australia are set out in RVS legislation, which comprises:

- the *Road Vehicle Standards Act 2018*
- the Road Vehicle Standards Rules 2019
- related legislation.

The department administers the RVS legislation.

Generally, before a vehicle can be provided in Australia for the first time, it must be entered on the RAV. There are two pathways for a vehicle to be entered on the RAV:

- **Type approval** allows new road vehicles of a particular type to be provided in unlimited numbers.
- **Concessional RAV entry approval** allows individual vehicles to be provided.

As well as meeting eligibility criteria for the relevant pathway, for type approvals and many concessional RAV entry approvals, vehicles must comply, or substantially comply, with the relevant national road vehicle standards. These technical standards are referred to as Australian Design Rules (ADRs). The ADRs set out the requirements that road vehicles and their components must usually meet when they are first provided to the Australian market.

Extra requirements for vehicles with an ADS

Like conventional vehicles, vehicles with an ADS will generally need to be approved under the RVS legislation and entered on the RAV. However, for this to occur, an ADS will need to have an ADSE associated with it, and comply with additional technical standards specific to ADSs.

Approval requires an ADSE

A vehicle with an ADS must also have an ADSE to support the safety of the ADS over its design life. RVS legislation will be updated to require that RVS approval for a vehicle with an ADS can only be granted to an ADSE that has been certified to take responsibility for that ADS.

The new automated vehicle in-service safety regulator will certify ADSEs, meaning that two separate regulators will certify ADSEs and approve vehicles. We will aim to streamline application processes and approvals as much as possible.

For more information on certification requirements, see the [Automated Driving System Entity certification](#) paper.

Technical standards for ADSs

Vehicles with an ADS will be subject to many of the same ADRs as conventional vehicles (for example, on lighting or braking). However, we expect that in future, there will be extra ADRs specifically related to the ADS.

The Australian Government aims to harmonise our national vehicle safety standards with international regulations. Harmonisation will give Australians access to a greater choice of safe vehicles and reduce the barriers for global firms to provide vehicles to our market. Where possible, Australia will adopt the United Nations international regulations, considering local market requirements and the Australian community's safety expectations. The department is participating in international vehicle regulations development for ADSs.

The United Nations Working Party 29 (WP.29) has agreed to develop a UN Regulation and a Global Technical Regulation for ADSs in parallel by 2026. This work will be based on the outcomes of two

informal working groups, one considering the functional requirements of automated vehicles and the other considering validation methods of automated driving.

WP.29 is developing new vehicle categories for vehicles fitted with ADS. It is also updating existing vehicle regulations to remove language that would make it difficult for automated vehicles to comply. The Australian Government is engaged in this work with a view to adapting or incorporating it into the RVS framework.

The department has begun work on harmonising with existing UN regulations for cyber security and software updates, and is contributing to the development of regulations for data storage systems for automated driving, and driver monitoring, all of which will contribute to safe ADS deployment on Australian roads.

In alignment with UN timelines, the department plans to develop specific ADRs for ADSs. In June 2024 the UN is expected to finalise draft ADS principles, which will be the basis for a future technical regulation for ADSs. The department will compile these draft documents for further consultation, in anticipation of a regulation or framework being finalised by the UN.

Before ADS-specific standards are made, existing approval processes under the RVS legislation can be used to allow ADS-equipped vehicles to be conditionally provided in Australia for broader trials. This would also enable the department to gather evidence demonstrating the ability of ADS vehicles to safely drive on Australian roads.

Previous safety assurance system and draft ADR 90/01

Early work on technical regulations for an ADS was focused on a safety assurance system using the existing vehicle certification framework. The safety assurance system included 11 safety criteria against which an applicant would need to demonstrate its processes for managing safety risks:

- safe system design and validation processes
- operational design domain
- human–machine interface
- compliance with relevant road traffic laws
- interaction with enforcement and other emergency services
- minimal risk condition
- on-road behavioural competency
- installation of system upgrades
- verifying for the Australian road environment
- cybersecurity
- education and training.¹

In June 2021 the department consulted on a draft ADR for steering systems (draft ADR 90/01) that included regulations for an ADS. Draft ADR 90/01 was based on the earlier safety assurance system work and was a unique Australian approach to ADS technical regulation developed before international regulations for ADSs.

However, this safety assurance approach was revised for the following reasons:

- Further work on the in-service safety of automated vehicles led to agreement to implement the AVSL, which will regulate ADSEs to ensure the on-road safety of ADSs. This purpose-built law is

¹ For more information on the proposed safety assurance system see National Transport Commission (NTC), [Safety assurance for automated driving systems: decision regulation impact statement](#), NTC, Melbourne, 2018, accessed March 2024.

a more appropriate tool for imposing ongoing safety duties and obligations on ADSEs, which were previously part of draft ADR 90/01.

- With the availability of the AVSL to cover the ongoing duties and obligations of the ADSEs, ADRs for automated vehicles will focus on implementing parts of the safety criteria that relate to the technical qualities of the vehicle. Work on technical requirements is focused on the development of international vehicle regulations by the UN.

For more information on the AVSL and ongoing duties and obligations on ADSEs, see the papers on; [*Automated driving system Entity in-service obligations*](#), [*Safety management systems for vehicles with an ADS*](#) and [*Law enforcement and emergency services interaction protocol*](#).