Transport Certification Australia

Overview of Cooperative ITS Activities

Peter Girgis
General Manager Implementation

Tuesday 8 March 2016
A few key messages…

- About Transport Certification Australia
- Telematics and The National Telematics Framework
- Cooperative ITS in Australia
ABOUT TCA
About Transport Certification Australia

- TCA is an arm of government, representing the Australian, State and Territory Governments to support their current and emerging needs
- We provide **assurance** through the provision of **advice, accreditation and administration** services in the use of telematics and related intelligent technologies
- As a ‘cross-cutting’ organisation, TCA works across different policy streams, surface transport modes, and government and industry sectors.
About Transport Certification Australia

- Australian Governments established TCA in 2005 to administer a *National Telematics Framework*…

  …underpinned by a certification and auditing program of telematics and information systems

- The first application of the Framework was the Intelligent Access Program (IAP)

- A core foundation of the *National Telematics Framework* is that multiple ‘applications’ should run off a single in-vehicle telematics system
TELEMATICS AND NATIONAL TELEMATICS FRAMEWORK
What is Telematics?
What is telematics?

The application of telematics and related intelligent technologies is increasingly being driven by government…

…to improve the mobility of people and freight by improving safety, productivity and efficiency outcomes.

Examples include:

• Monitoring and reporting of vehicles and infrastructure
• Providing information to and from vehicles
• Connected and cooperative vehicles
• Automated and autonomous vehicles.
National Telematics Framework

The foundations of the *National Telematics Framework* were established by Australian Governments between 2005 and 2008, when decisions were made by Australian Transport Ministers about the IAP – and future applications of telematics driven by the policy needs of government…

…to enable a sustainable approach to the use of telematics and related intelligent technologies in Australia.
The principles of the *National Telematics Framework* include:

- A **multi-application, multi-provider** operating model
- **Performance-based** functional and technical specifications
- An independent, **national certifier and auditor** of telematics systems and services
- A deliberate **separation between technology and policy**
- A framework that defines **roles and responsibilities** of participants and stakeholders.
National Telematics Framework

• Provides a **central point of reference** for the deployment of telematics and related intelligent technologies in Australia

• Enables the **market** to develop and **deliver** optimal technical, commercial and operational outcomes

• Ensures **public purpose outcomes** are delivered through the use of telematics and related intelligent technologies by aligning policy and end-user intent
The National Telematics Framework

What is the problem being solved?

Policy

Technical

Operational

Commercial

How will the solution work?

How will it be made sustainable?

What will be used to deliver the solution?
The National Telematics Framework

TCA performs a critical role in supporting a whole-of-government perspective

This minimises the potential for uncoordinated approaches which can:

- Delay progress
- Create duplication
- Multiply costs
- Contribute to a fragmented approach to telematics and related intelligent technologies.
All this sounds sensible right?

But the promise of a ‘technology utopia’…

…can actually lead us to a technology ‘dystopia’
Getting it wrong has real consequences
Getting it wrong has real consequences
Getting it wrong has real consequences

ETT truck apart from Dynafleet

- IAP
- Component Supplier Screen
- Project computer
- Transport byer IPAD
- Component Supplier Screen
- Alcohol meter

Load indicator in main cluster
A lot of indicators (example 5th wheel)
- Dynafleet
- Telephone & Radio communication
- etc
National Telematics Framework

The National Telematics Framework incorporated in an international standard in 2012:

ISO 15638: Framework for Collaborative Telematics Applications for Regulated Freight Vehicles

The Framework represents a sustainable approach to telematics and related intelligent technologies
Some insights

Heavy vehicle & freight management

- Intelligent Access Program (IAP)
- On-Board Mass Monitoring (OBM)
- Intelligent Speed Compliance (ISC)
- Electronic Work Diaries (EWD)
- Traveller Information Service

Safety

- Mandatory Alcohol Interlock Program (MAIP) – NSW
- Alcohol Interlock Program (AIP) – WA
- Cooperative ITS (C-ITS)
Some insights

Taxis
- Fare Device (Taximeter) reform – Victoria
- Safety Cameras – Queensland and Victoria

Buses
- School Bus Contract Management – Tasmania
COOPERATIVE ITS IN
AUSTRALIA
Inputs to C-ITS

Operational Environment

Policy

Legislation

Technical

Commercial

C-ITS

SECURITY

www.tca.gov.au
TCA is leading and participating in a number of work streams to support Australia’s move towards connected and autonomous vehicles.

This includes:

- Australian co-lead with the European Commission and the United States Department of Transport on Harmonisation Task Group (HTG) 6 and 7
- Industry Framework for Road Freight ITS and Associated Technologies (with the Victorian Government)
- Development of the operational framework for Security Credential Management System (SCMS) for Austroads
- Supporting the TMR (Queensland) in developing a pre-deployment business case for connected and autonomous vehicles.
DEVELOPMENT OF OPERATIONAL FRAMEWORK FOR THE SCMS FOR AUSTROADS
Development of operational framework for the SCMS for Austroads

- System Requirements
- Communications Plan
- Systems Engineering Management Plan
- Standards Assessment
- Needs Assessment
- ConOps
- Roles & Responsibilities
- SCMS Requirements
- Operational Architecture
- Nominated Standards for deployment in Australia

Preparation → Pre-Implementation → Implementation
SUPPORTING THE TMR (QUEENSLAND) IN DEVELOPING A PRE-DEPLOYMENT BUSINESS CASE FOR CONNECTED AND AUTONOMOUS VEHICLES
ITS pilot project

- **March 2015** - *A plan for Intelligent Transport Systems (ITS) in Queensland* – identifies pilot projects for cooperative ITS (C-ITS) and automated vehicles (AV)
- **June 2015** – Minister approves funding to develop a business case for pilot projects; business case expected to be completed Q1 2016
- **February 2016** – Request for information released for the ITS Pilots project
What is the opportunity?

EU, US, Japan and Korea have collectively invested $billions in developing AV and C-ITS

International investment in an open digital architecture and common underlying ITS platform

Work is now required to leverage and adapt these foundations for QLD /AU
How will TMR be involved?

- **ITS Pilot Project**
  - Large scale deployment in an urban area of South East Queensland
  - Pilot C-ITS applications and several highly automated connected vehicles

- **Objectives**
  - Grow readiness through the implement of the EU solution
  - Validate the benefits of the applications, and user perceptions
  - Encourage partnerships and build capability in private and public sectors
  - Demonstrate and build public awareness and uptake
Use-case applications

- Focus on safety
- Passenger vehicles
  - Retrofit tablet
  - “Day 1” applications
  - Limited customisation
- Vulnerable users
  - Motorbikes, cyclist, pedestrians
  - Smart phone
  - Customised ideas
Shortlisted use-case applications

- Right turn warning
- Pedestrian warning
- Red light caution
- Emergency electronic brake
- Slow moving /stationary warning
- Road works warning
- In-vehicle speed
- Auto crash notification
## Implementation Plan

<table>
<thead>
<tr>
<th>Year</th>
<th>Phase</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016 – 2017</td>
<td>Early activities</td>
<td>Assist TMR to both prepare for the main deployment activities and to more generally improve readiness for the deployment of connected and automated vehicles</td>
</tr>
<tr>
<td>2018 – 2020</td>
<td>Pilot deployment</td>
<td>Undertake a large pre-deployment and Field Operational Test (FOT) of C-ITS in South East Queensland. Includes an approximate 12 month period of testing the on-road operation of C-ITS</td>
</tr>
<tr>
<td>2021</td>
<td>Final reporting and evaluation</td>
<td>Complete the evaluation of and reporting on the ITS Pilot Project</td>
</tr>
</tbody>
</table>
Packages

- Quick win projects
  - Proof of concepts – SPaT and Roadworks
  - Simulator tests of vehicle-to-vehicle applications
- Project proper scope
  - Requirements
  - Field operational testing (participant management and analysis)
  - Security (credential management system)
  - Multi-vendor in-vehicle ITS station and fitment
  - Vendor for infrastructure ITS station and fitment
  - AV and CAV testing
Request for Information

- Opportunity for industry to:
  - Provide feedback on planning for the project
  - Register interest
  - Identify possible partnerships

- RFI is intended to be used by TMR to:
  - Validate assumptions
  - Understand the market and capability
  - Determine appropriate procurement methods and packaging
Request for Information

- Indicative funding
- Current procurement likely to include:
  - traditional tendering,
  - competitive dialogue, and/or
  - innovation competition.
What else is needed?

- Making the case to invest – Commercial
- Clarifying who could benefit and who could pay – Commercial
- Engaging central agencies – Policy
- Establishing a broader governance mechanism – Policy
- Form cohesive linkages between, and underpin, Australia’s C-ITS Applications / Uses – Operational
- Continuing to engage internationally – Operational
ITS—Enhancing liveable cities and communities
10 – 14 October 2016
www.itsworldcongress2016.com
Sponsorship Opportunities now available