




# Annual Review as at 31 December 2023 – National Land Transport Technology Action Plan 2020–23

**LEGEND:** Action complete ● Underway ●


**Related actions**  are projects being progressed outside of the direct responsibility of the National Land Transport Technology Working Group. Their reporting in this document summarises their progress or is found in an attachment. They are reflected in the Action Plan and this report to improve visibility of work underway in Australia and encourage collaboration, shared learnings and joint efforts.



*Note: development of the 2024-2027 National Connected and Automated Vehicle (CAV) Action Plan is underway, with public and industry consultation taking place in late 2023.*


## National Land Transport Technology Action Plan 2020–23



Theme	Item/sub item	Action item	Lead	Anticipated end date, as stated in Action Plan	Status	Comments
Safety, Security and Privacy	1.1	<p><b>End-to-end regulation for the commercial deployment of automated vehicles</b></p> <p>The National Transport Commission (NTC) is working with the Commonwealth, states and territories to develop a regulatory system that supports the safe deployment and operation of</p>			<span style="color: orange;">●</span>	<p><b>Underway</b></p> <p>This item captures 1.1A, 1.1B and 1.1C.</p> <p>Changes in the projected availability of highly automated vehicles in Australia have extended the timelines for actions under 1.1. In May 2021, Infrastructure and Transport Ministers agreed a roadmap for implementing the national safety framework for automated vehicles,</p>

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		automated vehicles in Australia, covering first supply, in-service and decommissioning. Key actions 1.1A, 1.1B and 1.1C relate to this work.				<p>with the aim of having regulatory arrangements in place by the end of 2026.</p> <p>This work will continue and is planned to be included in the automated vehicle workstream of the 2024-27 National Connected and Automated Vehicle (CAV) Action Plan currently being developed. Public consultation took place on the draft Action Plan from October-December 2023. The intention is for the new Action Plan to be in place in 2024, subject to approval from Australia's Infrastructure and Transport Ministers.</p>
Safety, Security and Privacy	1.1A	<b>Implementing regulatory arrangements so automated vehicles are safe at the point of first supply in Australia.</b>	Commonwealth, NTC, states and territories	End 2019		<p>The Commonwealth is working towards regulating automated driving systems in road vehicles, balancing the need to assist in the development of, and continued alignment with, international vehicle regulations and ensure relevant Australian Design Rules (ADRs) are developed and/or updated as ADAS and ADS are developed (including ADRs for driver monitoring systems).</p>
Safety, Security and Privacy	1.1B	<b>Reviewing the approach to in-service safety for automated vehicles, including consideration of institutional arrangements and road traffic and driving laws.</b>	NTC, Commonwealth, states and territories	Mid 2020		<p>In February 2022, ITMM agreed that the Automated Vehicle Safety Law (AVSL) will be implemented through a Commonwealth law, with supporting complementary law changes across the states and territories. The NTC and the Commonwealth are working with state and territory governments to implement this, and drafting of the AVSL has commenced.</p> <p>ITMM agreed to the NTC and the Commonwealth undertaking consultation on additional policy for the AVSL, and on potential measures to control the risks associated with the early deployment of automated vehicles.</p>

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Safety, Security and Privacy	1.1C	<b>Reviewing state and territory based motor accident injury insurance schemes to ensure appropriate insurance arrangements are in place to deal with crashes caused by automated vehicles.</b>	States and territories, Commonwealth, NTC	Mid 2021		In August 2019, ITMM endorsed policy recommendations in relation to reforms to ensure state Motor Accident Injury Insurance schemes are reformed to provide a legal basis for insurance claims involving AVs. Since then, Ministers have agreed that state and territory transport departments lead engagement with their peer departments to advance necessary reforms across motor vehicle accident insurance. The NTC will continue to work with states and territories to progress this work.
Safety, Security and Privacy	1.2	<b>Cooperative Intelligent Transport Systems (C-ITS) Security Credential Management System (SCMS) Pilot Project</b>  The Queensland Department of Transport and Main Roads is conducting on-road operational testing of an SCMS. The SCMS approach secures communication between C-ITS applications. The iMOVE Cooperative Research Centre will study the use of SCMS and its future role in C-ITS applications for transport authorities, including vehicle safety and security, privacy issues and system performance and governance. This pilot will inform government decision-making on a potential national deployment plan.	Commonwealth, QLD	End 2021		<b>Complete</b> The final project report was delivered in December 2021 and distributed to iMOVE project partners. The report findings are informing further work to identify requirements and specifications for a nationally consistent system for managing the security of C-ITS messages, and the new work is planned to be included in the next (2024-27) Action Plan.

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Safety, Security and Privacy	1.3	<p><b>Guiding principles and approaches to facilitate safe and legal larger-scale trials of automated vehicles</b></p> <p>Building on the establishment of the Guidelines for Trials of Automated Vehicles in Australia in 2017, this key priority will develop guidance on conducting larger-scale trials with a view to commercial deployments.</p>	Commonwealth, NTC, states and territories	End 2021		<p><b>Complete for purpose of this action plan</b></p> <p>The NTC has consolidated information for trial applicants, developed a new online information hub, established best practice for trials via the joint NTC/Austrroads <a href="#">Guidelines for Trials of Automated Vehicles in Australia</a>, and continues to examine the process for potential cross-border trials. In September 2023, the NTC and Austrroads refreshed and updated the Guidelines which was first published in 2017 and updated in 2020.</p> <p>The NTC and jurisdictions will continue to scope opportunities for trial guideline improvements, including potential arrangements for accommodating commercial or larger scale trials.</p> <p><b>Austrroads</b> published <a href="#">AP-G102-3 Guidelines for the Evaluation and Reporting of Automated Vehicle Trials</a> in July 2023. The guidelines set out the key stages associated with evaluation and reporting of automated vehicle trials, including a line of sight from trial objectives through to evaluation, and how this is reflected in reporting.</p>
	1.4	<p><b>Accelerate the deployment of road safety technologies and innovation</b></p> <p>There is a strong commitment across all levels of government to improve safety outcomes on our roads. Governments are committed to implementing the National Road Safety Strategy 2011-2020 and the associated National Road Safety Action Plan 2018–2020, including priority actions for the deployment</p>	Commonwealth, states and territories	Ongoing		<p><b>Complete for purpose of this action plan</b></p> <p>The National Road Safety Strategy and associated action plan are the primary vehicles for delivering road safety outcomes. They include actions to pursue technological improvements for vehicles to make them safer. The <a href="#">National Road Safety Strategy 2021-30</a> (NRSS) was agreed to by the Australian Government and all state and territory governments in May 2021, and released in December 2021.</p>

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		and uptake of vehicle safety technologies. The Commonwealth will streamline the process for legislative and regulatory changes to vehicle safety standards to improve the uptake of new safety technology in the Australian new vehicle fleet, and consider aligning Australian regulations with the proposed European regulatory package to commence within a similar timeframe.				The <a href="#">National Road Safety Action Plan 2023-25</a> was agreed to by Infrastructure and Transport Ministers in December 2022, and released in February 2023.  Further information is available on the National Road Safety Strategy website at: <a href="https://www.roadsafety.gov.au/nrss">https://www.roadsafety.gov.au/nrss</a> .
Digital and Physical Infrastructure	2.1	<p><b>Develop guidance on how infrastructure can be future ready for CAV technology within an integrated transport and land use planning framework</b></p> <p>The Commonwealth will develop guidance to support policy and investment decisions on technology in the road transport sector. The guidance will consider strategic priorities for governments to harness the safety, productivity, sustainability and accessibility benefits of transport technology.</p>	Commonwealth, Austroads	Mid 2020		<p><b>Complete for purpose of this action plan</b></p> <p>Austroads has undertaken several projects providing guidance on how infrastructure can be ready for CAVs. The project report, <i>Minimum Requirements for Traffic Signs, Traffic Signals and Line Markings</i> (CAV6383 / AP-R696-23), was published on 17 October 2023. It identifies and discusses physical infrastructure practices that Austroads member agencies could change to improve support for CAVs. It reflects current knowledge by synthesising the previous Austroads work (including FPI6258 / AP-R665-22 <i>Minimum Physical Infrastructure Standard for the Operation of Automated Driving</i>, published in January 2022), and incorporates evidence from more recent publications, industry perspectives and a review of Austroads member agency practices and standards. As the CAV industry and vehicle capabilities evolve over time, so too will the actions requiring physical infrastructure changes to support them.</p> <p>Other projects underway within Austroads' Future Vehicles and Technology program, such as <i>Design principles for roads and infrastructure for future mobility</i></p>

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						<p><i>solutions (CAV6428), will also inform how infrastructure can be future ready for CAVs.</i></p> <p>A number of new projects focussed on readying infrastructure for CAVs are planned to be included in the next (2024-27) Action Plan.</p>
Digital and Physical Infrastructure	2.2  Related action	<p><b>Program of work to address the barriers and challenges impeding the uptake of Low and Zero Emissions Vehicles (LZEVs)</b></p> <p>Developed through the LZEV Working Group, this action will support the improvement of environmental performance of infrastructure and transport systems, remove barriers to innovation and capitalise on new and emerging technologies. This work will also consider the development of a National Hydrogen Strategy and the future development of a National Strategy for Electric Vehicles.</p>	LZEV Working Group	Mid 2022		<p><b>Complete for purpose of this action plan</b></p> <p>The work of the LZEV Working Group was superseded by development of the <a href="#">National Electric Vehicle Strategy (NEVS)</a> released in April 2023, and other initiatives to reduce transport emissions such as the \$500 million <a href="#">Driving The Nation Fund</a>. At the core of the NEVS is a commitment to introduce a Fuel Efficiency Standard (FES) to encourage vehicle suppliers to sell cleaner cars, saving Australians money on fuel. FES consultation in 2023 found strong support from the community, industry, peak bodies, climate groups and other Government stakeholders, and detailed design work is now underway.</p> <p>Other actions from the NEVS have driven growth of EV sales from 3.8% in 2022 to 8.4% in 2023:</p> <ul style="list-style-type: none"> <li>• Electric Car Discount has reduced the price of vehicles, with vehicle leasing companies saying that novated leases for EVs and hybrids now make up almost half their business</li> <li>• EV charging has grown with \$39.3 million committed to help deliver 117 EV chargers on key highway routes across Australia</li> <li>• National agreement on minimum operating standards for government-supported EV charging infrastructure, ensuring that EV drivers have reliable and accessible EV charging facilities</li> </ul>


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						<ul style="list-style-type: none"> <li>\$20.5 million green car loans via the Clean Energy Finance Corporation (CEFC)</li> <li>Net Zero APS by 2030 plan outlines the transition to zero emissions vehicles in the government fleet and will feed into the second-hand market.</li> </ul> <p>Additionally, stricter fuel quality and noxious emissions standards are being implemented for both heavy vehicles (Euro VI) and light vehicles (Euro 6), which will reduce emissions and health impacts.</p> <p>A new real-world vehicle emissions testing program is providing improved consumer information on fuel use and vehicle emissions.</p> <p>Building on this progress, the Transport and Infrastructure Net Zero Roadmap and Action Plan, announced in May 2023, will identify net zero by 2050 pathways for all transport modes, and low emission transport infrastructure for the movement of people and freight. All jurisdictions are continuing to work together on these issues through the ITMM Decarbonisation of Transport Working Group and the National Electric Vehicle Action Plan Implementation Group.</p>
Data	<p><b>3.1</b></p>  <p>Related action</p>	<p><b>Explore uses of C-ITS and AV data to improve network efficiency and investment</b></p> <p>CAV data has the potential to support governments in improving network efficiency and safety, and be used as an input to inform investment decision making. Developing learnings, potentially drawing from trials, to inform the</p>	Commonwealth, NTC, Austroads, states and territories	Mid 2021	●	<p><b>Complete for purpose of this action plan</b></p> <p>Several initiatives have explored uses of C-ITS and AV data and the data needs of CAVs:</p> <ul style="list-style-type: none"> <li>Initiatives exploring vehicle generated data: <ul style="list-style-type: none"> <li>The NTC’s Vehicle Generated Data Working Group, a joint industry-government working group on vehicle-generated data, will reconvene in 2024 to consider how vehicle and transport data can be shared to support road safety in priority areas.</li> </ul> </li> </ul>

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		<p>approach to data would help guide governments and the community in effective uses of this data. The NTC will undertake a project scoping the potential uses of C-ITS and AV data by governments. There are likely to be other CAV data projects needed to align with past and planned data projects. Austroads will undertake a project looking at the data needs for connected and automated vehicles from road agencies; for example, the location and effect of road works. This project will include national and international data consistency issues.</p>				<ul style="list-style-type: none"> <li>○ Austroads project FCA6314 <i>Connected vehicle and road agency data exchange</i> is underway to investigate vehicle generated data provision to road authorities and explore the value of this data.</li> <li>● Initiatives exploring road authority data: <ul style="list-style-type: none"> <li>○ Austroads project CAV6376 <i>Guidance for Developing Standardised Transport Data Exchange for Australia and New Zealand</i> is underway to examine what is needed to implement harmonised agency data access points to support use of road safety and traffic-related data by vehicle operators and/or CAVs.</li> <li>○ Austroads report AP-R672-22 <i>Supporting Cloud Connected Road Users</i>, published June 2022.</li> <li>○ Austroads report AP-R662-21 <i>Road Authority Data for Connected and Automated Vehicles (RADCAV reports)</i>, published December 2021.</li> </ul> </li> </ul> <p>Further actions on vehicle and road authority data for CAVs is planned to be included in the next (2024-27) Action Plan.</p>
Standards and Interoperability	4.1	<p><b>Evaluate deployment models and associated costs and benefits of C-ITS vehicle technologies</b></p> <p>Many automotive and transport sector leaders have indicated that connectivity in vehicles will help solve complex problems in emerging technology. National and international work is underway on</p>	Commonwealth	Early 2021	●	<p><b>Complete</b></p> <p>The Commonwealth Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), the Department of Transport and Main Roads Queensland, Transport for NSW and Austroads completed a joint project in 2022 examining the costs and benefits of C-ITS deployment models, with a view to informing policy and investment decision making by Australian governments.</p>



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		connectivity solutions including short-range communications and cellular technologies. A greater understanding of business and assurance models for deployment in Australia and their cost-benefit for industry and government will support effective regulatory and investment decision-making.				<p>This work informed the <i>Principles for a National Approach to C-ITS in Australia</i>, which were approved by ITMM in December 2023, and expected to be published in early 2024.</p> <p>DITRDCA has commissioned follow-up research through iMOVE to examine specific issues relating to short-range communications to support C-ITS and associated standards. The report of this work is expected to be available in early 2024.</p> <p>Outcomes will feed into the C-ITS work planned for the next (2024-27) Action Plan.</p>
Disruption and Change	<p><b>5.1</b></p>  <p>Related action</p>	<p><b>Identify and facilitate emerging technologies that improve freight outcomes</b></p> <p>International and Australian trials and research have shown that new technologies can increase freight network efficiency, decrease risk to transport users, reduce fuel usage and emissions, and enhance traceability of supply chains.</p> <p>Through the National Action Plan of the National Freight and Supply Chain Strategy, jurisdictions will:</p> <ul style="list-style-type: none"> <li>• facilitate research and trials of transport technology in the Australian freight sector;</li> <li>• develop an evidence base to inform next steps on improving freight outcomes, skills, workforce and</li> </ul>	Commonwealth, states and territories	Ongoing		<p><b>Complete for purpose of this action plan</b></p> <p>The <a href="#">National Freight and Supply Chain Strategy</a> is intended to increase the safety, productivity and resilience of freight and supply chains as the freight task grows. The Strategy sets an agenda for coordinated and well-planned government and industry action across all freight modes to 2040 and beyond. The Strategy is supported by a National Action Plan and jurisdictional Implementation Plans.</p> <p>Progress of actions in the National Action Plan are available at the Freight Australia website at: <a href="https://www.freightaustralia.gov.au/">https://www.freightaustralia.gov.au/</a></p> <p>In the second half of 2023, DITRDCA led a review of the National Freight and Supply Chain Strategy. DITRDCA collaborated and consulted with a range of stakeholders including businesses, peak bodies and unions, and with all levels of government to assess gaps in the Strategy's goals, consider the performance of the Strategy, priorities for the next five-year National Action Plan as well as propose a small number of national key performance indicators. The Review report is expected to</p>

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		<p>industry impacts, and future infrastructure needs; and</p> <ul style="list-style-type: none"> <li>promote national consistency to support interoperability.</li> </ul>				<p>be provided to Infrastructure and Transport Ministers in early 2024.</p> <p>It is anticipated the refreshed Strategy and new National Action Plan will be developed in 2024.</p> <p>DITRDCA commissioned a research project through iMOVE and Swinburne University to examine the workforce implications of transport digitalisation and automation in the context of the Australian market. The final report was published in April 2023.</p>
Disruption and Change	5.2	<p><b>Investigate the role of governments in MaaS and identify priorities and enablers to support its effective development and deployment</b></p> <p>MaaS combines public and private transport options in a single app, providing an integrated origin to destination journey, handling payment and bookings through the same platform and providing dynamic route-planning information to users. This provides a model to improve mobility and accessibility in cities, towns and regions. The specific business models of MaaS are being explored and tested around the world, including Australia. This action will define the opportunities and challenges in an Australian context of integrating various forms of transport into a single, optimised on-demand mobility service. This includes describing the enabling</p>	Commonwealth, states and territories	End 2020	●	<p><b>Complete for purpose of this action plan</b></p> <p>The <i>MaaS and Mobility Australia/New Zealand Government Working Group</i> was established in 2022, chaired by Queensland. The Working Group has been established to share learnings about MaaS and Mobility, and discuss opportunities for collaboration. In 2023, the working group met twice, sharing innovations and progress in mobility.</p> <p>Queensland continues to implement its government-enabled MaaS Business Model with an established research and policy program and investigative trials in MaaS and mobility. In 2023, this included the continuation of the large scale MaaS trial known as ODIN PASS in partnership with The University of Queensland and iMOVE. Results from that trial are expected in mid-2024. Following industry co-design sessions in 2023 that considered the role of Government within MaaS, the Queensland Department of Transport and Main Roads, in partnership with the iMOVE CRC and the University of Sydney, have commenced a research project to consider how MaaS could be scaled in Australia. The work seeks to understand the broad orchestrating model needed for</p>

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		roles of governments in guiding the deployment of MaaS.				<p>multi-modal service integration and the establishment of policy levers within the MaaS ecosystem.</p> <p>NSW undertook a 12-month trial of a new Opal Plus MaaS app that enabled trial participants to plan, book and pay for journeys using multiple transport modes, including first and last mile connections to public transport.</p> <p>Industry is also actively involved in consideration of MaaS issues. The Mobility Reference Group is led by Intelligent Transport Systems (ITS) Australia and comprises members from most state and territory governments, as well as industry and the research community. It meets twice-yearly for workshops, fostering collaboration and furthering the equitable and effective development of MaaS in Australia.</p>
Disruption and Change	5.3	<p><b>Research into the competition impacts of automated vehicles</b></p> <p>Potential deployment scenarios for automated vehicles may influence commercial issues such as repairer access, e-commerce platforms and access to data. Research into this aspect of the technology will guide future regulatory decisions making and identify future analysis needed.</p>	Commonwealth, NTC	Ongoing		<p><b>Underway</b></p> <p>Amendments were made to the <i>Competition and Consumer Act 2010</i> (Cth) in 2021 to make provisions requiring car manufacturers to share some information necessary for motor vehicle repair (known as ‘right to repair’), however, information relating to automated driving systems (ADS) was not included in this scheme.</p> <p>Competition issues related to the telecommunications market and how they interact with connectivity in vehicles is being considered as part of a larger body of work looking at telecommunications legislation and connected vehicles. <a href="#">Public consultation</a> on a discussion paper was undertaken from October-December 2023, and the process is expected to be complete by mid-2024. Further work on competition impacts of CAVs is planned to be included in the next (2024-27) Action Plan.</p>

## Ongoing actions from 2016-19 Action Plan

	#	Action item	Lead (as indicated in 2016-19 Action Plan)	Original 2016 Timing	Status	Comments
Action Plan 2016-19	2	<p><b>Develop national operational guidelines to support the on-road use of automated vehicles</b></p> <p>Austrroads has completed projects in support of this action, including key road agency actions to support automated vehicles, registration and licensing issues and automated heavy vehicles in remote and regional areas. Further work is underway on complex issues such as road operations, pavement markings for machine vision and driver education.</p>	Austrroads	Late 2017	Complete	<p>Austrroads has undertaken a project (SRL6287) to improve the knowledge, skills and experience required by drivers to safely operate vehicles equipped with Advanced Driver Assistance Systems (ADAS). The project has produced two guidelines:</p> <ul style="list-style-type: none"> <li>• <i>Advanced Driver Assistance Systems: Driver Education Guideline</i>, published March 2023</li> <li>• <i>Advanced Driver Assistance Systems: Practical Driver Testing Guideline</i>, published in December 2022.</li> </ul> <p>Further work to educate vehicle users on ADAS and Automated Driving Systems (ADS) is planned to be included in the next (2024-27) Action Plan.</p>
Action Plan 2016-19	3	<p><b>Undertake priority trials and research of Intelligent Transport Systems</b></p> <p>Research and trials of emerging transport technology remains a priority for all jurisdictions. A Connected and Automated Vehicle Trials and Technology working group was established across jurisdictions to monitor future trials, avoid duplication and optimise information sharing. Austrroads continues to publish information about ongoing trials on its website. This research and trialling is a key exercise to inform further analysis sought through <b>key priority 2.1</b>.</p>	ITSOC	2016–19	Complete	<p>See Action 2.1 above for further details of the work on how infrastructure can be future ready for CAVs, and action 4.1 for further details of the work relating to C-ITS.</p> <p>Queensland has published a series of reports and technical documents for the Ipswich Connected Vehicle Pilot:</p> <ul style="list-style-type: none"> <li>• Safety evaluation reports are available at: <a href="https://imoveaustralia.com/project/project-outcomes/ipswich-connected-vehicle-pilot/">https://imoveaustralia.com/project/project-outcomes/ipswich-connected-vehicle-pilot/</a></li> <li>• Technical documents are available at: <a href="https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/ipswich-Connected-Vehicle-Pilot">https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/ipswich-Connected-Vehicle-Pilot</a></li> </ul>
Action Plan 2016-19	4	<p><b>Develop a connected vehicle (Cooperative ITS) infrastructure road map</b></p>	ITSOC	Mid 2017	Complete	See Action 4.1 above for details of the work relating to C-ITS.

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	<p>A nationally coordinated road map will provide greater certainty to industry on potential deployment methods and timeframes, with work underway to position Australia to take advantage of opportunities in connected infrastructure. Austroads has undertaken a range of research and assessments on C-ITS through its Connected and Automated Vehicle program with <b>key priority 4.1</b> a key step to progress this work.</p>				
Action Plan 2016-19	<p><b>5 Publish a connected vehicle (Cooperative ITS) statement of intent on standards and deployment models</b></p> <p>Creating a technologically neutral statement of intent for Australia will help give guidance to industry on likely deployment models. In January 2018, the Australian Communications and Media Authority made the Radiocommunications (Intelligent Transport Systems) Class Licence 2017, providing certainty that C-ITS applications can be used in the 5.9 GHz spectrum. C-ITS technologies and standards development continue to evolve in what is a highly complex environment, with governments and stakeholders progressing work to evaluate their adoption including through <b>key priority 4.1</b> of the National Land Transport Technology Action Plan 2020-23.</p>	ITSOC / Commonwealth	Early 2017	Complete	See Action 4.1 above for details of the work relating to C-ITS.

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Action Plan 2016-19	6	<p><b>Develop a nationally agreed deployment plan for the security management of connected and automated vehicles</b></p> <p>The Commonwealth and state and territory governments are conducting research on and piloting systems for managing cyber security in CAVs and connected infrastructure, using international best-practice approaches. Work on this action is continuing through <b>key priorities 1.2 and 4.1</b> of the National Land Transport Technology Action Plan 2020-23.</p>	ITSOC/ Austroads	Mid 2018	Complete	See Actions 1.2 and 4.1 above. With the completion of the SCMS Pilot Project in Action 1.2 above, the findings are informing further work to identify requirements and specifications for a nationally consistent SCMS to support the safe and secure deployment of C-ITS. The new work is planned to be included in the next (2024-27) Action Plan.
Action Plan 2016-19	7	<p><b>Investigation of options to provide enhanced geo-positioning information to the land transport sector</b></p> <p>Australian and New Zealand governments developed a test-bed for enhanced positioning techniques, including connected and automated vehicle projects. In 2018 the Australian Government funded the development of a Satellite-Based Augmentation System and a national ground station network to enhance Australian geo-positioning.</p>	Commonwealth		Complete	<p>In September 2022, Geoscience Australia announced the commencement of early Open Services delivered by the Southern Positioning Augmentation Network (SouthPAN), a partnership with Toitū Te Whenua Land Information New Zealand. SouthPAN provides accurate, reliable and instant positioning services, with as little as 10cm level accuracy, to be available everywhere across Australia and New Zealand overcoming gaps in mobile, internet and radiocommunications. SouthPAN will be certified for safety-of-life for use in aviation from 2028. Further to this, the Australian Government has, through the National Positioning Infrastructure Capability, unified networks of ground-based positioning infrastructure to support the delivery of centimetre-level accurate positioning services.</p> <p>Consideration of how precise positioning offered by SouthPAN and the National Positioning Infrastructure Capability can support CAVs is planned to be included in the next (2024-27) Action Plan.</p>

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Action Plan 2016-19	8	<p><b>Improve the availability of open data in the transport sector</b></p> <p>Austrroads published the Connected and Automated Vehicles (CAV) Open Data Recommendations report in 2018. The next stage of this project is to investigate best practices for the supply of road authority data for CAVs through <b>key priority 3.1</b> of the National Land Transport Technology Action Plan 2020-23.</p>	All jurisdictions	2016-19	Complete for purpose of this action plan	See Action 3.1 above for further details of the work on road authority data to support CAVs.
Action Plan 2016-19	9	<p><b>Explore options to increase the takeup of telematics and other technologies for regulatory and revenue collection purposes</b></p> <p>This work examined strategies for government and the private sector to accelerate deployment of telematics, and was incorporated into a review of the regulatory telematics regime. The National Transport Commission released the Review of Regulatory Telematics report in March 2018, and continues to work with key stakeholders on implementing the report's recommendations.</p>	ITSOC		Complete for purpose of this action plan	<p>Phase 3 of the National Heavy Vehicle Charging Pilot has commenced, with this phase of the trial expected to run until the middle of 2024. Phase 3 will test a road user charging model based on mass, distance and location, with road user charge data collected via telematics devices.</p> <p>Austrroads and Transport Certification Australia (TCA) have worked to expand the use of telematics to improve road transport outcomes, including making available, through the Telematics Analytics Platform (TAP) data collected from vehicles monitored through the National Telematics Framework (NTF) to Australian and New Zealand road agencies (including local governments). The TAP provides insights into the operation of vehicles to improve road asset maintenance and planning. Further, the Australian Tax Office (ATO) now recognises telematics products that have been assessed and certified by an independent recognised certification entity, when telematics systems used for Fuel Tax Credits (FTC) are presented to the ATO for a product ruling. TCA is considered an <i>independent recognised certification entity</i> for this purpose. TCA has also worked to support harmonising regulatory schemes across Australia and New Zealand, including raising awareness of the benefits of vehicle monitoring schemes using</p>

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						the Telematics Monitoring Application (TMA) and Road Infrastructure Management (RIM) applications of the NTF.
Action Plan 2016-19	13	<p><b>Investigate the costs, benefits and possible deployment models for automatic crash notifications</b></p> <p>This project, led by the Commonwealth, analysed a range of potential deployment models for automatic crash notification systems. These systems are designed to provide emergency services with timely and accurate location data of a vehicle in a serious crash situation. This work will inform possible future deployment arrangements.</p>	ITSOC/ Austroads/ Commonwealth		Complete for purpose of this action plan	Australia's Triple Zero systems are not currently able to receive the data from an eCall alert. There may be opportunities to include eCall in the ongoing development of Next Generation Triple Zero services or to consider other paths to promote eCall in Australia. Austroads has a project underway to consider possible approaches to eCall for Australia and New Zealand (CAV6424). Further work is planned to be included in the next (2024-27) Action Plan.

**Complete actions:** 1, 7, 9, 10, 11, 13, 14 (3, 4, 5, and 8 completed in 2022)

**Revised action:** 12