its australia
Intelligent Transport Systems

2024-27 National Connected and Automated Vehicle (CAV) Action Plan

ITS Australia Submission

December 2023

Executive summary

ITS Australia is the peak body for the transport technology sector and many of our 150+ member organisations play a role at the leading edge of new and emerging technologies to improve safety and efficiency on our transport networks.

As noted in the draft National Road Transport Technology Strategy, new road transport technologies like connected and automated vehicles (CAVs) are coming and ITS Australia commend the government on developing an Action Plan that considers the issues and opportunities to be addressed and leveraged in the immediate future for the benefit of Australia and Australians.

ITS Australia support the advancement of connected and automated vehicles and cooperative ITS technology and see the appropriate deployment as a pathway to provide safer, more efficient and more sustainable transport. With the background of these promising developments both nationally and internationally, we support this Action Plan and the companion National Road Transport Technology Strategy and appreciate the opportunity for collaboration across the sector that is required to realise these critical benefits for our industry and the communities they serve.

ITS Australia strongly endorse the objective of both the strategy for Australian governments to take a nationally consistent approach to technology deployment where this is needed and identifying those areas in the Action Plan, focusing on harmonisation of transport technologies; while recognising jurisdictional differences is a key requirement for both industry confidence and government investment and effective deployment across our networks.

This submission provides commentary of our views on:

- Pathway to vehicle automation
- Importance of vehicle connectivity
- Collaborating on connected and automated vehicles

ITS Australia have included specific comments against each of the proposed actions and we encourage the inclusion of detail on the timeframe for each action which will provide readers with a better insight regarding the intent of the actions and provide a valuable guide to industry and the the market looking to respond to these actions.

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ITS Australia endorse the adoption of the activities outlined in the Action Plan on the basis that they set the foundation for a nationally consistent approach for connected and automated vehicle deployment and support necessary related transport technology innovation. An agreed national approach will:

- Provide industry with clear guidance for their technology pathway
- Give government confidence to invest in supporting infrastructure
- Maximise the potential benefits of automated vehicle technologies
- Harmonise standards and design rules where possible
- Enable consumer awareness and acceptance

Pathway to vehicle automation

Australian governments have the shared targets of halving road deaths by 2030 and achieving zero road deaths by 2050, as well as reaching a target of net-zero emissions by 2050, and connected and automated vehicles technology has real potential to assist in these endeavours.

Building on the existing regulatory frameworks that have been developed over the past five years by state and federal governments, ITS Australia strongly endorse a harmonised approach and alignment with the EU and international design rules and safety metrics to minimise barriers to entry and deployment of these important vehicle technologies while acknowledging and responding to any unique Australian characteristics.

ITS Australia strongly support alignment with EU and other international design rules and safety interventions and support additional Advanced Driver Assistance System (ADAS) and automated driving system (ADS) functionalities as international vehicle regulations are developed foster collaboration across the Commonwealth, states and territories to deliver an integrated national AV regulatory framework.

ITS Australia undertake to continue to provide any necessary support to NTC's work on end-to-end AV regulatory framework, including essential industry engagement and international knowledge sharing, and strongly endorse the development of national policy positions/model law to support the states and territories to implement the complementary law changes.

These technologies are saving lives now and will only become more effective in the future – but to ensure the widespread application of these technologies, consumers need to appreciate, fully accept and even encourage their deployment ITS Australia is extremely supportive of the development of a repository of education and training materials for ADAS and ADS that can facilitate the dissemination of consistent messaging for vehicle users by government and industry to customers and the Australian public.

This includes educating industry and the public about user and entity responsibilities under the national AVSL, and supporting the AV in-service safety regulator, once established, in their educative role in relation to AV regulation for industry and vehicle users.

> ITS Australia endorse the adoption of the activities outlined in the Action Plan targeting vehicle connectivity and support ensuring a national approach and leveraging international experience to support the immediate safety and efficiency benefits vehicle connectivity can offer, particularly in relation to:
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> - Safe and secure data sharing and security systems
> - Spectrum allocations to support both short-range and long-range C-ITS communications
> - Investigating life saving technologies such as e-Call in the Australian context
> - Harmonising standards and design rules nationally and with international partners
> - Insurance liability is also a key aspect to investigate, who is responsible for what

Importance of vehicle connectivity

The proposed C-ITS principles drafted by the government in 2023 provide a foundation for nationally consistent deployment of C-ITS and connected vehicle technologies with substantial safety, efficiency, and sustainability benefits. A national approach also provides strong support for expanded deployment

and innovation amongst industry, and C-ITS could address some of the key priorities by improving safety for road users, heavy vehicles, regional road users and vulnerable road-users.

ITS Australia support a national plan for implementing C-ITS in Australia that enables a staged and flexible approach to meet the different needs and timeframes of jurisdictions, while ensuring national consistency. These technologies are saving lives today and have been proven to be effective in reducing traumatic injuries and deaths on our roads, C-ITS and related emerging transport technologies are critical to attaining the vision of zero road deaths by 2050 and halving road deaths by 2030.

Effective governance of harmonised C-ITS is crucial and that includes developing a standard set of potential use cases to be deployed nationally which would include alignment of data standards and development of a common data repository. The development of shared security credential management systems and national C-ITS architecture and leveraging existing government and private sector initiatives and relevant consumer devices is strongly supported.

ITS Australia endorses the development of a nationally harmonised repository of road manager data (C-ITS central station) to support common C-ITS use cases across jurisdictions, supporting harmonised C-ITS systems that meet the needs of all jurisdictions and support a range of C-ITS business models.

These cutting-edge digital communication technologies will allow cars to interpret their surroundings and alert drivers to potential hazards intelligently. In 2020, ITS Australia with research partners University of Melbourne and key government agencies published a report 'Investigating pathways to deliver road safety and network efficiency benefits through connected technologies' which revealed that these technologies can reduce vehicle crashes by up to 78 per cent, dramatically reducing road trauma and the death toll.

With the recent AAA December 2022 report benchmarking the performance of the national road safety strategy showing road deaths increased by 9.3% in Q3 2022, these connected technologies are increasingly necessary to improve safety outcomes on Australian roads and supporting government goals.

It is essential to progress rapidly due to the clear safety, efficiency, sustainability and accessibility benefits that align with government objectives. Harmonisation requires national leadership and active collaboration across borders and with industry, academia and the wider community a recommended course of action building on the principles would be establishing frameworks and working groups around key areas.

Reflecting on the successful C-Roads model and aligned to the European principles these collaborative working groups could include:

- Standards and harmonisation
- Organisational and business models
- Technical aspects
- Security, equity and privacy
- Cross-border evaluation and investment

Building base level infrastructure and certainty around a national strategic direction will allow the sector to develop and market products and platforms that can be supported in an acceptable product lifecycle. The C-ITS Principles recently drafted by the Australian Government are a positive first step in building this confidence. Commitment to ongoing engagement across the sector and support of existing consultation processes such as NTC's Vehicle Data Working Group is key. This includes the importance of public facing engagement to raise awareness and interest for potential C-ITS applications to build trust and drive demand.

As Australia currently bases vehicle safety regulations upon the United Nations Economic Commission for Europe (UNECE) World Forum for the Harmonisation of Vehicle Regulations (Working Party 29) model law, it should look to harmonise with European approaches in C-ITS. This approach should be considered and adopted by the State and the Federal Ministers to ensure national consistency and provide industry with the confidence to commit.

With the National Land Transport Technology Action Plan providing over-arching guidance, and working collaboratively with groups like Austroads and NTC to develop a roadmap to allow all government agencies and importantly all of industry to understand how this pathway can be developed together, ITS Australia commits to continue working with all stakeholders building a collaborative pathway for these vital technologies.

ITS Australia also strongly supports the continuing regulatory arrangements to promote the introduction of C-ITS in the 5.9 GHz band (5.855-5.925 GHz) in Australia and maintaining the Class License under section 132 of the Radiocommunications Act 1992, for C-ITS transceivers in vehicles, roadside infrastructure and carried by people. The class license will refer to the relevant European standard, ETSI Standard EN 302 571 V 2.1.1.

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This spectrum allocation is extremely important for the future safety of our transport networks and the industries' continued unimpeded access to this spectrum band is key to realising future safety benefits. Alignment with the European standards, including harmonising vehicles regulations, is a key consideration and equally supported by industry.

Safety technologies such as eCall are saving lives now and ITS Australia strongly supports the investigation into implementing these technologies and identifying any impediments in Australia.

> ITS Australia endorse the adoption of the activities outlined in the Action Plan targeting connected and automated vehicles and related policies and technologies particularly in relation to:
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> • National harmonisation and holistic legislative approaches
> • Data sharing arrangements and security management systems
> • Targeting sustainability and efficiency outcomes
> • Enabling Mobility as a Service and inclusive accessible transport opportunities for all Australians

Collaborating on Connected and Automated Vehicles

There are important elements that require national architecture and development to enable "no regrets" investment as part of the current physical infrastructure projects and building some of the "digital components" that are platform agnostic. These include, but are not limited to:

- **Standards** - establish clarity on how Australia intends standards to be implemented for deployment. The policy analysis determines this should be based on the International Standards Organisation (ISO) Europe standards guideline.

- **Suitable communications** - considering the needs of users and how best to support with short and long range communication

- **Data** - build guidelines and example datasets that demonstrate Australia's implementation of the

standards for national consistency. Ensure data can be generated, processed, stored, analysed and used

- **Highly** accurate mapping and positioning capability

- **Security** by design

- **Capability** for handling large volumes of data with capacity to share in real time

- **Digital** twin for virtual asset management and edge devices

Over the past 15+ years, steady progress has been made across the globe to develop standards and demonstrate the benefits of connected vehicle technologies. Connected vehicle technologies are broadly understood to be the next wave of interventions that will substantially improve safety and efficiency outcomes for road transport. In Australia there has been some good progress with a number of pilots,trials and policy actions.

As confirmed through pilot projects, C-ITS offers proven and substantial safety benefits to today's drivers and the community as a whole. With more than 1,200 people dying and over 30,000 people being seriously injured each year on Australia's roads, the only long-term goal we can have is for zero fatal and serious injuries. To that end, we believe connected and cooperative Intelligent Transport Systems and automated vehicle technologies are some of the key safety initiatives to achieving that ambitious goal. These potentially life-saving technologies though also come with additional challenges to consider.

ITS Australia endorse the investigation ensuring existing commonwealth and state laws are appropriate for connected and automated vehicles and support the complementary development of the Automated Vehicle Safety Laws.

Safe and secure data sharing is a critical requirement and ITS Australia support the exploration of opportunities for data sharing and management between government and industry to support CAVs building on the work of the NTC's National Vehicle Data Working Group (NVDWG) to develop a vision, principles and roadmap for data sharing and management between government and industry.

ITS Australia also strongly support learning from and collaborating with peer countries and leveraging the application policy and technological applications that best suit Australia. This includes examining efforts in key international markets (e.g. the European Union (EU), United States (US)) and nationally within

Australia to develop a ratings framework/s for assessing the readiness of roads for CAVs and consider their applicability to the Australian context.

Accessibility and user acceptance are critical considerations for connected and automated vehicles and ITS Australia is extremely supportive of further developments to better understand and investigate how to make these technologies both user friendly and inclusive for all Australians.

Preparing the workforce for the future is of critical importance to our members and in recognising the changes that these technologies can offer with both challenges and opportunities, ITS Australia is keen to collaborate with government on better understanding the workforce impacts of CAVs and related technologies now and into the future. Skills development, workforce growth and pipeline protections are a necessity – identifying career development potential and emerging opportunities for CAV and EV deployment is strongly supported.

A critical consideration of successful Mobility as a Service / Mobility on Demand platforms or services is seamless user experience and payment / ticketing systems are a common friction point that impact on customer acceptance. National ticketing / payment systems could be applied as the mechanism to enable national harmonisation of MaaS / MoD enabling jurisdictions, employers, developers, local governments, private sector providers access and deliver MaaS like products tailored for their customers and jurisdictions across Australia equitably. Harmonised approaches to support the exchange of data amongst market participants (industry, governments and travellers) will accelerate the broad deployment of mobility solutions and real time information across all Australia, reducing the deployment lag to more remote locations. We encourage governments to explore approaches to adopt consistent standards and adopt harmonised approaches to mobility related data.

While recognising the action plan is primarily focused on private fleets there is an opportunity in factoring public transport into the discussion, the impact of connected automated public transport, and the role they will play in a multi-modal transport network.

Finally, connected and automated vehicles can save lives and they can also make transport more efficient, reducing GHG emissions and enabling more sustainable transport. This impacts the entire life-cycle and supply chain of these technologies from more sustainable procurement through to end-of-life decommissioning and recycling. ITS Australia and our members are strongly supportive of activities that investigate strategies for reducing GHG emissions and reducing the environmental impact of the transport sector.

Conclusion

ITS Australia commends the Federal Government and the Department of Infrastructure, Transport, regional Development, Communications and the Arts, in undertaking this important work to better understand the impacts and opportunities connected and automated vehicles offers and is strongly supportive of adopting the action plan outlined and the related strategy consultation being undertaken.

With more than 1,200 people dying and over 30,000 people being seriously injured each year on Australia's roads, the only long-term goal we can have is for zero fatal and serious injuries. To that end, we believe connected and cooperative Intelligent Transport Systems are some of the key safety initiatives to achieving that ambitious goal. Connected and automated vehicles and related transport technologies could address some of the key priorities by improving safety for road users, heavy vehicles, regional road users and vulnerable road users.

The safety of our citizens is paramount and driver assistance technologies are clearly saving lives on our roads now. Emerging and future technologies will provide enhanced in-vehicle and network safety and efficiency; however the deployment of these technologies needs government consideration and oversight. Industry is keen to work with government to best deliver these life-saving technologies, and ITS Australia is well placed to facilitate these discussions and activities.

ITS Australia notes there a number of other government public consultations currently open for comment that both directly and indirectly have potential impacts on the deployments of these life saving technologies and we will be providing submissions on them with particular focus on the Telecommunications Legislation and Connected Vehicles discussion paper.

To facilitate any future engagement, ITS Australia Policy Manager Stacey Ryan can be contacted at

Yours sincerely,

Susan Harris
Chief Executive Officer

itsaustralia <>
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