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Response to the Draft National Road Transport Technology Strategy and Automated Vehicle (CAV) Action Plan

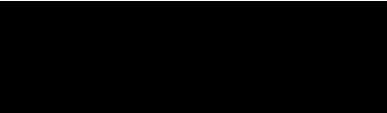
From iMOVE Australia

6 December 2023


Dear Sir /Madam

Thank you for the opportunity to comment on the Draft National Road Transport Technology Strategy and 2024–27 National Connected and Automated Vehicle (CAV) Action Plan. iMOVE Australia makes the following submission.

Yours sincerely



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Managing Director
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About iMOVE

iMOVE is a not-for-profit company that focuses on solving medium- and long-term problems in the transport and mobility sector. iMOVE's main current effort is the delivery of the iMOVE transport and mobility Co-operative Research Centre (iMOVE Australia Cooperative Research Centre | Transport R&D).

This Centre has been very active in the exploration of new automotive technologies such as connectivity and automation in an Australian context. With its partners around the nation, it has undertaken over 25 projects to explore, develop and trial these new technologies. Examples include:

Project number	Title
1-001	Multimodal Situational Awareness and Operations Evaluation Platform
1-002	C-ITS Field Operational Trial
1-003	Network Performance Prediction
1-004	Insurance Research for Autonomous Vehicles
1-005	Security Credential Management System
1-006	DSRC and Cooperative Perception
1-007	How automated vehicles will interact with road infrastructure
1-008	Cooperative and Highly Automated Driving Safety Study
1-012	Safely introducing CAVs into integrated transport networks
1-013	Connected, Autonomous, Electric and Shared Vehicle Industry Ecosystem Mapping
1-021	HD maps for automated driving – literature review
1-030	Ipswich Connected Vehicle Pilot: Safety and user perceptions evaluation
1-043	Australian CAV readiness: Integrating a data probe vehicle
1-044	Data analytics for development and testing of AVs on urban roads
1-059	Safety risk evaluation of the remote operation of Highly Automated Vehicles
1-075	Expanding Operating Design Domain of automated vehicles
1-083	C-ITS National Harmonisation and Pre deployment Research
3-014	Australia's Public Transport Disability Standards and CAVs
3-015	Promoting community readiness and uptake of CAVs
3-028	Older drivers: Advanced driving assistance technologies and AVs
5-002	How safe are the perception capabilities of autonomous cars?
5-003	Cyber security for connected vehicles and vehicular networks
5-004	Interactions between autonomous vehicles and pedestrians
5-006	VRU and CAV interactions
5-009	Optimising signal control in CAV and VRU mixed environments
5-046	Misbehaviour detection in C-ITS

We appreciate the references made to some of these projects in the Draft Strategy and Action Plan.

National Road Transport Technology Strategy

Any reflection on the suitability of the draft national transport technology strategy needs to consider the context in which the strategy is being formed and the objectives that the government is seeking to achieve through its operation. This contextual 'direction setting' has a significant influence on the purpose of the strategy and its implementation path.

The 'Vision' articulated at the beginning of the strategy describes "a safer, more efficient, productive, sustainable and accessible transport system for all Australians, through deployment and uptake of new road transport technologies to enhance social, environmental and economic well-being". In the same vein, the strategy 'Introduction' recognises that "Deployment and uptake of road transport technologies can make transport safer and more efficient, productive, sustainable and accessible, which in turn enhances economic, environmental and societal well-being". However, we find it difficult to discern from the strategy document how the government intends to utilise emerging road transport technology to in the pursuit of its broader objectives for safety, productivity, efficiency, sustainability and accessibility.

We believe that emerging technology offers opportunities to deliver numerous societal benefits. And in the case of transport, we believe national and state governments have few options available to them to address the long-standing transport challenges of road safety, human error, network and intersection productivity, and now emissions reduction. We are concerned that the government's unwillingness to utilise emerging technology to address national challenges as a serious oversight.

The impression we get is that the strategy seems to focus on the minimum actions required to prepare the national road system to cope with the introduction of the new technology, rather than striving to maximise the societal benefit from the new technology. We contend that a 'preparedness' approach like this generates no discernible societal benefit and is therefore unlikely to attract investment of resources and effort from other parts of the community. Without that sectoral support, we believe such a strategy is likely to stall, particularly in the face of competing priorities.

Although it is not aligned to government thinking, we would posit an alternative approach of establishing the Road Transport Technology Strategy within the frame of a National Transport Strategy.

The National Transport Strategy would take a holistic view of the transport sector and the transport task across the nation. It would articulate national consensus objectives (where they can be established) for network operational performance (all modes), societal costs (accidents injuries, deaths), environmental degradation (incl GHG), accessibility to transport services, allocation of available capacity (operational and financial), prioritisation of infrastructure investment etc.



To this National strategy could then be appended subordinate strategies related to (for example):

- EV implementation
- Freight decarbonisation
- Vision Zero
- Accommodation of CAV's
- Transport accessibility standards
- Road user charging
- Usage of vehicle telemetry data
- Demand management initiatives
- Mode shift initiatives

Of course, none of this is easy or quick. However, the point is that a National Road Technology Strategy focussed solely on CAV preparedness and disconnected from these other dominating issues, risks becoming an orphan and being starved of the resources required for its implementation.

Action Plan Workstream 1 Automated Vehicles

iMOVE concurs with all the proposed actions in Workstream 1.

In relation to action 1.7 "Develop education materials" we would observe that iMOVE's community exposure trials of AV's showed that community acceptance increased dramatically with personal contact with an AV. Consequently, we recommend broadening the scope of Action 1.7 to include a community outreach program at the same time. Within that community outreach program, we recommend that priority be given to exposure events for police officers in all jurisdictions.

By the time of this outreach activity, and for this outreach to be maximally effective, we will need to have resolved the minimum training and qualification requirements (if any) for the occupant of the driver's seat in a Level 4 vehicle.

Action Plan Workstream 2 Vehicle connectivity

Although the title of Workstream 2 is Vehicle connectivity, the actions appear to be limited to the so called 'low latency/ short range' aspects of connectivity with no reference to the opportunities and requirements for 'long range' vehicle connectivity. A long-range connectivity regime could be established relatively quickly at low cost to government and would deliver immediate benefits to most existing drivers and vehicles. We suggest that the necessary actions be included in the Action plan.

For clarity, long-range vehicle connectivity refers to arrangements whereby a vehicle (or the driver's smart phone) could draw down from a central data base information about all hazards on the road ahead up to a 'forward horizon' of say, 2km. Some of this functionality is already delivered by vendors such as Google and Waze. The current 'problem' is that the database of hazard information that can be

interrogated by the vehicles is only a small pilot. There is a need for a more structured approach to the curation and dissemination of road agency originated hazard information. The data base of road agency originated hazard information could potentially be the precursor to the “C-ITS Central Station” referred to Action 2.2.

In relation to harmonisation of ADR’s with international standard for vehicle connectivity, iMOVE endorses this approach. We propose that an additional action be undertaken ensure that ANCAP ratings include relevant aspects of vehicle connectivity and maintain alignment with NCAP rating processes overseas.

Action Plan Workstream 3 Cross-cutting actions supporting CAVs

The Actions described in this section are quite diverse and, in many cases, prompt the question, “Why?”. That is not to say there is not a good reason, but we suggest that Workstream 3 would be more compelling if the reason and motivation to do the proposed work was added. Several of the actions look to be well suited to delivery through a multistakeholder applied research project. iMOVE is willing to lead and support these initiatives.

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