

Presentation



Dean Zabrieszach – VicRoads, Director Road User Services

**Session 3: How technology can deliver
productivity, safety and environmental outcomes**

Technology Strategies – Government Directions

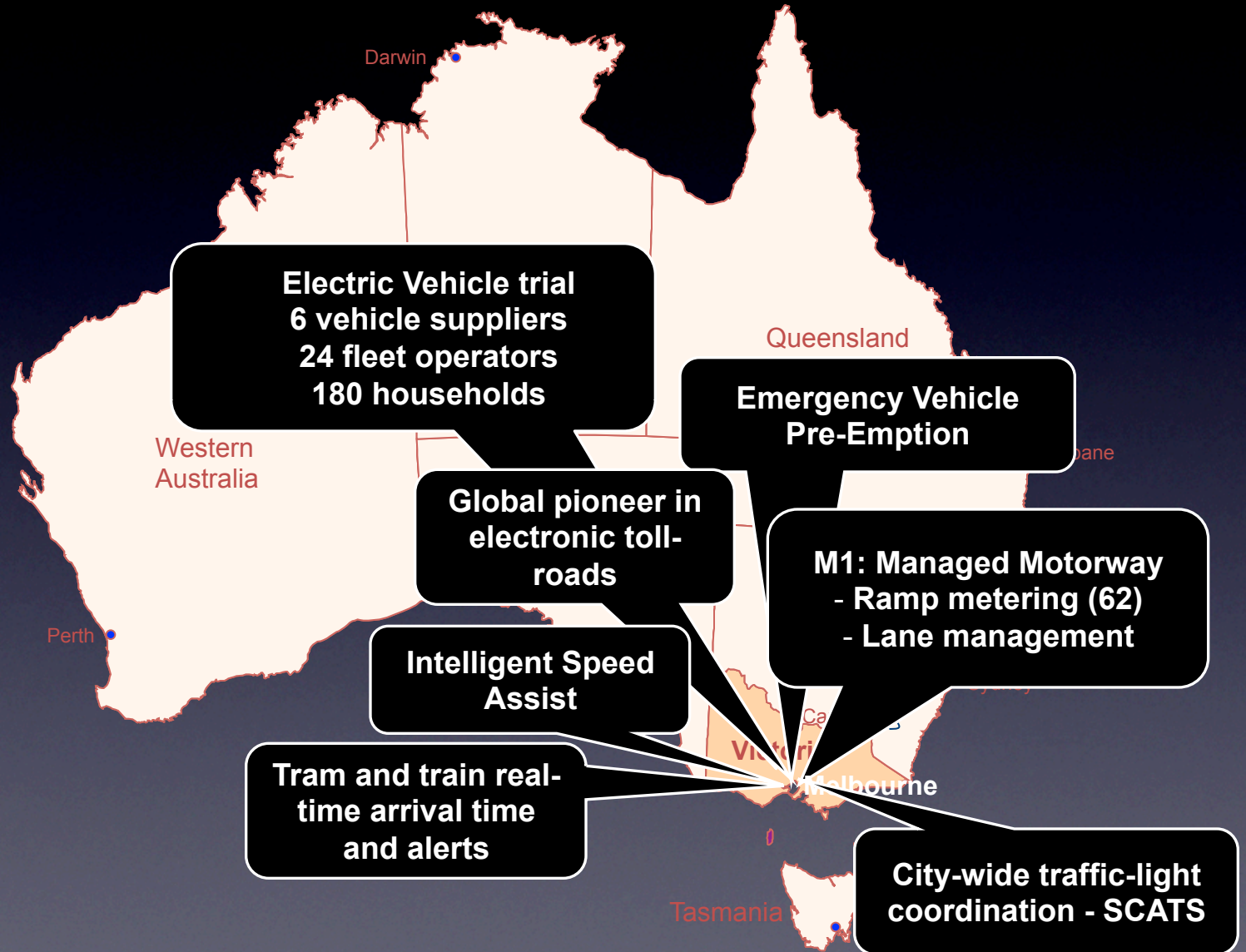
Contents

- History of technology projects (ITS) in Australia
- ITS in Victoria today
- Emerging ITS in Victoria
- Cooperative ITS
- Govt policy framework for ITS
- Emerging C-ITS projects internationally and nationally

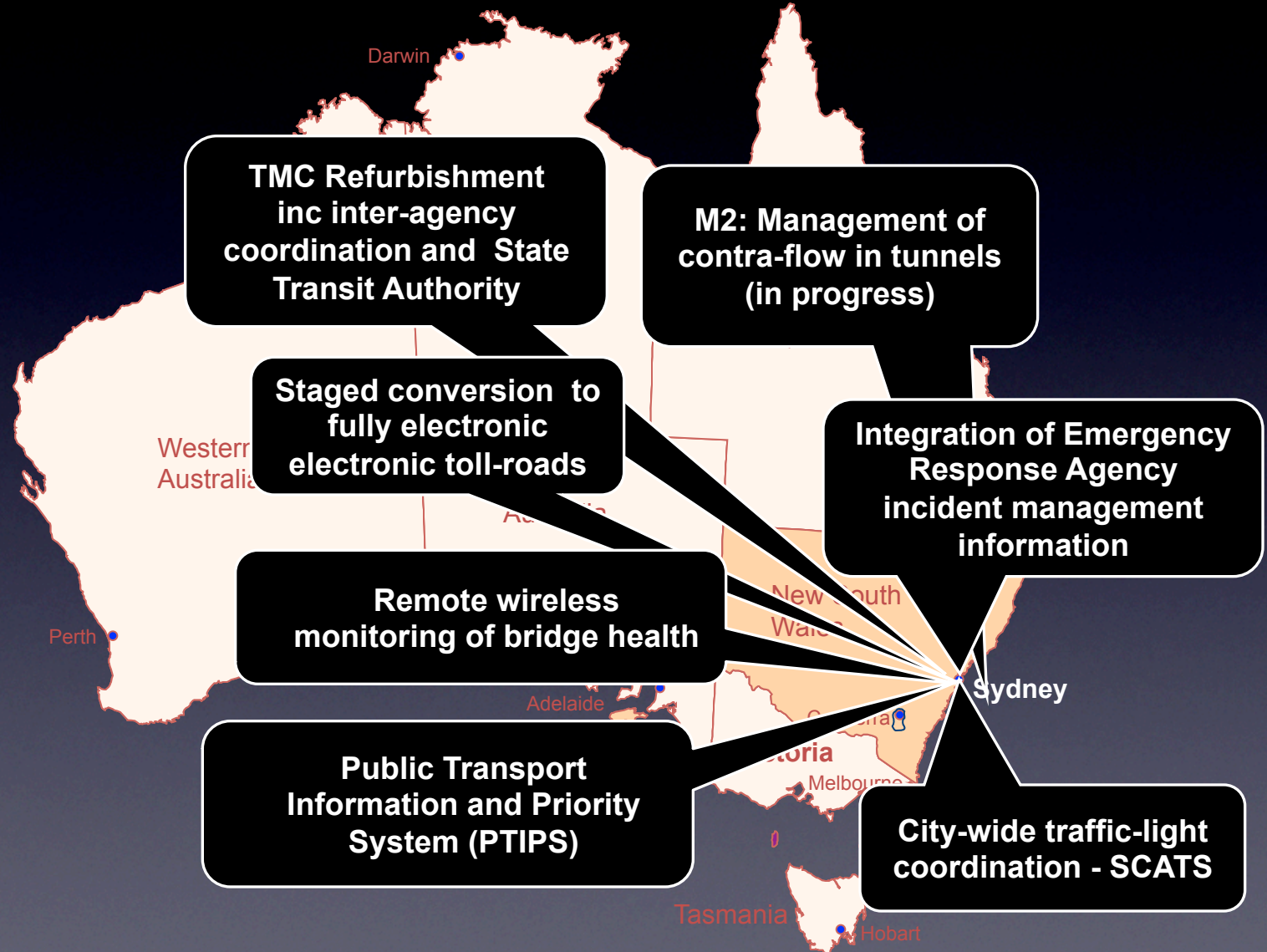
ITS projects across Australia



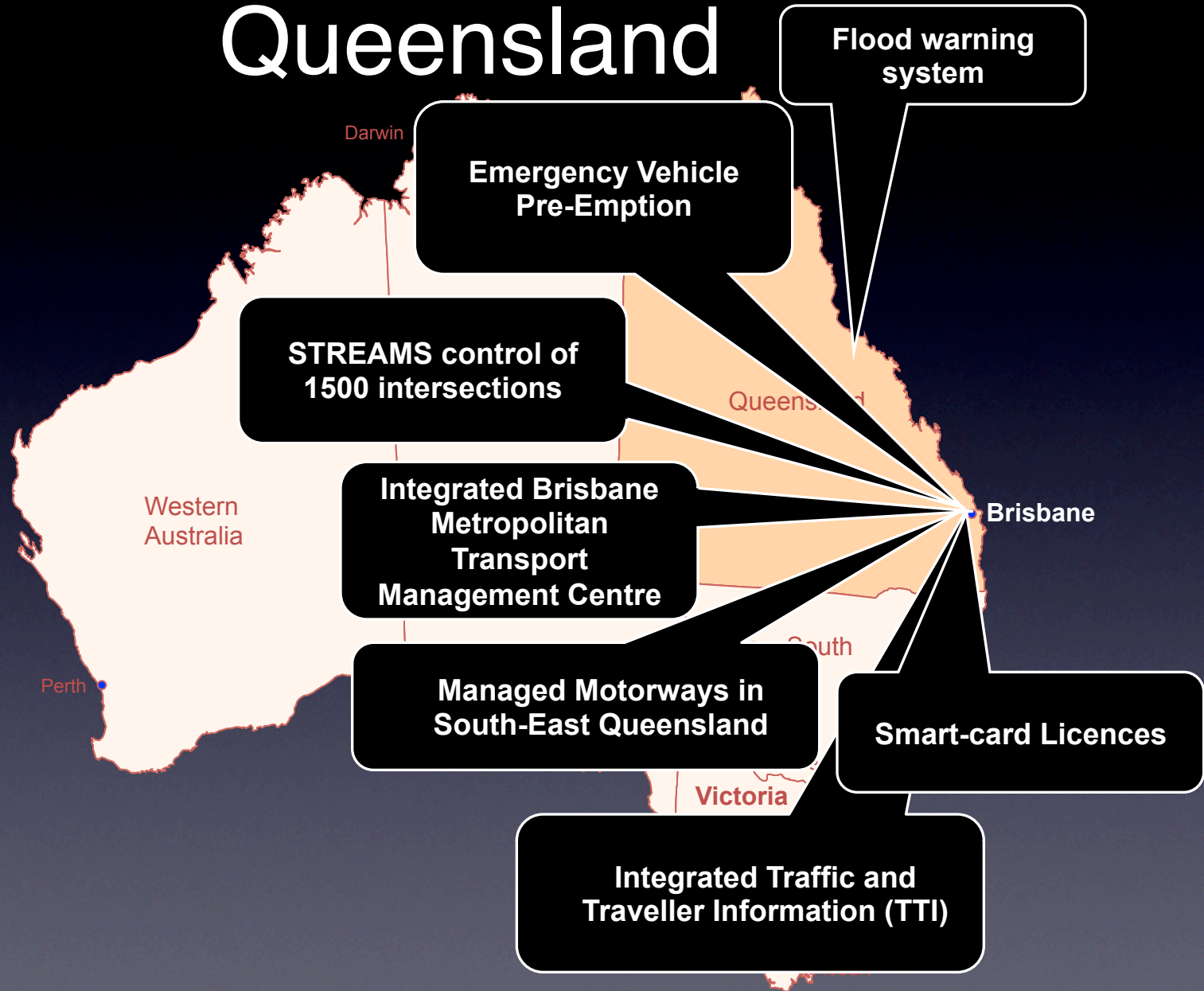
Victoria



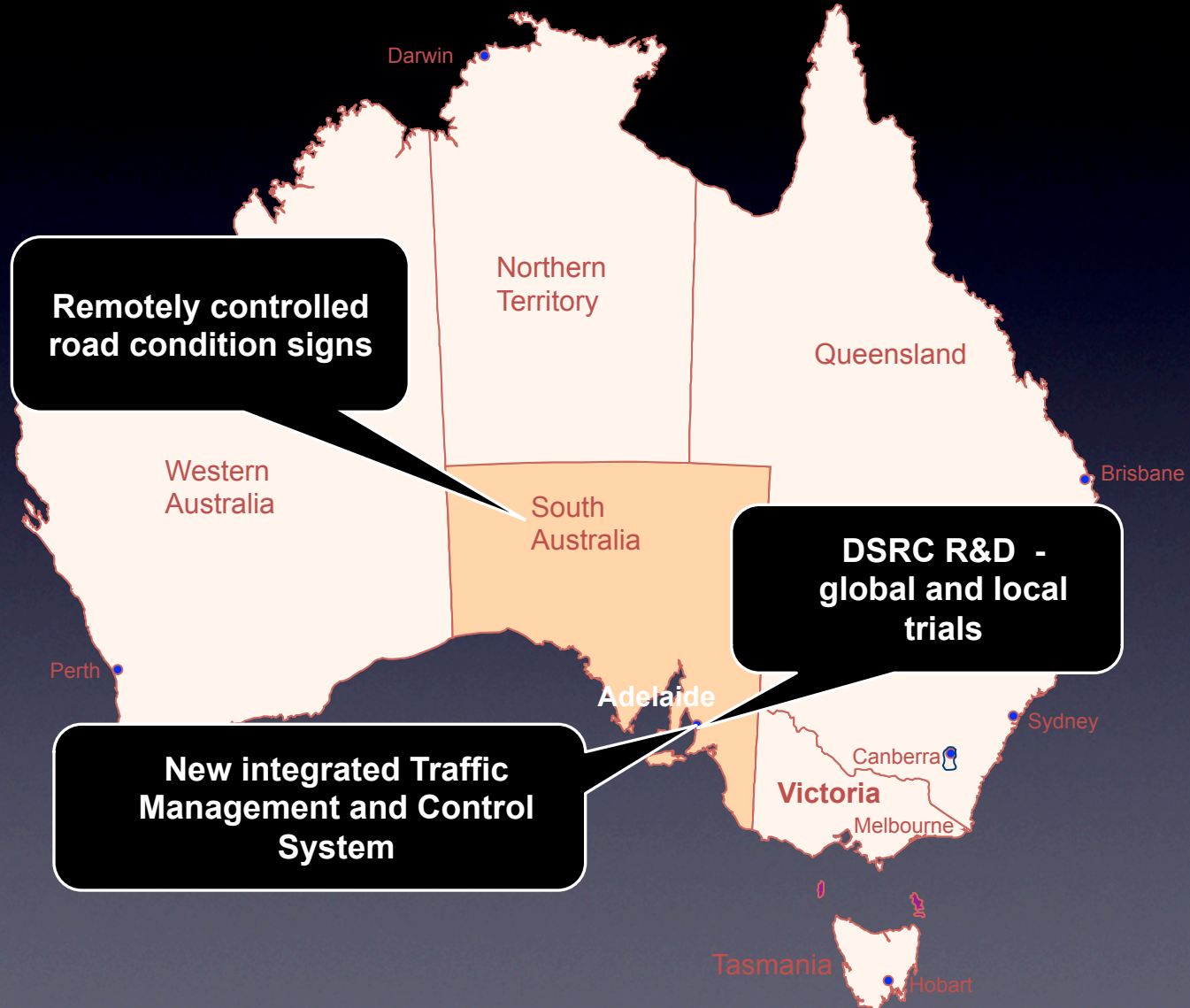
New South Wales



Queensland



South Australia



**Remotely controlled
road condition signs**

**DSRC R&D -
global and local
trials**

**New integrated Traffic
Management and Control
System**

Western Australia

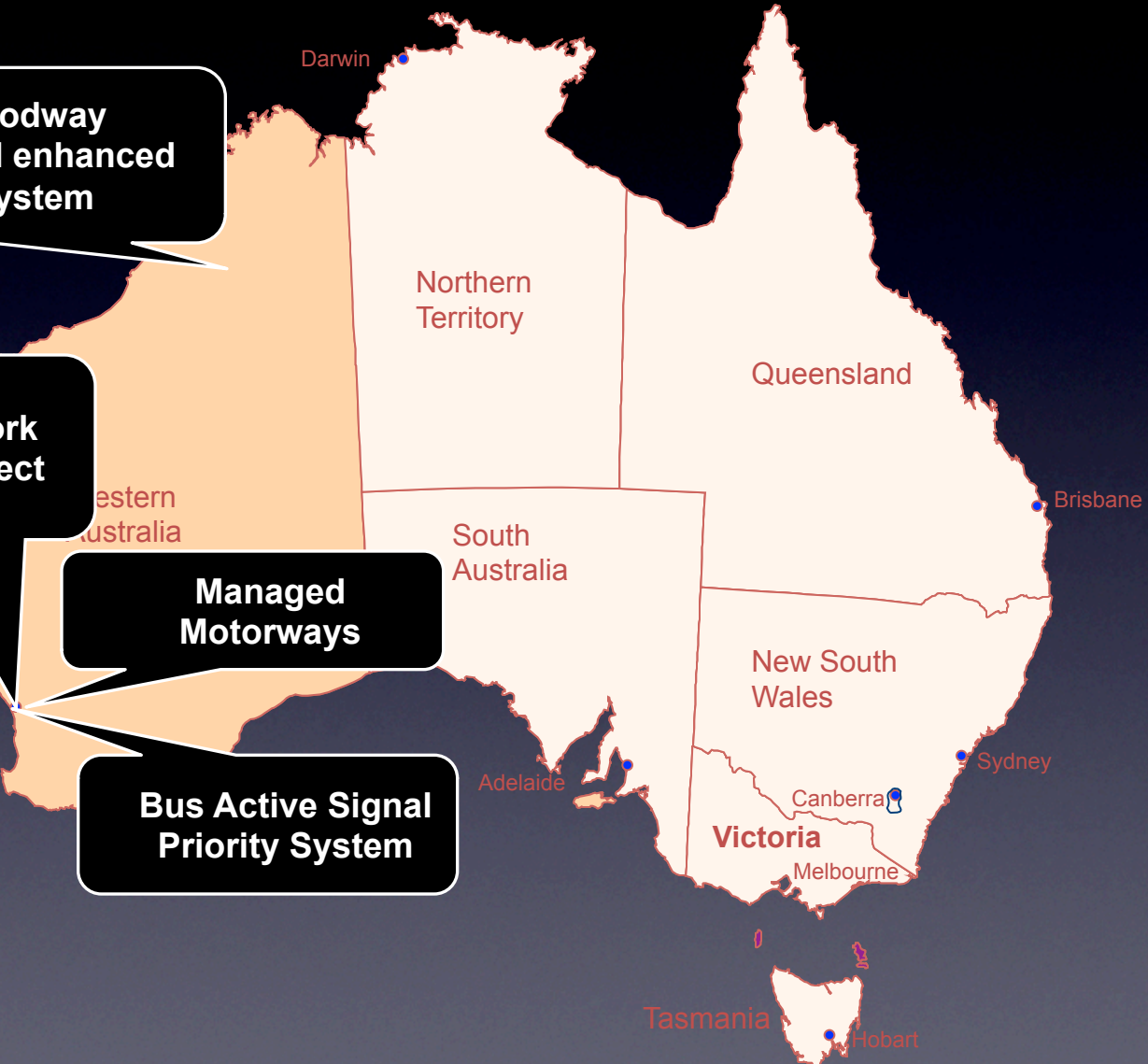
Remote floodway monitoring and enhanced warning system

Real-time Network Intelligence project

Managed Motorways

Bus Active Signal Priority System

Perth



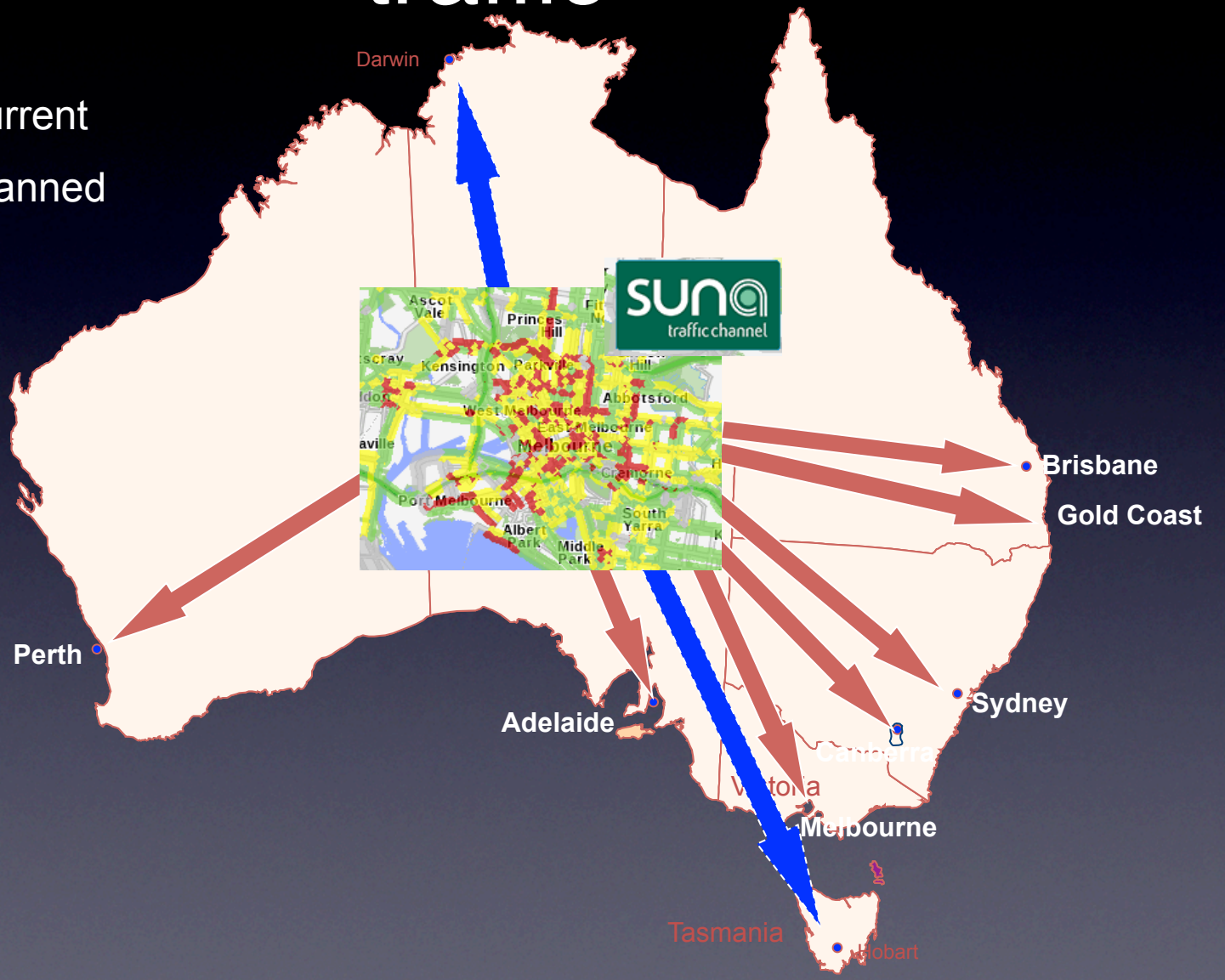
National coverage – real-time traffic



current



planned



ITS in Victoria today



ITS in Victoria today

- **SCATS adaptive traffic signal system**
 - Installed at over 3000 traffic signal sites
- **Variable speed limits**
 - Including integrated speed and lane use management (LUMS)
- **Managed motorways**
 - Including corridor-wide, coordinated, adaptive ramp metering
- **Automatic enforcement**
 - Speed, red light, some level crossing trials
- **Traveller information**
 - Roadside signs (eg. DriveTime), website, mobile, radio, 3rd party data feeds
- **CCTV monitoring**
 - Automated incident detection in tunnels
- **Public transport signal priority**
 - Tram and bus, plus links to rail system at level crossings

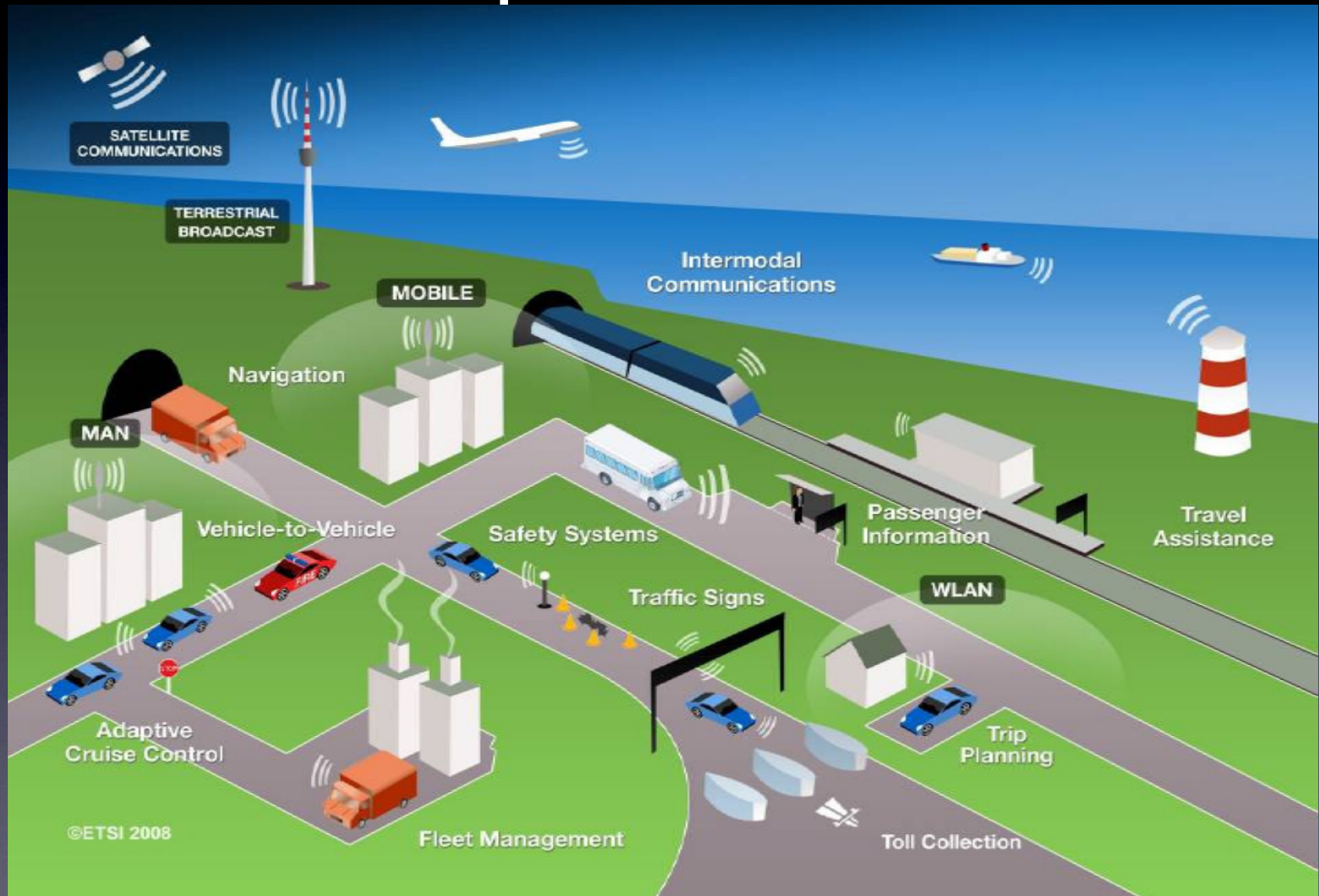
ITS in Victoria today

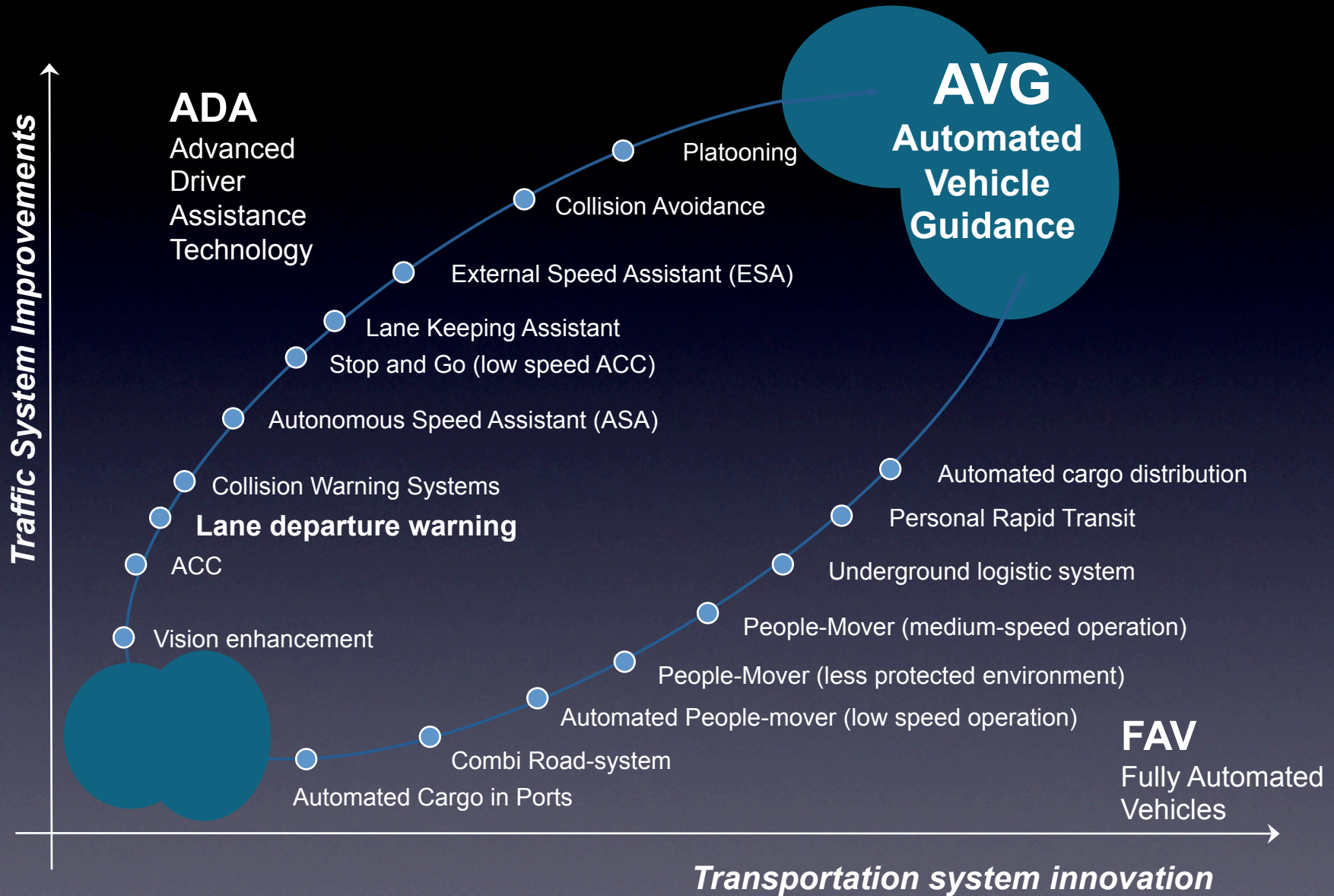
- **Freeflow electronic tolling**
 - No cash booths in Victoria
- **Variable message signs**
 - Freeway and arterial roads
- **Warning systems**
 - Vehicle activated signs for blackspots
 - Ice detection and warning systems
- **Active speed checks**
 - Motorist speed advice
- **Emergency vehicle pre-emption**
- **Smart pedestrian crossings**
 - Puffin (pedestrian detection to shorten or extend walk time) & Pelican (flashing amber)
- **Heavy vehicle detection systems**

Emerging ITS in Victoria

- **Intelligent speed assist**
- **Real time predictive modelling**
- **Enhanced multi-modal traveller information**
- **Congestion charging – CCTV or GPS**
- **Real time freight monitoring – IAP**
- **Enhanced public transport priority and information services**
- **Strategic traffic management**
- **Advanced driver assistance & fully automated vehicles**
- **Cooperative ITS**
 - Train to vehicle communication - Level crossing V2I in Victoria
 - Cohda equipment in Sim TD (Frankfurt) and US trial
 - V2I trials in South Australia

Cooperative ITS





Cooperative ITS – V2V/V2I – & Issues

- A point of focus for the ITS Strategy implementation
- A development roadmap
- Architecture and standards development
- ACMA 5.9 GHz
- Satellite interference studies
- Policy development
- Governance & management of spectrum & applications
- Project development with national coordination
- Links to global developments
- Explicit links to national transport reform via SCOT/TISOC and Austroads

Govt Policy Framework for ITS in Australia

- Policy Principles:
 - ITS development and implementation must deliver demonstrable benefits to individuals and the community
 - The policy environment in which ITS are developed must be robust and dynamic

Priority Action Areas

- Network Architecture
 - Austroads to develop specifications for a National ITS Architecture
- Policy Leadership
 - All relevant agencies and bodies to be advised of the framework
- Cooperative ITS Strategy
 - Austroads developing a National C-ITS Strategy
- 5.9GHz Spectrum for DSRC
 - Spectrum arrangements to be finalised with ACMA

Priority Action Areas

- Government Industry Linkages
 - Governments to work with ITS Australia to strengthen
- Innovation
 - Monitor developments overseas
- Privacy
 - Consider the National Privacy Principles application to ITS
- Economic Analysis of Smart Infrastructure

Priority Action Areas

- Standards Development
 - Develop a more strategic approach
- Managed Motorways
 - Implementation of \$60m funded in 2011/12
 - Commonwealth budget + further development
- Governance
 - Consider new collaborative governance arrangements
- Research and Development
 - Encourage work and initiate strategy development

C-ITS - Opportunity for Safer Driving

- Greater situational awareness
 - Your vehicle can “see” nearby vehicles and knows roadway conditions you can’t see
- Reduce or even eliminate crashes thru:
 - Driver Advisories
 - Greater situational awareness
 - Your vehicle can “see” nearby

IntelliDrive has the potential to address 82% of the vehicle crash scenarios involving unimpaired drivers



Work Zone Notification



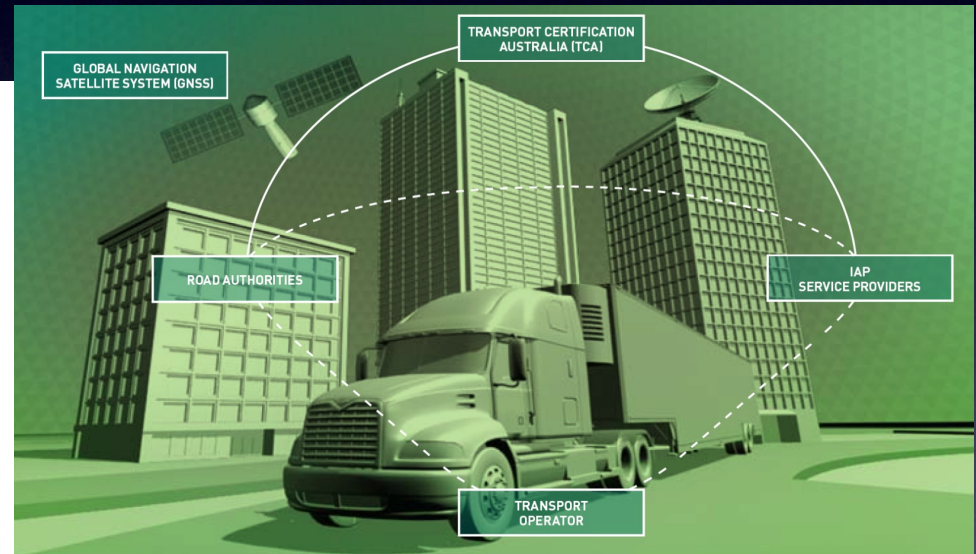
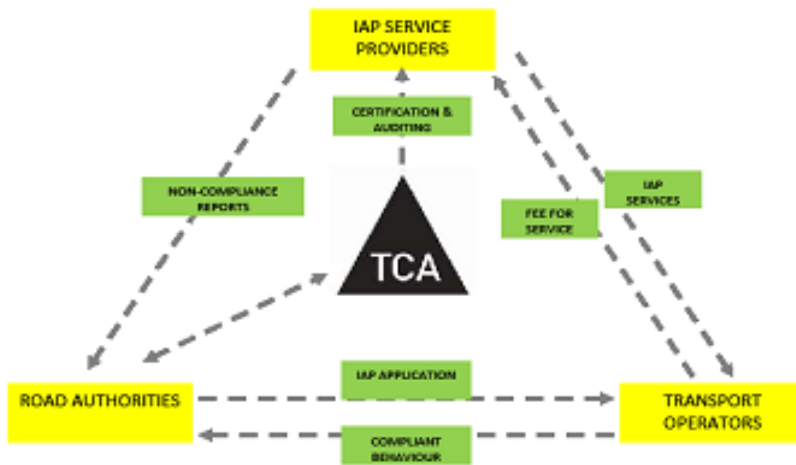
Intersection Collision Avoidance



C-ITS Successes - Intelligent Access Program

- Provides consistent national approach
- Provides choice of supplier (service provider)
- Supports development of in-vehicle and V2V/V2I systems

IAP-Access business model



Intelligent Speed Assist

- Speed Intervention Trials in Vic, NSW & WA
- Use of Intelligent Speed Assist (ISA) technology
 - Well developed technology, but there have been barriers to adoption (accuracy and maintenance of data)
 - Target trial for repeat offenders initially to assess suitability of approach
- Develop supporting infrastructure, including speed zone maps



C-ITS Successes - Level Crossing Safety

- Hundreds of rural level crossings – at grade-crossings between roads and railways
- Visibility can be limited relative to the high speeds of trains and traffic
- Consequence of crashes are very high
- Low volumes of trains and traffic means unable to justify traditional expensive crossing treatments



Questions?

