

Victoria's Automated Driving System (ADS) permit scheme

Steven Huxtable

Road User and Vehicle Access, Road Safety Victoria

Abstract

On-road trials of automated vehicles are critical to their safe development and deployment. They also serve as an opportunity to build government's knowledge about the technology, as well as public awareness and perception. Victoria's Automated Driving System (ADS) permit scheme is a performance-based framework within which vehicle manufacturers, technology developers and mobility providers can lawfully operate an automated driving system for testing and development purposes, with or without a human 'driver'. This paper discusses the concept behind the scheme, and aims to share the learnings to date.

Background

The road environment is complex and dynamic, with many moving parts; different vehicle types and road users all moving at different speeds and in different directions in close proximity. To combat the challenges of such a complex environment, on-road testing in live traffic is a necessity. With this, however, comes certain risks which need to be properly managed.

The introduction of automated vehicles will also see a shift from the human driving the vehicle, to an ADS driving the vehicle. This shift will change fundamentally the role of the human in the driving task. As humans are required to play a lesser role, it will be unreasonable to continue hold them responsible for the actions of a vehicle under the control of an ADS.

Concept

The ADS permit scheme recognises the shift in driving responsibility from the human to the entity responsible for the ADS. By taking a performance-based approach, the ADS permit scheme aims to ensure that those engaging in on-road trials have necessary safety management processes in place to ensure the safety of the trial, without stifling innovation.

Applicants must satisfy minimum eligibility requirements, submit a safety management plan and be covered by public liability insurance. Permit holders and vehicle supervisors must comply with conditions, including mandatory reporting requirements, to ensure safety and provide an avenue for shared learning.

Recognising that an ADS is driving the vehicle when engaged, its development can be compared with the existing learner permit scheme. At first, vehicle supervisors may have to intervene frequently. Over time, as automated driving technology matures, the role of the vehicle supervisor will decrease. However, there will likely always be a need for on-road trials as technology changes and progresses. For this reason, a more complete framework is required, which will support the development of automated vehicles long into the future.

This ongoing need resulted in the development of a true, performance-based driving permit for testing and development of automated vehicles. The presentation will include an explanation of the concept and requirements of the scheme.

Application

The ADS permit scheme commenced in September 2018, with those looking to operate an automated vehicle in automated mode (with the ADS engaged and performing the dynamic driving task) on Victorian roads now requiring an ADS permit. Part of the presentation will involve an explanation of how the scheme functions, and will include any key learnings to date.