

# PROPOSED RECOMMENDATIONS

17 -18 SEPTEMBER BRISBANE TOWN HALL

# **National imperatives**for action

#### Now is a pivotal moment to act.

Individually, each of these imperatives warrant national attention. Collectively, the coalesce to make a strident case for immediate and collaborative action. This is the case for the National Future Transport Summit.

#### Transport is the backbone of the nation.

Our employment, hospitals, schools, agriculture, mining, defence and access to housing all depend on moving people and goods.

### 1 Transport remains hazardous

People still die and are seriously injured on our roads and in dangerous workplaces. In 2024, 1301 people died on our roads and around 40,000 people were serious injured. Despite safety being a priority, road deaths and injuries are increasing. COVID lockdowns aside, the last time national road deaths fell was in 2018.

The cost of road trauma is too high. We can't afford to support a hazardous transport system. We took action with COVID to prevent deaths. Action is needed on our roads and in dangerous workplaces.

## 2 Runaway transport demand

Population growth, consumer preferences and enlarging cities are driving transport demand. Congestion is strangling mobility and adding costs to goods and services. We cannot build our way out of rising demand.

### Critical worker shortages

The shortage of drivers in freight and public transport is forecast to deepen. With transport demand increasing faster than the growth of our workforces, human-driven transport is unsustainable. Until a driver solution is provided, transport costs keep going up, and everyone pays.

## Public funds are no longer sufficient

Governments have long had responsibility for building and managing transport infrastructure and operating transport services. Demand for public funds across vital community service areas continues to grow. Without significant new taxes or charges, future major improvements to quality transport infrastructure and services will be even harder to provide.

## 5 The climate crisis demands action from transport

Australia has committed to reducing greenhouse gas emissions by 43% by 2030 and achieving netzero by 2050. Emission reductions are needed across the economy. The transport sector and transport-dependent industries are big emitters but can achieve far greater emissions reductions through connectivity and automation.

### Australia's unique geography

Our geography is vast, and transport networks are extensive. Most of our populations reside in a few major cities and along the east coast. Providing transport services in regional and remote areas is challenging. Connected and automated transport offers an opportunity to develop novel models for infrastructure and service delivery.

### 7 Falling national competitiveness

Other countries are embracing automation and realising the benefits. The change has already begun, but Australia is falling behind.

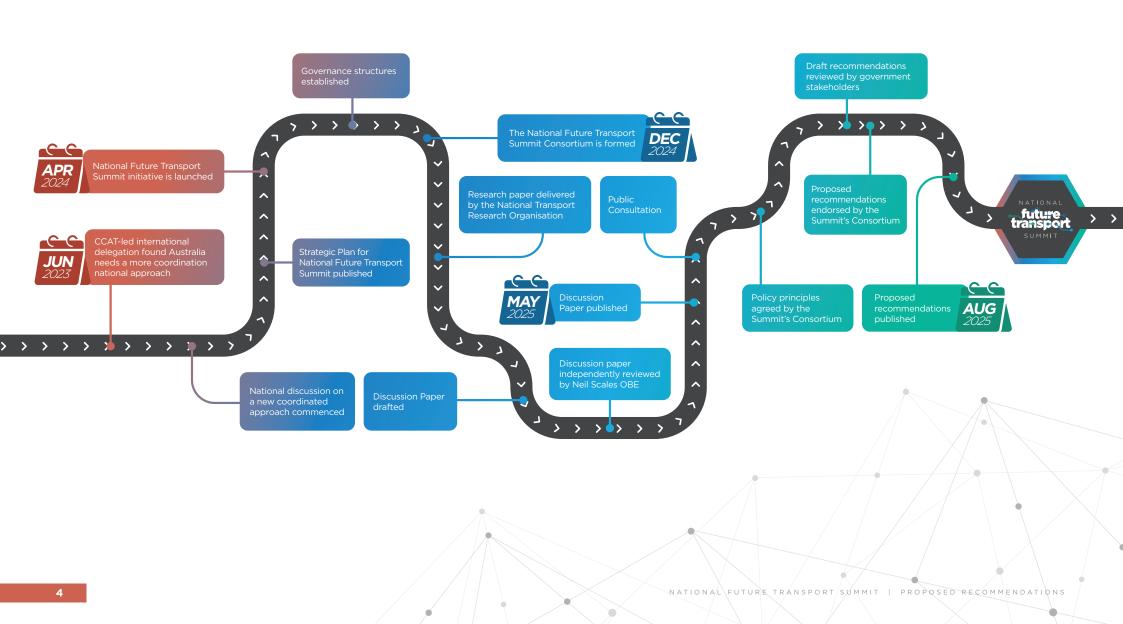
### The public does not trust the technology

Communities must be comfortable with the technology and embrace the benefits. Without public support, progress stalls.

These imperatives will require a range of innovations and changes, from improved training to public education, to changes in policy. However, connected and automated transport solutions can play a key role in addressing all of these challenges.



## How we got here



# Proposed Recommendations

The National Future Transport Summit's proposed recommendations have been developed collaboratively with the Summit's Consortium and informed by public consultation.

The proposed recommendations will be presented, debated and agreed upon at the National Future Transport Summit.

#### **Summary Recommendations**

#### 1. Safety

- 1.1. Prioritise safety opportunities
- 1.2. Harness the value of advanced vehicle and connected transport data
- 1.3. Establish a nationally coordinated transport technology innovation, testing and proving ecosystem

#### 2. Productivity

- 2.1. Define the role of connected and automated transport in Australia's economic and productivity priorities
- 2.2. Support home-grown industry and market development

#### 3. Sustainability

3.1. Recognise and quantify the potential sustainability benefits of connected and automated transport

#### 4. Social Legitimacy

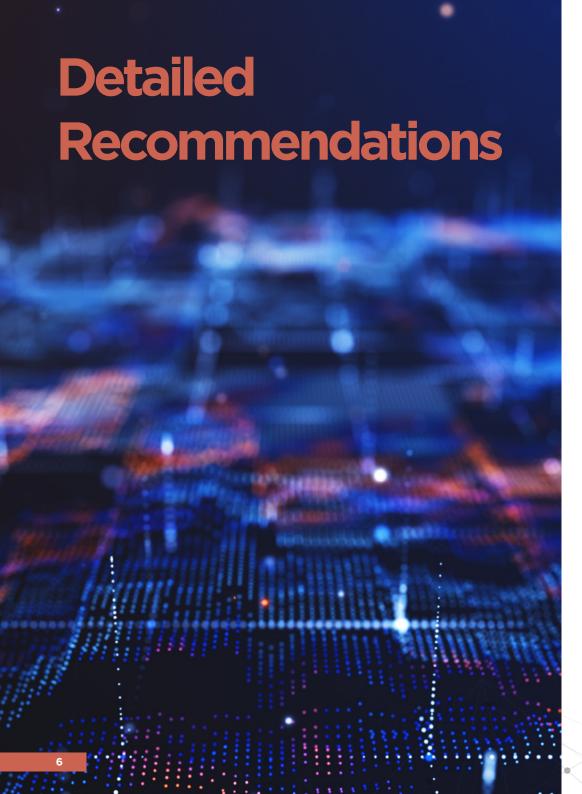
- 4.1. Recognise the diverse transport and accessibility needs of Australians
- 4.2. Promote community understanding of connected and automated technology
- 4.3. Plan for the future transport system capabilities and examine the impacts of connected and automated transport on employment and skills

#### 5. Infrastructure

- 5.1. Take a system-wide view to planning and delivering the transport networks of the future
- 5.2. Deliver a robust digital infrastructure platform and cybersecurity regime
- 5.3. Review the ownership, management and funding of physical and digital transport infrastructure

### 6. Planning and Collaboration

- 6.1. National collaboration between governments, industry, academia and communities
- 6.2. Collaboratively plan for a nationally connected and automated transport future.



## 1. Safety

1.1. All transport stakeholders should prioritise safety opportunities of connected and automated technology across all transport modes, as part of the target of zero deaths and serious injuries on public, private transport networks, airspaces and in workplaces.

This recommendation recognises that current road safety efforts are not sufficient to achieve nationally agreed road safety targets and that greater adoption of connected and automated transport technologies (including ADAS) is a cost effective and productive solution for road and workplace safety.

The Safe System approach provides a strong framework to address road safety issues, and connected and automated transport can help support this approach and vision zero targets. Connected and automated transport provides a range of driver assist and control solutions that alleviate the potential for error, which is a contributing factor in most crashes and workplace safety breaches.

This recommendation builds on decades of integrated safety systems and automation in aviation to strengthen the broader transport ecosystem.

#### **Safety**

### 1.2. Harness the value of advanced vehicle and connected transport data to inform safety policies, standards and infrastructure design.

This recommendation recognises that increasingly connected and automated transport creates new data and opportunities that can be used to inform safety policies, standards and infrastructure design. Harnessing the value of this data is likely to require developing data sharing standards.

A strong use case for harnessing the value of data is for the expansion in the scope of road crash investigations to more closely mirror the extent of safety investigations in rail and aviation that rely on data recorders. This use case emphasises that investigation should examine the root causes of crashes and near misses – independently of fault – to examine the specific factors contributing to safety breaches to

better appreciate and manage design, regulation and environmental issues.

Advanced vehicle and connected ITS data can provide valuable data for these purposes. Key steps to implement this recommendation may include:

Developing standards for safety data for connected and automated vehicles, including data recording and sharing protocols to support assessment of the safety of the technology and better understand broader systemic safety issues. These standards should consider alignment with existing and developing international standards, such as the international standard for Data Storage Systems for Automated Driving Systems

Investigating cooperative, regulatory and non-regulatory instruments to access vehicle and connected infrastructure data recorders (including camera recordings). This should consider mandatory versus voluntary data sharing protocols, the role of the national AV regulator (as anticipated under the proposed AVSL), as well as intellectual property, the commercial value of data and privacy.

Utilising advanced simulations to explore driver behaviour scenarios and the effectiveness of potential road safety interventions through simulations, including vehicle safety technologies, standards, regulations, infrastructure design and provision

Sharing investigation findings (subject to privacy provisions) with invested road safety stakeholders, including researchers, technology developers, asset managers, network operators, etc.

Using research and investigation findings to inform progressive development of policies, regulations, standards and design.

In aviation, connected data can be harnessed to inform flight path design, airport usage, and pilot and air traffic control training and standards. This becomes increasingly important with emerging aviation, such as drone and air taxis that will share flight path trajectories where connected air transport data can be used to reduce collision risk in airspace and optimise the use of airspace and ground-based infrastructure.

This recommendation also notes that advanced vehicle and connected transport data also has further valuable opportunities to inform policies strategies, and standard aimed at delivering productivity, sustainability and social equity outcomes.

#### **Safety**

### 1.3. Establish a nationally coordinated transport technology innovation, testing and proving ecosystem

This recommendation is focussed on supporting the safety and value-adding commercially scaled deployment of new and emerging connected and automated vehicle technologies and supporting regulations. A national transport technology innovation, testing and proving ecosystem would explore technological capability, advance supportive infrastructure, design and regulations, develop business/use cases, and facilitate commercially scaled deployment. Key steps to implement this recommendation may include:

Developing a nationally coordinated transport technology research and innovation plan - developed in collaboration between governments, industry, academia and community groups Developing and coordinating a national system of testbeds and regulatory sandboxes that support the progressive development of transport technologies and their application in the public realm, i.e. technology simulation capability; fully/highly controlled physical testing centres [off-road/test-tracks], partially controlled/highly instrumented shared environments, such as ports, airports, airspaces, campuses, smart motorways and smart mobility living labs

Developing guidance around the testing, proving, certification and permitting full-scale deployment for new technologies and applications that recognises and is aligned with commercial deployment approaches internationally



## 2. Productivity

## 2.1. Australian Governments, in collaboration with industry and community partners, define the role of connected and automated transport in Australia's economic and productivity priorities

This recommendation recognises that transport is a widespread and valued activity and an enabler of both commercial enterprise (e.g. freight and logistics, mining, construction, agriculture) and community service (public transport and safe, affordable transport access in rural and regional Australia).

A better understanding of the role of connected and automated transport in delivering productivity outcomes will help set priorities to target public and private resources (people, skills and funding) that need development support, are ready (or close to readiness) for practical implementation and will deliver the greatest benefits to the Australian economy and communities.

## 2.2. Support home-grown connected and automated transport industry and market development to ensure that Australia's potential is realised.

This recommendation draws attention to Australia's global leadership and emerging connected and automated technologies in relation to mining, agriculture, aviation, telematics, AI and digital applications. Support should also be extended to consider existing industries that may require support to remain at the technological forefront include bus companies, taxis, transport network and facility operators (e.g. road, rail, ports and airports).

Practical support may include:

providing clear policy intent to support Australian-grown transport and transport-related industry developing interoperability standards across transport modes and in alignment with international approaches

International trade facilitation

entrepreneurial seed funding or credits for research and development through to initial commercialisation

additional funding for transport related agencies to facilitate rapid development of standards and legislative frameworks that support and drive market development.





## 3. Sustainability

### 3.1. Recognise and quantify the potential broad sustainability benefits of connected and automated transport

This recommendation recognises that connected and automated transport provides broad sustainability opportunities in terms of emissions reduction, air quality improvement, resource efficiency and optimising land, airspace and waterway use and the roll out of electric vehicle (including air taxi and maritime) charging infrastructure. Transport sector and land use plan should consider ways to optimise connected and automated transport implementation that:

Enhances vehicle and network operational efficiencies

Reduces resource consumption and land use (fewer vehicles needed to deliver the transport task, reduced carparking requirements, reduced pressure for new or expanded transport infrastructure and maintenance)

Supports the intertwined roll out of new energy vehicles (i.e. electric and renewable energy-powered vehicles) and associated charging/re-fuelling infrastructure. Noting that different vehicle types and use cases will advance and deploy along differing timescales, e.g. in mining automation has come before electrification, while for light passage vehicle the electrification pathway precedes automation, although, over time, convergence is likely.

The recommendations recognises that certain advantages of connected and automated transport technologies may lead to greater transport activity which could also lead to potential negative impacts, such as increased congestion and energy consumption. Further research to quantify benefits should also examine potential negative impacts to inform policy to manage these impacts.

## 4. Social Legitimacy

4.1. Recognise the role of connected and automated transport in addressing the diverse needs of vulnerable users, Australians with disabilities, remote communities, and economically disadvantaged Australians so that all users have ready access to transport which is as safe and affordable.

This recommendation recognises the diverse needs, values and concerns of transport users and beneficiaries and focusses on the ensuring an equitable and inclusive transport system for all Australians.

Implementation of this recommendation may include:

Ensuring that legislation and transport delivery (design, operation, infrastructure) in relation to connected and automated transport recognise diverse needs, engage with representative groups and address these needs

Considering the benefits of establishing a public advocate of connected and automated transport/ transport technologies (like National Highways UK's public advocate role/independent watchdog) to advise public and private stakeholders on matters of public interest. This advocate could have a two-way role with a public-facing role to provide an independent, balanced voice, educate the public, listen to public issues and concerns and report back to government and industry stakeholders.

## 4.2. Promote community understanding of connected and automated technology, including benefits, experiences of using the technology, and concerns around the technology.

This recommendation recognises the need to build public trust and understanding of new and emerging transport technologies. It also emphasises that new and emerging transport technology applications need to ensure benefits are realised and shared. Implementation of this recommendation may consider:

Funding research, public information and education throughout our schooling system Building opportunities for public engagement and experience in the testing and trialing of new and emerging transport technologies and applications.

Developing industry-wide guiding principles for responsible marketing and communication for automated vehicles and their capabilities, giving reference to the principles set by the Society of Motor Manufacturers and Traders in the UK.

Establishing guidance for consumer understanding and responsibilities at the point of sale, hire or use of highly connected and automated vehicles.

## 4.3.In collaboration with industry, develop a national plan for the future transport system capabilities and examine the impacts of connected and automated transport on employment and skills.

This recommendation acknowledges and builds upon existing work underway on future skills and capabilities. Key considerations should include:

changes to existing roles

transition challenges for the existing workforce

I new roles that will be created

the skills and capabilities required to support the new transport ecosystem.

### 5. Infrastructure

### 5.1. Take a system-wide view to planning and delivering the transport networks of the future

This recommendation recognises that state and national infrastructure planning is often fragmented and centres on a series of projects, rather than networks. System-wide planning and delivery should prioritise improving consistency and interoperability to support the deployment of connected and automated transport in Australia's roads, ports, aviation, agriculture, mining and logistics.

Implementation of this recommendation should consider transport networks as a service, e.g.:

In relation to freight and logistics, contiguous automated freight corridors should physically and digitally connect key nodes including ports, airports and logistics facilities as high priorities.

In relation to public transport, include automated ride hailing services (i.e. robotaxis) as a key component of future public transport, review the future integration and relative roles of existing public transport – rail, buses, and active transport.

In relation to aviation the development of integrated airports, vertiports and drone delivery hubs with traffic management systems – leveraging digital and automated technologies, to enhance connectivity, safety, and efficiency to enable the growth of highly automated and electric aircraft operations in urban and regional areas. Further integration with existing transport networks would connect advanced air mobility, creating an efficient and sustainable model for moving people and goods.

### 5.2. Deliver a robust digital infrastructure platform and cybersecurity regime

Examine the digital infrastructure and cyber security requirements for connected and automated transport technologies, to ensure that these requirements are considered as part of future network planning.

## 5.3. Review the ownership, management and funding of Australia's physical and digital transport infrastructure consistent with the increasing scale and diversity of participation by government, industry and community interests as relevant stakeholders.

This recommendation acknowledges that public funds are limited yet transport infrastructure demand and costs are increasing - the gap between the infrastructure needs of the future and available public funding is widening. At the same time, the private sector is a major stakeholder in the transport system as users, operators, owners and managers of critical transport assets. By reviewing the ownership, management and funding of Australia's transport infrastructure (physical and digital), Australia may be able to unlock new expertise, financing and more innovative funding models.

Implementation of this recommendation may also include exploring new funding and financing models to address the challenges of public funding and the limitations of PPP financing, through more private sector investment and shared responsibility without compromising sovereign capabilities and infrastructure. Government should therefore engage with private sector infrastructure providers, managers and users (including future candidates in this space) to collaboratively develop new models of agreement, e.g. network access charging.

# 6. Planning and Collaboration

## 6.1. Australian Governments actively collaborate with relevant industry, research and community organisations in the planning, funding, implementation and management of transport infrastructure and services in Australia

Implementing this recommendation means reforming the governance structures of Australian transport planning, regulatory and delivery agencies. Critically, new structures will need to expand their composition beyond current government-only representation to include a broader range of stakeholders, reflecting the evolving realities of Australian transport.

The reformed governance structure - comprising all levels of government, industry, academia and community members - will support ongoing collaboration and development of the Australian connected and automated transport ecosystem covering all modes of transport.

#### **Key roles should include:**

- informing ongoing policy and legislative reforms
- advising government priority actions
- identifying key barriers to deployment or implementation issues
- supporting the development of consistent standards
- facilitating government and private partnerships to work through deployment challenges and apply Australian innovations;
- public education on the benefits and impacts of connected and automated technology:

providing a forum between government, industry and academia to share information on technology developments, learnings from trials and research, and to prioritise future research topics;

- improving collaboration between government and industry;
- identifying benefits of the technology beyond the transport system (e.g. public health outcomes, social connections, global competitiveness)

identifying the highest value use cases and deployment pathways for connected and automated technologies.

developing and publishing an annual state of play report on connected and automated transport including progress on planning for a national connected and automated transport future (see recommendation 6.2)



#### **Planning and Collaboration**

## 6.2. Australian governments – working in collaboration with industry, academia and community groups, plan for a national connected and automated transport future

This recommendation acknowledges existing work by governments (such as the national AV safety policies and regulations) and the need to accelerate progress and build on these initiatives to complement industry innovation. It also recognises the diversity of public, private and community stakeholders and the need to strengthen and streamline collaboration and shared responsibility between these stakeholders and the three levels of government and across government portfolios such as transport and energy, in pursuit of a safe, integrated and efficient national transport system.

In this regard, collaborative planning for a national connected and automated transport future should include: a recognition of national imperatives for action

a vision for Australia's transport future, acknowledging that all aspects of transport as we know it, is poised for fundamental change.

economic, social and environmental priorities for transport

clear actions, milestones and timelines, which build upon the current National Land Transport Technology Policy Framework and Action Plan.

A recognition of the opportunity cost of slow adoption of world's best technologies and transport applications (i.e. unrealised progress on safety, productivity, transport efficiency, accessibility and transport affordability)

mechanisms for monitoring and reporting on progress, and periodic re-evaluation of the plan Resultant, nationally coordinated policy, strategies and action plans should also provide transparency and clarity on:

the establishment and progressive development of legislative and regulatory frameworks

a nationally coordinated research and development plan to support local industries and emerging and evolving business models and use cases, including testing and proving of new and emerging applications

commercial and scalable deployment pathways for connected and automated transport, including testing, validation, certification and operating permits

| public acceptance and education

infrastructure, including a national freight plan

data protocols and cyber security.



### Consortium

Spearheaded by the Centre for Connected and Automated Transport (CCAT), the Summit is a collaborative effort between transport agencies, statutory bodies, transport and logistics associations, infrastructure providers, technology providers, community bodies, consultancies and research organisations, collectively known as 'the Summit Consortium'.

Never before has a transport initiative assembled such a diverse and influential















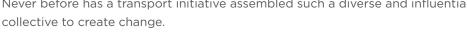






























































































































































































































NATIONAL

# future transport

SUMMIT

17-18 SEPTEMBER

BRISBANE CITY HALL

