Australia's Road Transport Experiences in Public Works Planning and Projects

International Workshop on Governance in the Transport Sector

Chris Koniditsiotis

Chief Executive Officer

Transport Certification Australia

Brasilia, Brazil, 8-10 May 2012

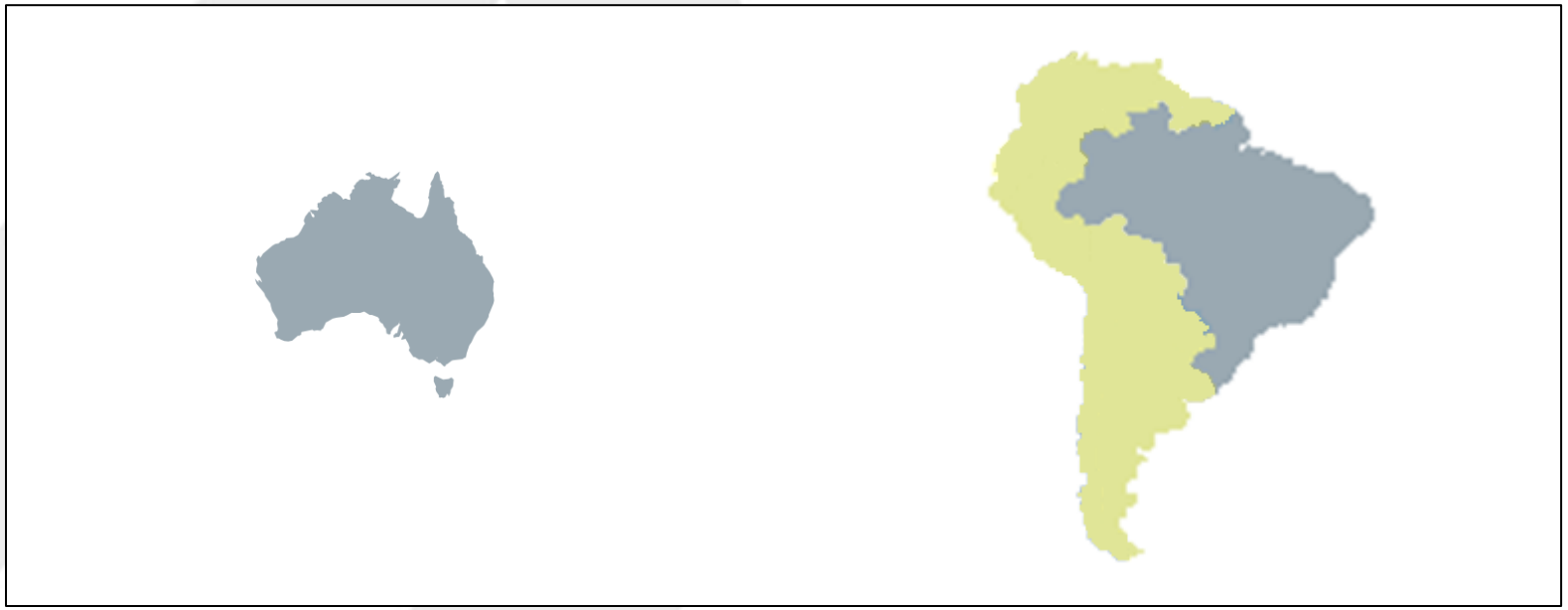
Overview

- Australia / Brazil comparisons
- Australia's federation
- Australia's challenges
- Infrastructure Australia
- Public private partnerships (PPPs)
- Rehabilitation and maintenance
- Transport Certification Australia

Australia / Brazil Comparisons

Australia / Brazil comparison (1)

- Area



7.7 million km²

8.5 million km²

Australia / Brazil comparison (2)

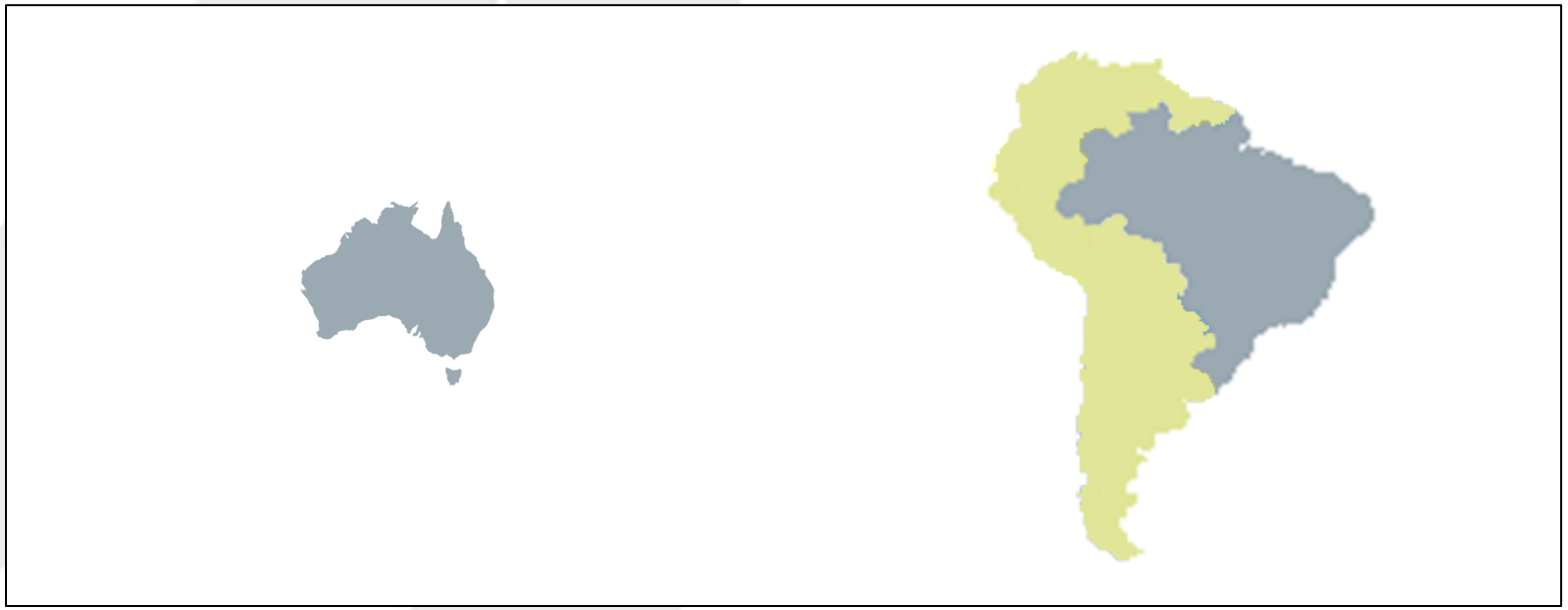
- Population

22 million

193 million (est.)

Australia / Brazil comparison (3)

- Road network (km)



0.85 million km

1.75 million km

Australia / Brazil comparison (4)

- Sealed road network

Australia	Brazil
326,000 km	240,000 km (est.)

Australia / Brazil comparison (5)

- GDP by sector (2011 est.)

	Australia	Brazil
Agriculture	4%	5.8%
Industry	25.6%	26.9%
Services	70.4%	67.3%
	$917.7 billion*	$2,282 billion*

*2011 est.

Australia's Federation

Australia's federal system

- Australia has a federal system of government

- Legislative and executive powers are divided between the:
  - Australian government, and
  - six State and two Territory governments

- Local governments responsible for their roads

Taxes and Charges

- Australian government
  - petroleum products excise ($9,686m)
  - Federal Interstate Registration Scheme ($55m)
- State & Territory governments
  - vehicle registration ($3,052m)
  - stamp duty - vehicle registration ($2,026m)
  - driver license fees ($305m)
- Other
  - Tolls ($1,462m)
  - Goods and Services Tax (GST) - NA
  - Fringe Benefits Tax (FBT) ($1,700m)

Source: BITRE Information Sheet 40 issued February 2011

National government based organisations

1959

1960

2008

1991

2005

Key institutional reforms

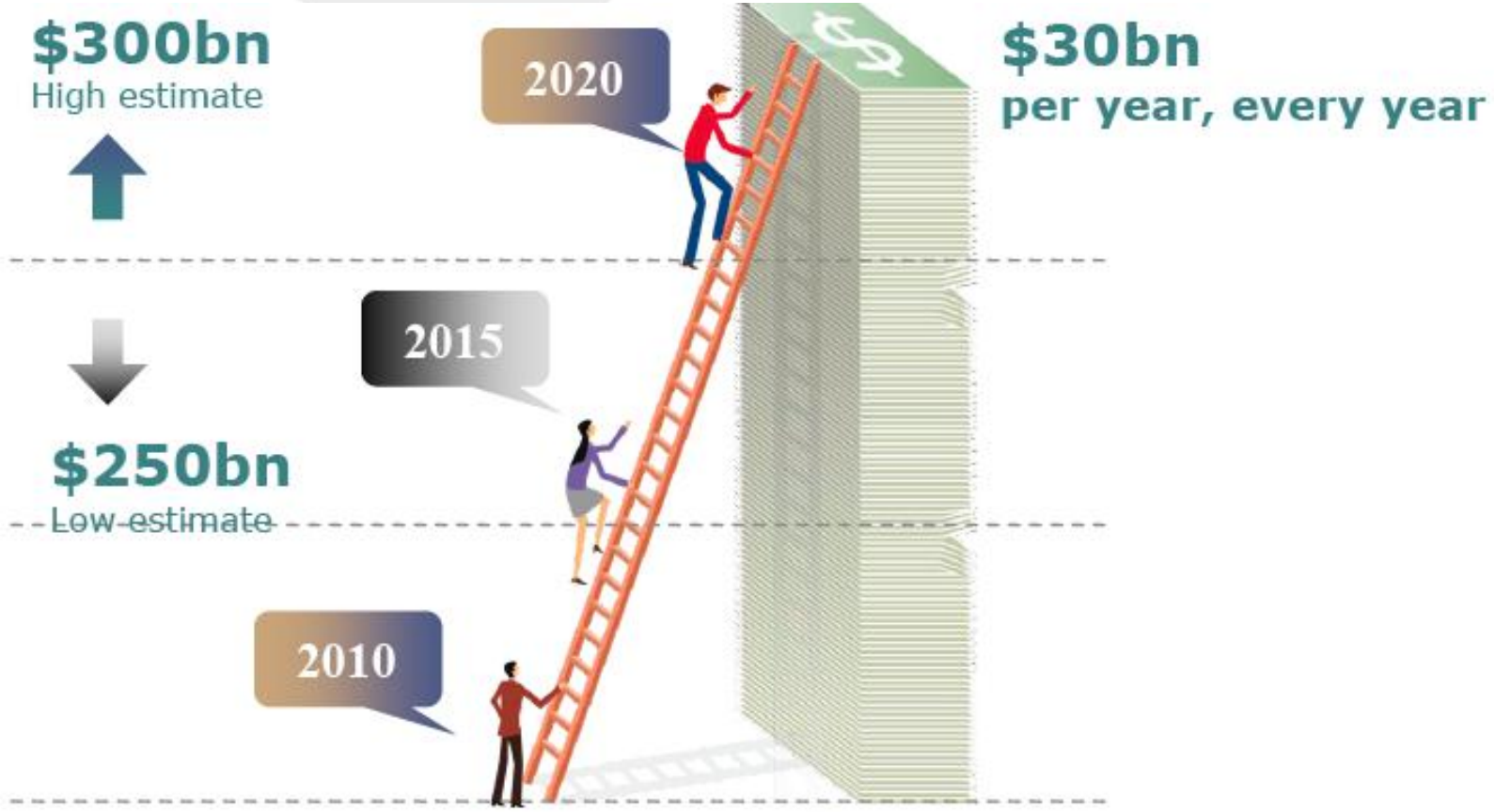
- The COAG Road Reform Plan (CRRP)
  - In April 2007 the Council of Australian Governments (COAG) set out a three-phase COAG Road Reform Plan (CRRP) to consider alternative models of heavy vehicle road pricing and funding.
- National Rail, Heavy Vehicle and Marine Regulators
  - Aims to achieve a common set of laws for rail, heavy vehicles and marine regulation for all Australian states and territories

Australia's Challenges

Conflicting problems

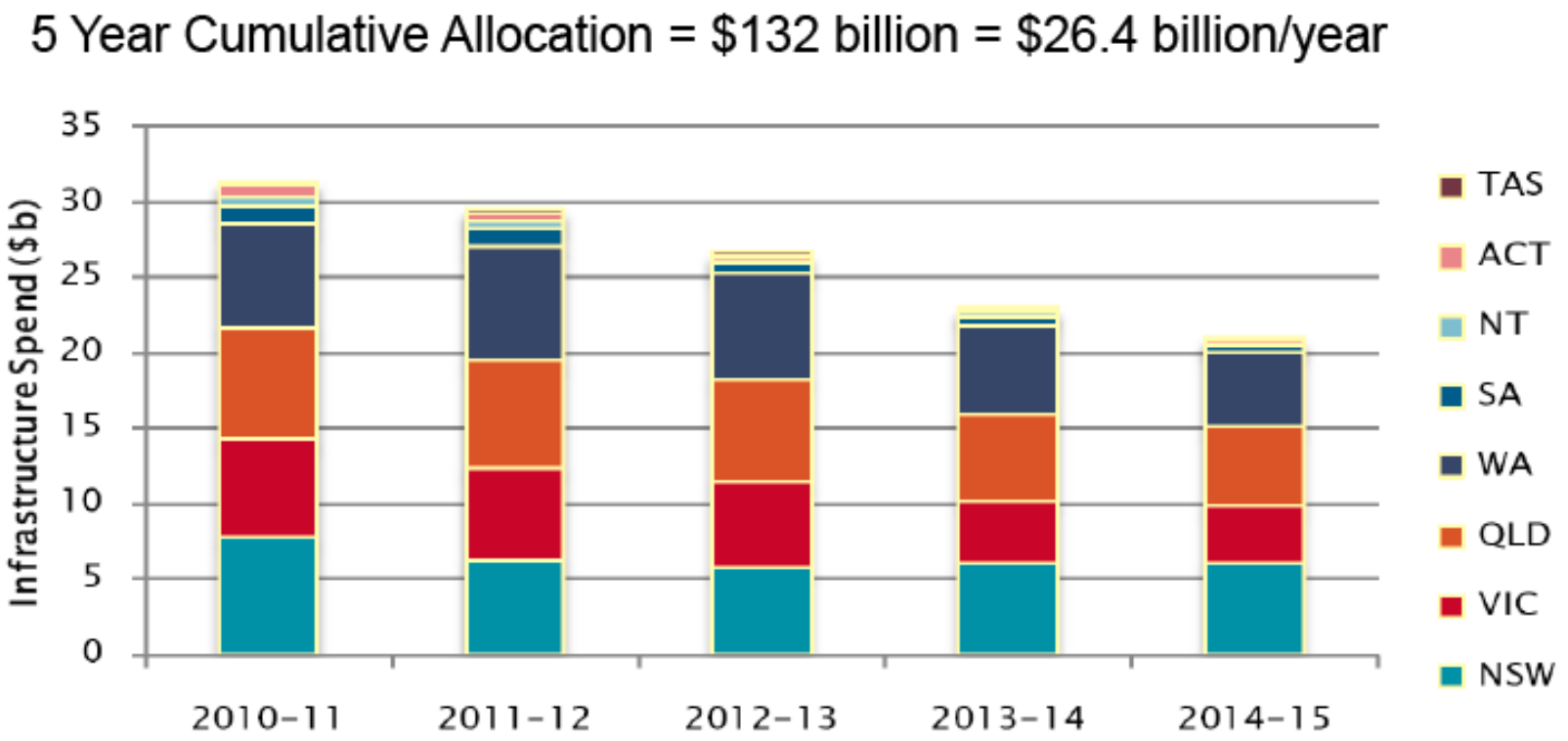
- Australian road network is facing problems that are increasingly in conflict including:
  - a growing population, transport and freight task
  - constrained road budgets
  - increasing freight task
  - pressure from the road transport industry to permit operation of larger and heavier vehicles to meet freight task demand
  - community expectations about the safety of the road network

Australia's infrastructure task



Source: Infrastructure Australia - *Financing Australia's Infrastructure* (Nov 2011)

Australia's infrastructure spend

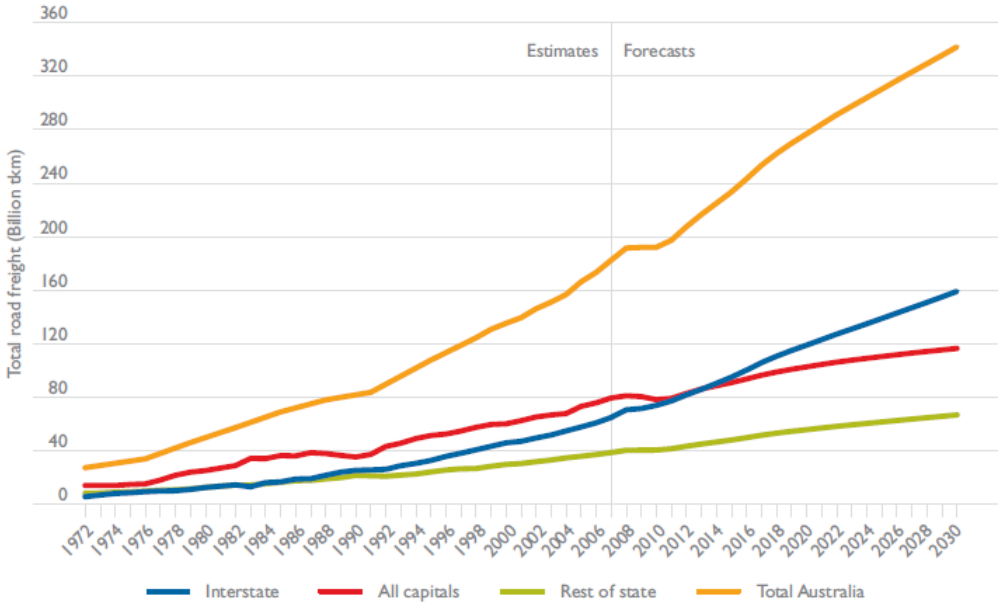


Source: Infrastructure Australia - *Financing Australia's Infrastructure* (Nov 2011)

The growing freight challenge

Australia's total road freight is expected to grow from 191.5 billion tkm in 2008 to 342.0 billion tkm in 2030.

F2.2 Road freight estimates and forecasts by interstate (sum of 'from', 'to' and 'through'), capital cities and rest of state, Australia, 1972–2030



Note: From 1972 to 2007, estimates; while from 2008–30, forecasts.
Source: BITRE estimates.

Growth in more productive Vehicles

- From 2006 to 2011, the number of registrations of Articulated trucks with a GCM over 20 to 40 tonnes has increased by 21.7%, while the number of Articulated trucks with GCM over 60 to 100 tonnes and greater than 100 tonnes has increased by 44.5% and 51.8% respectively.

A Doubles


CMA CGM
CMA CGM
CMA CGM
CMA CGM


CMA CGM
MACK
LONG
VEHICLE


LONG VEHICLE

Infrastructure Australia

Infrastructure Australia (1)

- Established by the ***Infrastructure Australia Act 2008***
- Comprises twelve members (including the Chair)
- Membership reflects Australia's federal system of government:
  - 9 members nominated by the Australian Government
  - 3 members nominated by State & Territory governments
  - 5 members must have private sector knowledge & experience
  - 1 member must have local government knowledge & experience
- Reports to the Council of Australian Governments (COAG) (through the Australian Government Transport Minister)

Infrastructure Australia (2)

- Provides advice to the Australian, State, Territory and local governments, investors in infrastructure and owners of infrastructure on matters relating to infrastructure, including advice in relation to:
  - Australia's current and future needs and priorities relating to nationally significant infrastructure
  - policy, pricing and regulatory issues that may impact on the utilisation of infrastructure
  - impediments to the efficient utilisation of national infrastructure networks
  - options and reforms, including regulatory reforms, to make the utilisation of national infrastructure networks more efficient
  - the needs of users of infrastructure
  - mechanisms for financing investment in infrastructure

Infrastructure Australia (3)

- Aim of Infrastructure Australia is to shift decisions about infrastructure from traditional project-by-project and jurisdiction-by-jurisdiction approaches to a much broader and deeper focus on national objectives and priorities

- Infrastructure Australia assesses and prioritises proposed projects for inclusion in the **National Infrastructure Pipeline** and possible budget considerations (as part of its annual report to the Council of Australian Governments (COAG))

Investment Framework (1)

- Infrastructure Australia has issued *Guidelines for making submissions to Infrastructure Australia's infrastructure planning process, through Infrastructure Australia's Reform and Investment Framework*
- Infrastructure Australia's Reform and Investment Framework is a top-down approach to infrastructure decision-making with seven distinct stages
- Transparent Approach

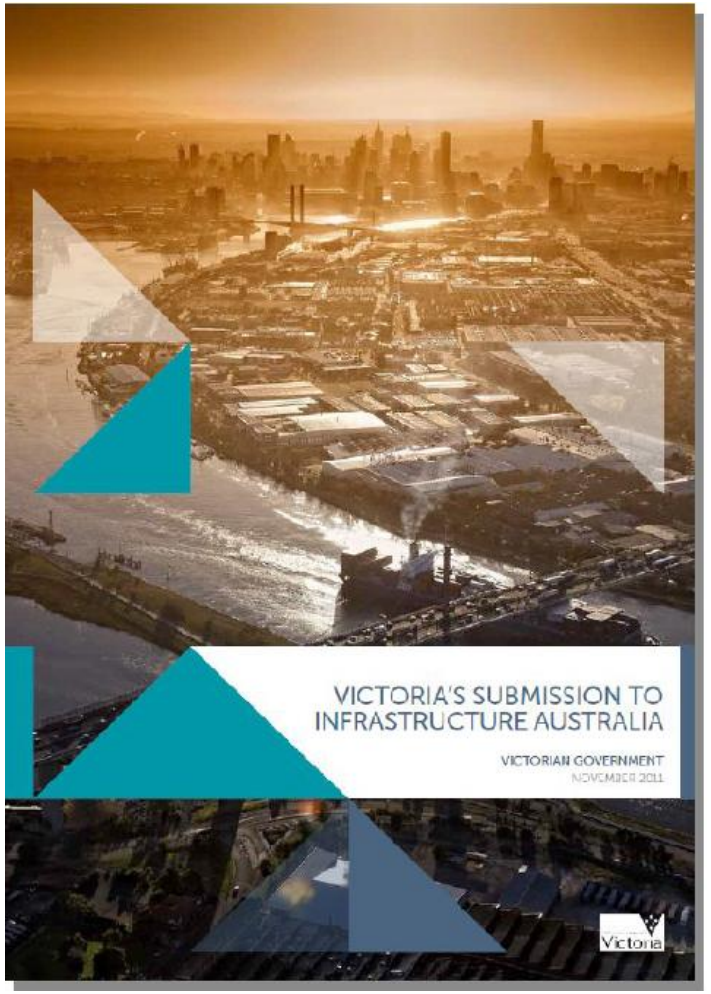
Investment Framework (2)

- The sequential stages are structured to ensure that decisions are taken in an objective and systematic way, thus leading to the adoption of the most effective and efficient policy solutions
- Stages in the Reform and Investment Framework are:
  - Stage 1: Goal Definition
  - Stage 2: Problem Identification
  - Stage 3: Problem Assessment
  - Stage 4: Problem Analysis
  - Stage 5: Options Generation
  - Stage 6: Options Assessment
  - Stage 7: Solution Prioritisation

State/Territory Submissions

- States and Territories lodge submissions for proposed projects with Infrastructure Australia (eg. Victorian Government Submission to Infrastructure Australia)

- Transparent reporting



Public private partnerships

PPPs Status

- Sydney, Melbourne and Brisbane (free flow tolling – about 200 kms in urban area)
- Early PPPs mostly successful
- Scarce Government funds freed-up to deliver other high priority programs.
- A number of recent projects have resulted in a loss of equity and reduction in investor confidence.
- With GFC very difficult to get equity and debt from private sector to support large scale projects.

Characteristics of traditional PPP model (1)

- Proponents buying right to operate a business over long term on behalf of Government delivering a service to the public.
- Identification of risk and its transfer from public to private sector has developed over time with greater precision with an increase in risk allocation to the private sector.
- Risk allocation can result in conflict or a master servant relationship rather than partnership.

Source: Paul Forward and Rod Aldis (2009)

- The concession period and price escalation generally fixed at contract closure – 'set and forget' whereby arrangements are generally locked in for length of the concession period, unless renegotiated.
- Further improvements and upgrades over time to service provision outside contract are subject to negotiations between Government and proponent.

Characteristics of traditional PPP model (2)

- Projects can require considerable urban amenity and public good improvements often funded by the concessionaire and ultimately by the users.
- Projects have become more complex and bigger in scale
- Bid costs have escalated and have cost up to $40M per bidder for large scale projects.

Source: Paul Forward and Rod Aldis (2009)

- Complexity and risk allocation associated with the delivery of PPPs in Australia are a barrier to entry for overseas firms attempting to enter the market
- PPPs are essentially about service provision, yet proponents' track record in service provision plays a minor role in the assessment of bids by Government
- Many recent motorway tollway projects characterised by optimism bias in forecasting patronage levels resulted in loss of shareholders' equity

Rehabilitation and maintenance

Rehabilitation and maintenance 2009/2010 (1)

	Highways & arterials			Local roads ($M)	Private toll roads ($M)	Total ($M)
	Rural ($M)	Urban ($M)	Total ($M)			
Pavement & shoulder maintenance						
Routine maintenance	427.9	94.5	522.5	670.5	18.1	1211.1
Periodic maintenance	323.6	126.5	450.1	534.7	12.0	996.8
Rehabilitation	503.5	211.8	715.3	639.0	13.7	1368.0
Bridge maintenance & rehabilitation	130.5	97.5	228.0	229.9	2.0	460.0
Other non-pavement items	504.3	542.1	1046.4	564.9	22.8	1634.2
Total	**1889.8**	**1072.5**	**2962.3**	**2639.1**	**68.6**	**5670.0**

Source: BIS Shrapnel - *Road Maintenance in Australia 2011-2026*

Rehabilitation and maintenance 2009/2010 (2)

	Total Maintenance ($M)	Contract Maintenance ($M)	Contract (%)
New South Wales	1454.2	288.1	20%
Victoria	1080.5	810.4	75%
Queensland	1887.7	250.7	13%
South Australia	280.8	98.2	35%
Western Australia	673.2	450.7	67%
Tasmania	137.6	85.1	62%
Northern Territory	121.8	114.5	94%
Australian Capital Territory	34.2	28.8	84%
Australia	**5670.0**	**2126.2**	**38%**

Source: BIS Shrapnel - *Road Maintenance in Australia 2011-2026*

Rehabilitation and maintenance

- There is a multi-billion dollar annual lifecycle funding gap across the road network

Source: Michael Deegan, National Infrastructure Coordinator Roads Australia AGM 3 November 2011

- Better understanding of asset management is needed
  - mandatory national reporting of road asset data
  - road condition analysis
  - depreciation cost tracking
  - uniform asset valuations
  - safe asset life estimates
  - prioritised preventative maintenance targets

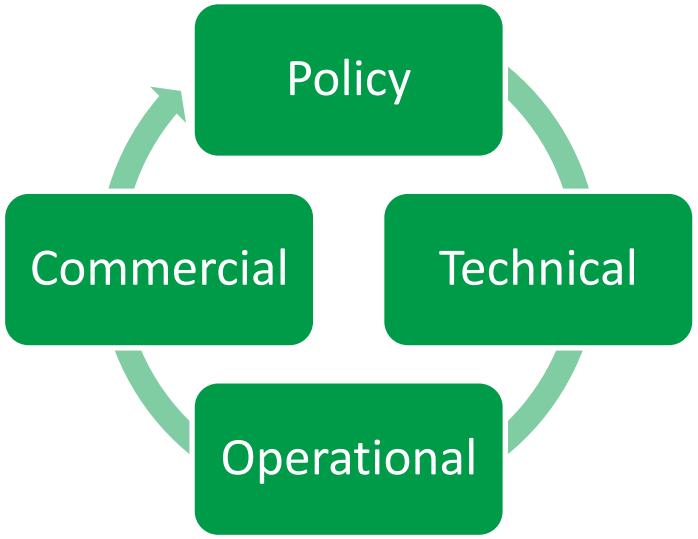
Transport Certification Australia

Transport Certification Australia (TCA)

- TCA was established in 2005
- A fully government-owned organization (owned by Australian, State & Territory governments)
- TCA's purpose is the p**rovision of high quality:**
  - **Advice** founded on a demonstrated capability to design and deploy operational systems as enablers for reform
  - **Accreditation** in the type-approval and certification of telematics and intelligent technologies and services that give confidence to all stakeholders for their consideration of use
  - **Administration** of programs, such as the Intelligent Access Program (IAP) underpinned by a rigorous certification and auditing program of in-vehicle and information systems

National Telematics Framework

- Provides a **Nationally Agreed** sustainable environment:
  - Policy and regulatory framework
  - Functional and technical platform
  - Operational environment
  - Commercial setting



IAP – 1st National Telematics Framework Application

- The Intelligent Access Program (IAP) is a new approach to road management
- Uses the Global Navigational Satellite System (i.e. GPS) to monitor heavy vehicles' compliance with access conditions (where, when, how much and how fast)
- Gives transport operators flexible access to Australian roads to suit their business and operational needs
- Increases regulators' confidence heavy vehicles are complying with agreed access conditions

Regulatory settings and safeguards for access

- The IAP was developed in recognition of the variability of road infrastructure quality across Australia
- Public dollars aren't available to fix all problems
- **The need to manage risk is something road owners and transport operators have in common**





Managing risk

- The effective use of technology provides a negotiating platform with transport operators

- There are opportunities to ‘squeeze’ more access from vulnerable infrastructure…..

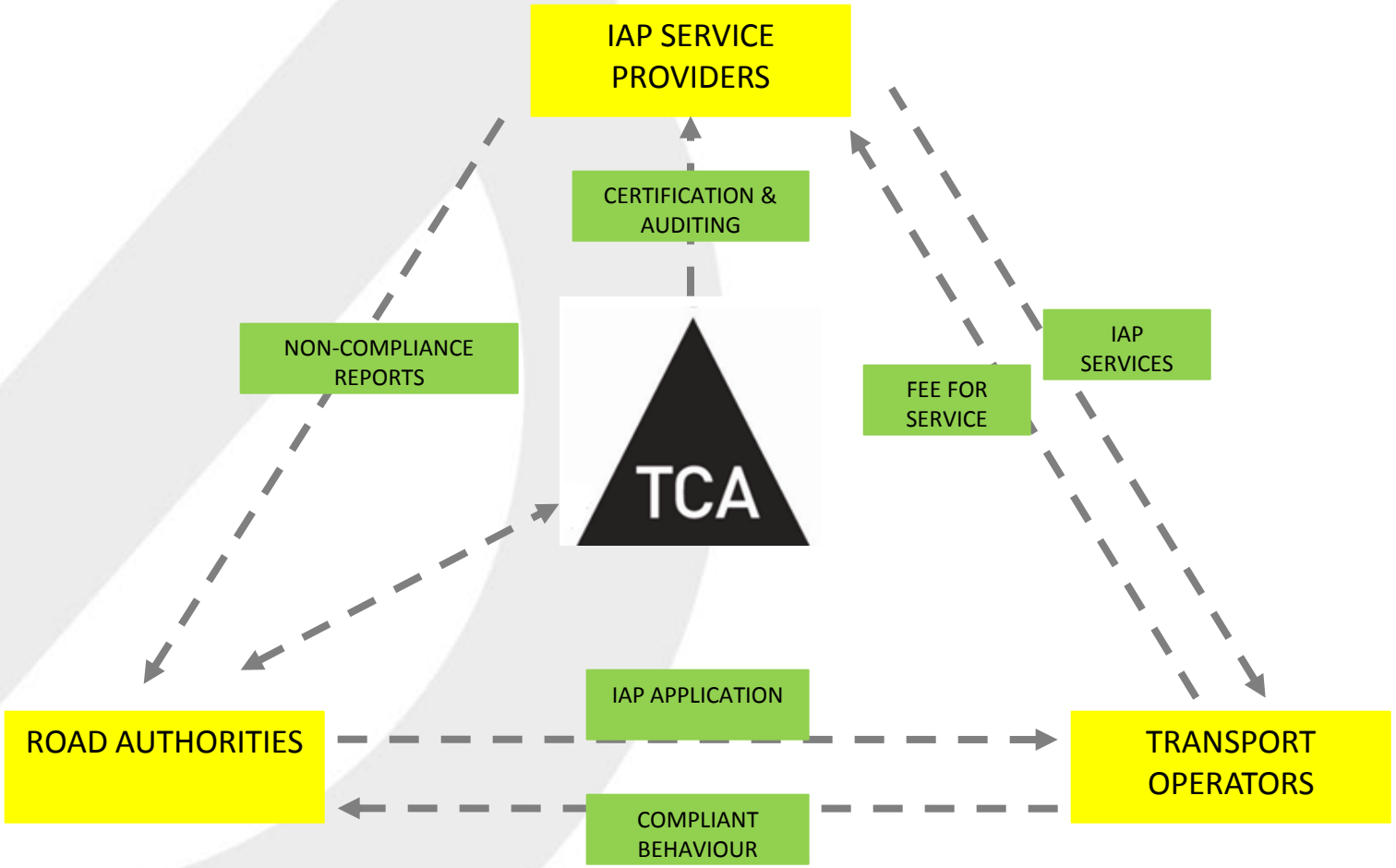
  …..so long as road managers and transport operators **work in partnership** to manage risk

- There are strong examples of how reforms are being driven through the IAP

IAP

- Parameters (withstand the test of the court system)
  - Vehicle Identification
  - Vehicle position (spatial/route compliance)
  - Time (temporal compliance)
  - Vehicle speed (gross speed compliance)
  - Tamper evident
  - **Trailer Identification**
  - **Vehicle Configuration**
  - **Periodic and Dynamic Mass by Axle Group**
- Functions (supportive evidence/information)
  - Self-Declaration Function (eg. Comments)
- Extensible Model – add new parameters or functions as required

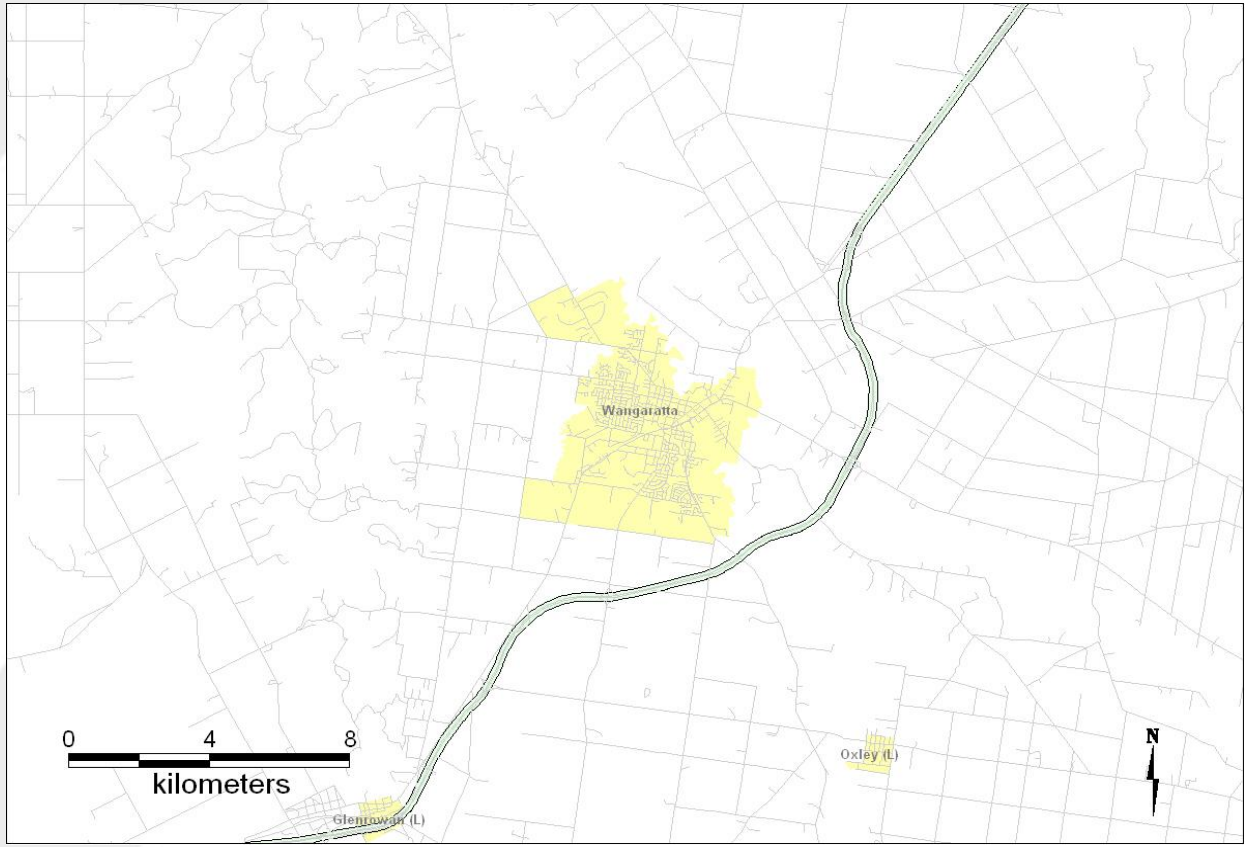
IAP Business Model



Example (1)

Allowed on main highway
- Single Steer – 6 tonnes
- Tandem Axle – 17 tonnes
- Quad Axle - 27 tonnes

Not allowed off highway
- Any axle group over nominated mass

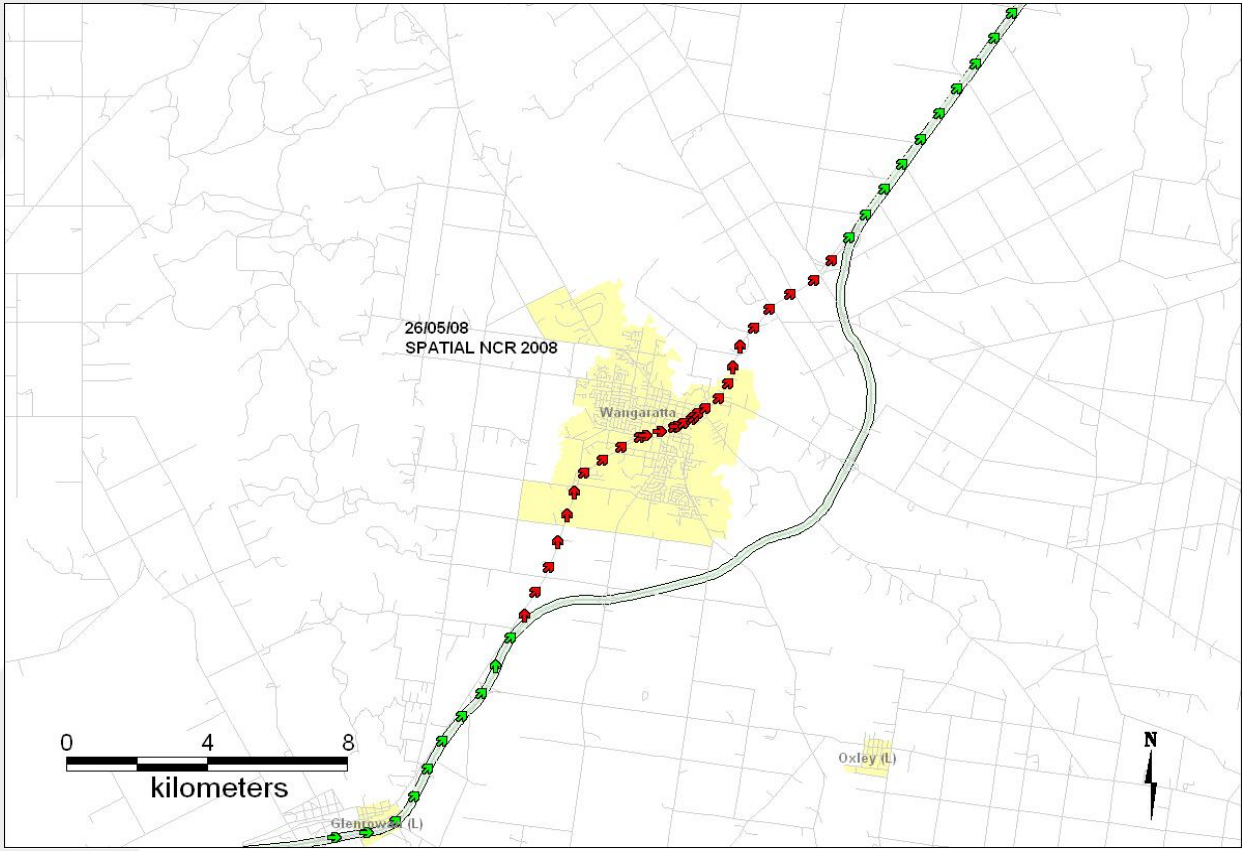


Example (2)

Recorded mass

- Single Steer <6 tonnes
- Tandem Axle <17 tonnes
- Quad Axle > 27 tonnes

A non-compliance is recorded and reported to the Road Authority



Moving productivity & safety forward through the IAP

- 30 m B-doubles are used at the Port of Melbourne and Sydney

Transport Certification Australia

THANK YOU