



National Transport Technology Action Plan (2016-2019)

This action plan outlines Australia’s national priorities for implementing new transport technologies. The individual measures described below have been identified and agreed through discussions between Australian governments and with industry.

The action plan will be a three year program of work (2016-2019), and accordingly focuses on issues that can be addressed in the short term. Changes in the technological environment can occur rapidly, making it difficult to plan beyond this three year horizon. A more viable and agile approach is to review and evaluate the action plan on an annual basis to ensure it responds to new and emerging issues, and achieves long-term outcomes over time.

| # | Action Item | Lead | Timing |
|---|--|---|-----------|
| 1 | <p>Establish a regulatory framework for testing automated vehicles</p> <p>Testing of automated vehicles on public roads in Australia is an important step towards realising the potential benefits of automated technology. In particular, real-world testing and trials are necessary to ensure that automated systems can operate safely and efficiently in Australian conditions, and for building public confidence. Australian jurisdictions will commit to remove any identified barriers, and ensure that manufacturers are able to safely test automated vehicles in real-world conditions by the end of 2017.</p> <p>This work will be informed by the National Transport Commission project to identify regulatory barriers to automated road and rail vehicles and by work undertaken by Austroads and its road agency members on consistent guidance for supporting on-road testing.</p> | Transport and Infrastructure Senior Officials’ Committee (TISOC) /National Transport Commission | Late 2017 |
| 2 | <p>Develop national operational guidelines to support the on-road use of automated vehicles</p> <p>The future deployment of automated vehicles may require road managers to change the way that road transport systems are developed, operated and used. This may include the design and maintenance of various road attributes, the management of traffic, the registration of vehicles, and the training and licensing of drivers.</p> <p>To optimise the potential safety and mobility benefits of automated vehicles, guidelines for road agencies and other road operators will be developed that outline a nationally consistent approach to these operational functions. This will include guidance on how infrastructure being developed today can be prepared for future technologies, allowing these technologies to be deployed at lower cost when they eventually become available.</p> <p>This work will include consultation with a range of stakeholders including the National Transport Commission, the Commonwealth, jurisdictions, and industry.</p> | Austroads | Late 2017 |



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| 3 | <p>Undertake priority trials and research of Intelligent Transport Systems</p> <p>Over the term of this action plan Australian governments, researchers and the private sector will move to undertake more trials and demonstrations of Intelligent Transport Systems. This will include smart infrastructure, connected vehicles and automated vehicles (particularly following the removal of regulatory barriers in Action 1). It is in Australia's national interest to trial solutions to the most pressing transport problems first, and to share learnings between governments to avoid the need for the same trial to be undertaken in several jurisdictions. To facilitate this outcome senior transport officials will collaborate on a prioritised schedule of proposed trials (in consultation with interested research and industry stakeholders) and establish a formal mechanism for sharing technical outcomes.</p> | TISOC | 2016-19 |
| 4 | <p>Develop a connected vehicle (Cooperative ITS) infrastructure road map</p> <p>Industry consultation during the development of this framework highlighted that certainty about the provision of connected road-side infrastructure is critical for industry planning, and for ensuring that there is a strong commercial incentive to make connected vehicles available to the Australian market at an early stage. A connected vehicle infrastructure road map will be developed to provide greater certainty to industry on infrastructure deployment methods and indicative timeframes, to ensure that Australia is well placed to take advantage of this emerging technology.</p> | TISOC | Mid 2017 |
| 5 | <p>Publish a connected vehicle (Cooperative ITS) statement of intent on standards and deployment models</p> <p>Industry has highlighted the need for an early understanding of the connected vehicle standards and deployment models likely to be adopted in Australia. A statement of intent will provide industry with this guidance. This work will examine both non-regulatory approaches to deployment which could be adopted by convention, as well as regulatory standards which may form part of Australia's formal framework of vehicle regulation (and corresponding links with international standards set by the United Nations). Industry consultation and foundational work on approaches to standards and compliance models already completed by Austroads will inform this project.</p> | TISOC/ Commonwealth | Early 2017 |



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| 6 | <p>Develop a nationally agreed deployment plan for the security management of connected and automated vehicles</p> <p>Preventing cyber threats and malicious acts will be the key challenges in deploying connected and automated vehicles. The model emerging internationally to address cyber security issues is referred to as a Security Credential Management System (SCMS). A SCMS verifies the identity of a device (such as an individual vehicle) so that messages received from that device can be trusted.</p> <p>This action will explore the options for meeting emerging security management requirements, and consider the costs, risks, feasibility and timing of those options as well as looking at overseas experience. Consideration will also be given to the role of government, and to whether other telematics and intelligent transport services could also utilise an SCMS. The output from this action will be a nationally agreed plan for security management, including whether a national SCMS is required in Australia.</p> | TISOC/ Austroads | Mid 2018 |
| 7 | <p>Investigate options to provide enhanced geo-positioning information to the land transport sector</p> <p>Future transport technologies will require access to positioning information with higher levels of accuracy and integrity (for example in order to tell which lane a vehicle is travelling in, rather than just on which road). Some international markets are meeting these higher level positioning requirements using satellite-based augmentation services across select geographic regions. In Australia, however, access can be limited to subscription services, proprietary equipment and private positioning networks (especially outside of urban areas) without a consistent performance standard. This action will investigate options for next-generation delivery of enhanced positioning (including private sector involvement) for the land transport sector.</p> | Commonwealth | Late 2017 |
| 8 | <p>Improve the availability of open data in the transport sector</p> <p>Governments can assist industry, researchers and the public to develop innovative solutions to transport problems by providing open access to transport data. Australian governments are committed to an open-by-default approach to transport data and through this action will improve the availability of open access transport data. In particular, existing jurisdictional data sets will be consolidated into national level information in a shared format, and made available through a common portal. New datasets will also be created, including improved information on speed zones across Australia and a national map of low-gear warning zones (which could be used to provide safety warnings to drivers).</p> | All jurisdictions | 2016-19 |



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| 9 | <p>Explore options to increase the uptake of telematics and other technologies for regulatory and revenue collection purposes</p> <p>Vehicle telematics can deliver significant benefits for industry, government and motorists, particularly in terms of safety, productivity and protection of infrastructure assets. For example, heavy vehicle operators in Australian can already, on a voluntary basis, provide telematics data to regulators for compliance purposes, in exchange for increased access to the road network. Similarly, some insurance firms offer motorists reduced premiums if they can demonstrate, through voluntary telematics data, that they are low-risk drivers.</p> <p>Wider adoption of telematics would allow governments to implement more efficient models of revenue collection. Improved telematics uptake could also inform infrastructure planning, ensuring that future investments meet user demands. In view of these potential benefits, this project will explore strategies for government and the private sector to accelerate the deployment of telematics and associated technologies.</p> | TISOC | Mid 2017 |
| 10 | <p>Evaluate low-cost technologies to improve safety at rail level crossings</p> <p>Crashes at rail level crossings tend to be particularly serious, causing an average of 37 fatalities annually in Australia. Technology based solutions have a significant potential to address this problem at low-cost compared to expensive civil works such as grade separation. For example, vehicle-to-infrastructure communications are able to warn road users of approaching trains in real-time. This project will explore the merits of the accelerated uptake of smart safety technology at level crossings, and how technological solutions could be better incorporated into rail safety planning.</p> | TISOC | Late 2017 |
| 11 | <p>Explore how data from telematics and other intelligent transport systems can be used to optimise operations and planning for port precincts and intermodal terminals</p> <p>The efficiency of Australia's supply chains is a critical economic issue, given that even small improvements to supply chain efficiency can significantly improve Australia's global competitiveness and productivity. This project will seek to explore how granular data collected from telematics devices and intelligent transport systems can be used to improve supply chain efficiency, focusing on understanding and optimising transport movements within port precincts as well as freight distribution patterns in nearby metropolitan areas. The value of any data collected for planning future intermodal terminals will also be considered.</p> <p>A key challenge in collecting freight data is that different supply chain participants use different data standards and collection practices. The potential of a national freight labelling standard to improve data consistency and supply chain visibility will also be examined.</p> | Commonwealth | Mid 2017 |



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| 12 | <p>Investigate options for interoperable public transport ticketing</p> <p>Electronic public transport ticketing has become widely adopted in Australia, and has improved the convenience and efficiency of public transport. However, in many cases electronic tickets only work in a single city, or in some instances, only on a particular transport mode. This reflects the complexity and costs of deploying ticketing systems, and differing investment schedules in different locations over time. Into the future, as ticketing technology matures and existing systems require renewal, governments will have an opportunity to deploy systems that are interoperable across Australia and make better use of personal electronic devices such as smart phones. This action will investigate options for achieving this outcome over time, further increasing convenience and creating value for tourists and inter-state travellers.</p> | TISOC | Late 2017 |
| 13 | <p>Investigate the costs, benefits, and possible deployment models for Automatic Crash Notification</p> <p>Minimising the time that it takes emergency services to reach the scene of a crash is an important factor in preventing deaths and serious injuries. Automatic Crash Notification (ACN) uses sensors inside a vehicle to determine when a serious crash has occurred, and then provides emergency services with the exact location of the crash by transmitting data over the mobile (cellular) network. This technology is already available in a limited number of vehicles, and it may be worthwhile for governments to consider ways to encourage broader adoption. This project will consider the costs and benefits of different operational models and how ACN data could be better integrated with existing systems belonging to emergency services authorities.</p> | TISOC / Austroads | Mid 2017 |
| 14 | <p>Explore the merits of adopting new safety and traffic management technologies</p> <p>Governments face the ongoing challenge of deciding which transport technologies to adopt and when. Timing is a particularly important consideration – technologies need to be mature and the benefits proven before public funds can be committed to implementation. In the immediate future, Australian governments will explore the costs and benefits of the broader adoption of the following promising technologies:</p> <ul style="list-style-type: none"> • Traffic Signal Prioritisation – green lights for emergency services and public transport vehicles at signalised intersections; • Managed motorways – techniques to maintain traffic flow on motorways, such as ramp signalling and variable message signs; and • Vehicle safety systems – such as autonomous emergency braking for heavy vehicles and anti-lock braking for motor cycles. | TISOC | 2016-19 |