Australian Government | Infrastructure Australia

Australian Infrastructure Plan

The Infrastructure Priority List

Project and Initiative Summaries

February 2016

Infrastructure Australia is an independent statutory body that is the key source of research and advice for governments, industry and the community on nationally significant infrastructure needs.

It leads reform on key issues including means of financing, delivering and operating infrastructure and how to better plan and utilise infrastructure networks.

Infrastructure Australia has responsibility to strategically audit Australia's nationally significant infrastructure, and develop 15 year rolling infrastructure plans that specify national and state level priorities.

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The Infrastructure Priority List

Better infrastructure planning supports better decision making, and better decisions support better outcomes. The Infrastructure Priority List is a platform for better infrastructure decisions. It provides rigorous, independent advice to governments and industry on the infrastructure investments Australia needs over the next 15 years.

Since its establishment in 2008, Infrastructure Australia has undertaken robust, independent assessments of infrastructure proposals and provided clear advice to governments on priorities for investment. This process has supported an improvement in the quality of infrastructure planning and proposal development across Australia.

Establishing visibility of Australia's infrastructure priorities is important for governments, investors, industry and the community. It can promote confidence in the economy, guide decisions on how to allocate resources, reduce the cost of infrastructure provision and help to retain specialist skills by providing industry with a clear forward program of works.

The Infrastructure Priority List is not static. It will evolve over time to meet new challenges, to respond to changing needs, and to take advantage of emerging opportunities.

Alongside the Australian Infrastructure Plan, the Infrastructure Priority List represents a clear strategic direction and guidance to decision makers on the reforms and investments that will underpin Australia's continued prosperity.

How the Infrastructure Priority List has been developed

The *Australian Infrastructure Audit* and the *Northern Australia Audit*, both released in May 2015, provided the first ever national, independent review of the infrastructure we have, and the infrastructure we will need over the coming decades. The Audits helped to identify the nationally significant challenges and opportunities we must address and embrace to remain an efficient, competitive and agile economy.

Using the *Australian Infrastructure Audit* and *Northern Australia Audit* as the primary evidence base, Infrastructure Australia has undertaken a 'top-down' assessment of our infrastructure gaps and requirements. Extensive consultations with all states and territories, industry and the community have also provided a 'bottom-up' view of both the challenges and the potential solutions. Where a nationally significant problem has been identified, but a proposal to address it has not yet been developed, this is acknowledged in the List. Infrastructure Australia will continue to work with jurisdictions and proponents to evaluate these problems and develop solutions. This approach acknowledges that

everyone has a role to play in shaping our infrastructure future, and collaboration will be fundamental to shaping our response to the challenges of growth.

Through early engagement, Infrastructure Australia aims to stimulate and support high quality proposal development and decision making – from problem identification, to option and business case development, project funding, delivery and operation.

All inclusions on the Infrastructure Priority List have been assessed by the Infrastructure Australia Board, through a transparent Assessment Framework. The Assessment Framework, which is published on the Infrastructure Australia website, allows the Board to evaluate a proposal's strategic fit, economic viability and deliverability.

In preparing the Infrastructure Priority List, Infrastructure Australia has emphasised the need for robust, evidence-based analysis. The List has been developed in collaboration with governments and industry wherever possible, while retaining Infrastructure Australia's objectivity and independence.

Decisions about funding infrastructure investments are ultimately made by governments and private sector proponents. The Infrastructure Priority List does not provide specific funding recommendations to infrastructure providers, nor does it endorse particular investments by a particular government. Rather it sets out a detailed, independent and transparently-evaluated view of opportunities to deliver a better infrastructure future.

How to read the Infrastructure Priority List

The Infrastructure Priority List is designed to give structured guidance to decision makers, visibility to industry and transparency for the community. It is a 'rolling' list which will be updated periodically as proposals move through stages of development and delivery and to respond to emerging challenges and opportunities.

Inclusions on the Infrastructure Priority List range from the description of a problem through to fully developed solutions. This breadth of content requires classifications to differentiate between ideas which are in their infancy and address a problem or opportunity of national significance, through to those which are more developed. The List also needs to reflect the scale of the challenge or opportunity being addressed. For instance, an idea may be in its infancy, but the challenge it addresses is substantial – decision makers need this information to determine how and when funding is allocated.

To meet this challenge, the Infrastructure Priority List contains two broad groupings:

- **Initiatives:** priorities that have been identified to address a nationally significant need, but require further development and rigorous assessment to determine and evaluate the most appropriate option for delivery; and
- **Projects:** priorities that have undergone a full business case assessment by Infrastructure Australia and that will address a nationally significant problem and deliver robust economic, social or environmental outcomes.

Initiatives or projects that address major problems or opportunities of national significance are highlighted as *High Priority*, to focus decision makers' attention on the most significant problems, where delivery of an effective solution will be critical.

High Priority projects and initiatives appear at the top of their respective categories. Within these two categories, initiatives and projects are not ranked. Instead they are ordered by the category of problem they address, then by location and by timeframe. Initiatives are further classified by their current stage of development.

Each project and initiative on the Infrastructure Priority List includes a broad indication of timeframe.

For projects, the timeframe provides the proponent's indication of when the project is likely to be delivered.

For initiatives, the timeframe indicates when the problem is likely to have a material impact on national productivity. In both instance, these timeframes are defined as:

- Within 5 years (near-term);
- Within 10 years (medium-term);
- Within 15 years (longer-term); and
- Expected to be more than 15 years (future).

To reflect those initiatives and projects which have progressed through the Infrastructure Priority List, Infrastructure Australia publishes a separate list of projects that were previously on the List, and are now being delivered or have been completed. Projects will normally remain on the List until construction or delivery is underway.

Infrastructure Priority List:

High Priority Projects

Problem category	Location	Proponent's proposed delivery timescale[1]	Problem description	Proposed project
Urban Congestion	Vic	Near term	Connectivity between Melbourne Airport and CBD	CityLink-Tullamarine Widening[2]
National Connectivity	WA	Near term	Perth freight network capacity	Perth Freight Link

Priority Projects

Problem category	Location	Proponent's proposed delivery timescale[1]	Problem description	Proposed project
None currently*				

*Infrastructure Australia is currently assessing a number of proposed projects submitted by states and territories. These are listed in Appendix B. Projects which are positively assessed by Infrastructure Australia will be added to subsequent updates of the IPL.

1 Proponent's Proposed Delivery Timescale refers to the timescale in which the proponent is proposing to deliver the project:
Near term: within 5 years | Medium term: within 10 years | Longer term: within 15 years
2 Construction of Stage 2 was yet to commence at the time of assessment

Infrastructure Priority List:

High Priority Initiatives

Problem category	Location	Problem timescale[3]	Initiative development stage	Problem description	Proposed initiative
Urban Congestion	NSW	Near term	Business case development	Sydney rail network capacity	Sydney Metro (high frequency rail connection from Chatswood to Bankstown via Sydney CBD)
Urban Congestion	NSW	Near term	Business case development	Sydney corridor congestion: Northern Beaches, Parramatta Road, Victoria Road	Bus Rapid Transport: Northern Beaches, Parramatta Road, and Victoria Road
Urban Congestion	NSW	Near term	Business case development	Sydney inner west road congestion	WestConnex Stage 3 road connection from M4 to M5
Urban Congestion	NSW	Near term	Business case development	Connectivity in outer western Sydney	M4 motorway upgrade (Parramatta to Lapstone)
Urban Congestion	NSW	Medium term	Business case development	Connection between inner south urban growth area and Sydney CBD	Southern Sydney to CBD public transport enhancement
Urban Congestion	Qld	Near term	Business case development	Brisbane CBD public transport capacity	Cross River Rail (passenger rail connection to and through Brisbane CBD)
Urban Congestion	Qld	Near term	Business case development	Southern Brisbane-Ipswich road network capacity	Ipswich Motorway Rocklea-Darra
Urban Congestion	SA	Near term	Business case development	Adelaide outer north east suburbs access to CBD	Gawler Line rail upgrade*
Urban Congestion	Vic	Near term	Business case development	Connectivity between Eastern Freeway and Melbourne CBD	Hoddle Street capacity upgrade*
Urban Congestion	Vic	Near term	Business case development	Melbourne outer south east suburbs access to CBD	Cranbourne-Pakenham rail line upgrade*
Urban Congestion	Vic	Near term	Business case development	Melbourne rail network capacity	Melbourne Metro Rail (Melbourne CBD rail simplification and capacity upgrade)
Urban Congestion	Vic	Near term	Business case development	Connectivity between West Gate Freeway and Port of Melbourne and CBD North	Road connection between West Gate Freeway and Port of Melbourne and CBD North
Urban Congestion	Vic	Near term	Business case development	Melbourne M80 Western Ring Road congestion	M80 Western Ring Road upgrade
Urban Congestion	Vic	Near term	Business case development	Melbourne south east road network congestion	Cranbourne-Pakenham level crossings removal

3 Problem Timescale refers to the timescale in which a problem is likely to have a material impact on national productivity: Near term: within 5 years | Medium term: within 10 years | Longer term: within 15 years

* Initiative includes a significant 'better use' component

‡ Infrastructure Australia Audit identified gap

Problem category	Location	Problem timescale[3]	Initiative development stage	Problem description	Proposed initiative
Urban Congestion	Vic	Near term	Initiative development	Connectivity between Melbourne's Eastern Freeway and CityLink	Improve the connection between Eastern Freeway and CityLink‡
Urban Congestion	WA	Near term	Options assessment	Perth northern corridor capacity	Perth CBD-north corridor capacity‡
Urban Congestion	National	Near term	Initiative development	National urban road network congestion	Network Optimisation Portfolio*‡
National Connectivity	NSW	Near term	Business case development	Sydney Port Botany Rail freight capacity	Port Botany freight rail duplication
National Connectivity	NSW	Near term	Business case development	Sydney freight rail network capacity	Chullora Junction upgrade
National Connectivity	NSW	Near term	Business case development	Sydney road network capacity: Port Botany and Airport to WestConnex	Connection from Port Botany and Sydney Airport to WestConnex at St Peters
National Connectivity	NSW	Longer term	Business case development	Sydney aviation capacity	Western Sydney Airport
National Connectivity	Qld	Near term	Options assessment	Freight rail access to Port of Brisbane	Port of Brisbane dedicated freight rail connection‡
National Connectivity	National	Near term	Initiative development	National strategic planning for future freight initiatives	National Freight and Supply Chain Strategy‡
Corridor Preservation	NSW	Near term	Options assessment	Future connectivity between Western Sydney and Central Coast/Illawarra	Preserve corridor for Outer Sydney Orbital road and rail / M9
Corridor Preservation	NSW	Near term	Options assessment	Future fuel connection to Western Sydney Airport	Preserve corridor for Western Sydney Airport fuel pipeline
Corridor Preservation	NSW	Near term	Options assessment	Future rail connection to Western Sydney Airport	Preserve corridor for Western Sydney Airport rail connection
Corridor Preservation	NSW	Near term	Options assessment	Future freight rail bypass of Newcastle urban area	Preserve corridor for Lower Hunter freight rail realignment
Corridor Preservation	NSW	Near term	Options assessment	Future freight rail capacity to Eastern Creek intermodal and Sydney Main West Line	Preserve corridor for Western Sydney Freight Line and Intermodal Terminal access
Corridor Preservation	Vic	Near term	Business case development	Future connectivity between Melbourne outer south west and outer north	Preserve corridor for Melbourne Outer Metropolitan Ring Road/E6‡
Corridor Preservation	National	Near term	Business case development	Future connectivity between east coast capital cities	Preserve corridor for East Coast High Speed Rail‡

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* Initiative includes a significant 'better use' component

‡ Infrastructure Australia Audit identified gap

Infrastructure Priority List:

Priority Initiatives

Problem category	Location	Problem timescale[3]	Initiative development stage	Problem description	Proposed initiative
Urban Congestion	NSW	Near term	Business case development	Inner city access to Sydney CBD	Active transport (walking and cycling) access to Sydney CBD
Urban Congestion	NSW	Near term	Initiative development	Connectivity between Parramatta - Sydney CBD	Western line CBD to Parramatta upgrade‡
Urban Congestion	NSW	Medium term	Options assessment	Public transport access to Parramatta CBD	Public transport access to Parramatta CBD
Urban Congestion	NSW	Medium term	Options assessment	Connectivity between Wollongong – Sydney CBD	Extend M1 from Waterfall to Sydney motorway network
Urban Congestion	NSW	Longer term	Options assessment	Sydney road network cross-harbour and Northern Beaches connectivity	WestConnex Stages 4a and 4b: Western Harbour Tunnel and Beaches Link
Urban Congestion	Qld	Near term	Business case development	Gold Coast transport capacity	Gold Coast Light Rail – Stage 2 (connecting existing Gold Coast light rail to Brisbane heavy rail at Helensvale)
Urban Congestion	Qld	Near term	Business case development	Road network capacity Brisbane – Gold Coast	M1 Pacific Motorway - Gateway Motorway merge upgrade
Urban Congestion	Qld	Near term	Business case development	M1 Pacific Motorway capacity	M1 Pacific Motorway upgrade – Mudgeeraba to Varsity Lakes
Urban Congestion	SA	Near term	Business case development	Adelaide north-south urban road network capacity	Adelaide north-south corridor upgrade (remaining sections)
Urban Congestion	SA	Medium term	Options assessment	Adelaide public transport capacity	AdeLINK Tram Network (Adelaide tram network expansion)
Urban Congestion	Vic	Near term	Business case development	Melbourne urban road network congestion	Melbourne level crossings removal
Urban Congestion	Vic	Medium term	Initiative development	Access to Melbourne airport	Melbourne Airport to CBD public transport capacity ‡
Urban Congestion	Vic	Medium term	Initiative development	Melbourne outer western suburbs access to CBD	Melton Rail Line upgrade*‡
Urban Congestion	Vic	Medium term	Initiative development	Connectivity between M80 and Eastlink in outer NE Melbourne	Complete Metro Ring Road from Greensborough to the Eastern Freeway‡
Urban Congestion	Vic	Longer term	Initiative development	Melbourne outer northern suburbs access to CBD	Melbourne outer northern suburbs to CBD capacity upgrade‡

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* Initiative includes a significant 'better use' component

‡ Infrastructure Australia Audit identified gap

Problem category	Location	Problem timescale[3]	Initiative development stage	Problem description	Proposed initiative
Urban Congestion	WA	Near term	Business case development	Public transport access to Perth airport	Perth – Forrestfield Airport Rail Link
Urban Congestion	WA	Medium term	Initiative development	Perth urban road network capacity	Perth major east-west and southern corridor capacity upgrades ‡
Urban Congestion	ACT	Medium term	Options assessment	Canberra CBD to north transport corridor congestion	Canberra CBD to north corridor
Urban Congestion	ACT	Medium term	Options assessment	Canberra public transport capacity	Canberra public transport improvements
National Connectivity	NSW	Near term	Business case development	Melbourne – Brisbane connectivity	Newell Highway upgrade
National Connectivity	NSW	Medium term	Business case development	Sydney – Brisbane connectivity	New England Highway upgrade
National Connectivity	NSW	Near term	Business case development	Sydney – Brisbane connectivity	Pacific Highway (A1) - Coffs Harbour Bypass Stage 1
National Connectivity	NSW	Near term	Business case development	Sydney – Brisbane connectivity	Pacific Highway (M1) – extension to Raymond Terrace Stage 1
National Connectivity	NSW	Near term	Business case development	Access to Western Sydney and Western Sydney Airport	Western Sydney roads upgrade ‡
National Connectivity	NSW	Near term	Business case development	Freight rail access to Port Kembla	Freight rail access to Port Kembla
National Connectivity	NSW	Near term	Options assessment	Road network connectivity to Moorebank Intermodal Terminal	Moorebank Intermodal Terminal road connection upgrade
National Connectivity	NSW	Longer term	Business case development	Sydney freight rail network capacity	Northern Sydney Freight Corridor Stage 2 (additional track West Ryde to Rhodes and Thornleigh to Hornsby)
National Connectivity	NSW	Longer term	Business case development	Sydney South to Moorebank rail freight capacity	Southern Sydney Freight Line upgrade
National Connectivity	NSW	Longer term	Options assessment	Freight rail capacity constraint in suburban Newcastle	Lower Hunter freight corridor construction
National Connectivity	NSW	Longer term	Options assessment	Connectivity between Newcastle, Wollongong and Sydney CBD	Newcastle – Sydney and Wollongong – Sydney rail line upgrades
National Connectivity	NSW	Longer term	Options assessment	Access to Western Sydney Airport	Western Sydney Airport public transport connection
National Connectivity	Qld	Near term	Various stages	Queensland coastal cities connectivity	Bruce Highway upgrade
National Connectivity	Qld	Near term	Business case development	Queensland north coast rail congestion	Beerburrum to Nambour rail upgrade

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* Initiative includes a significant 'better use' component

‡ Infrastructure Australia Audit identified gap

Problem category	Location	Problem timescale[3]	Initiative development stage	Problem description	Proposed initiative
National Connectivity	Qld	Medium term	Options assessment	Land and sea access to Port of Gladstone	Gladstone Port land and sea access upgrade
National Connectivity	Qld	Medium term	Business case development	Mt Isa – Townsville rail capacity	Mount Isa – Townsville rail corridor upgrade
National Connectivity	Qld	Near term	Business case development	Cunningham Highway – Yamanto to Ebenezer/ Amberley congestion	Cunningham Highway – Yamanto to Ebenezer/ Amberley upgrade
National Connectivity	SA	Near term	Business case development	Access to Cooper Basin (South Australia)	Strzelecki Track sealing and mobile coverage
National Connectivity	SA	Medium term	Business case development	South Australia bulk port capacity	South Australian regional mineral port development
National Connectivity	SA	Medium term	Options assessment	South Australia road freight network capacity	Sturt Highway High Productivity Vehicle capacity enhancement, including Truro bypass
National Connectivity	SA	Medium term	Options assessment	Freight rail connection to Gawler Craton mineral province	Gawler Craton rail access
National Connectivity	SA	Longer term	Options assessment	Freight connectivity Melbourne – Perth	Melbourne – Adelaide – Perth rail upgrade
National Connectivity	Tas	Medium term	Options assessment	Tasmania Derwent River crossing capacity	Derwent River crossing capacity
National Connectivity	Tas	Medium term	Options assessment	Tasmania freight network planning	Burnie to Hobart freight corridor strategy
National Connectivity	Vic	Near term	Business case development	Freight rail connection Murray Basin to Ports of Geelong and Portland	Murray Basin rail upgrade
National Connectivity	Vic	Near term	Initiative development	Melbourne aviation capacity	Melbourne Airport third runway‡
National Connectivity	Vic	Longer term	Initiative development	Melbourne container terminal capacity	Melbourne container terminal capacity enhancement‡
National Connectivity	WA	Medium term	Initiative development	Perth airport capacity	Perth Airport third runway‡
National Connectivity	WA	Longer term	Initiative development	Perth container terminal capacity	Perth container terminal capacity enhancement‡
National Connectivity	National	Longer term	Business case development	Freight connectivity Melbourne-Brisbane	Inland Rail (Melbourne to Brisbane via inland NSW)
National Connectivity	National	Near term	Business case development	Rail freight capacity constraint on ARTC network	Advanced Train Management System implementation on ARTC network*
Remote infrastructure	WA	Near term	Options assessment	Constrained road access to remote WA communities	Improve road access to remote WA communities‡

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* Initiative includes a significant 'better use' component

‡ Infrastructure Australia Audit identified gap

Problem category	Location	Problem timescale[3]	Initiative development stage	Problem description	Proposed initiative
Remote infrastructure	NT	Near term	Business case development	Infrastructure services for remote NT communities	Provision of enabling infrastructure and essential services to remote NT communities (Wadeye, Tiwi Islands, Jabiru)
Remote infrastructure	NT	Near term	Business case development	Constrained access to the Tanami region	Upgrade Tanami Road
Opportunity for Growth	Qld	Medium term	Options assessment	Opportunity to develop industry and agriculture in Fitzroy region	Lower Fitzroy River water infrastructure development‡
Opportunity for Growth	SA	Near term	Options assessment	Opportunity to develop industry and agriculture in Northern Adelaide region	Northern Adelaide Plains water infrastructure development
Opportunity for Growth	Tas	Near term	Business case development	Opportunity for improved agricultural water supply in Tasmania	Tasmanian irrigation schemes (Tranche 2)
Opportunity for Growth	Tas	Near term	Business case development	Opportunity to stimulate economic growth and productivity in Tasmania	Relocation of University of Tasmania STEM facilities to Hobart CBD
Water Security	NT	Medium term	Options assessment	Darwin water supply security	Darwin region water supply infrastructure upgrades
Waste water treatment	Tas	Near term	Options assessment	Tasmanian waste water treatment environmental compliance	Tasmanian sewerage infrastructure upgrades
Resilience	NSW	Near term	Business case development	Flood mitigation in Hawkesbury-Nepean Valley	Hawkesbury-Nepean Valley flood management
Efficient Markets	National	Near term	Options assessment	Constrained East Coast gas supply	Connect gas suppliers to eastern gas markets

3 Problem Timescale refers to the timescale in which a problem is likely to have a material impact on national productivity:
Near term: within 5 years | Medium term: within 10 years | Longer term: within 15 years
* Initiative includes a significant 'better use' component
‡ Infrastructure Australia Audit identified gap

Project and Initiative Summaries

CityLink-Tullamarine Widening

Infrastructure Priority List classification

High Priority Project

Location

Melbourne, Victoria

Indicative delivery timeframe

Near term (0-5 years)

Proponent

Victorian Government

Problem addressed

The proposal addresses longer and less reliable travel times to Melbourne Airport and the Port of Melbourne, and high accident rates because of congestion on the M2 corridor (covering the Tullamarine Freeway and a part of CityLink).

The root causes of these problems are the strong growth in passenger and freight movements to and from Melbourne Airport and the rapid development of areas that are catchments for the Tullamarine Freeway and CityLink. Over the past decade, Melbourne Airport passenger throughput has grown by 5.4 per cent per year. From 2002 to 2012, population in relevant local government areas grew by 28 per cent. The high demand growth is anticipated to continue.

Modelling by the proponent indicates that growth in demand will lead to relatively severe impacts on travel times. On average, travel times deteriorate by 20 to 25 per cent along the CityLink-Tullamarine Freeway and 45 per cent for the Tullamarine Freeway component from 2011 to 2031. The Australian Infrastructure Audit (April 2015) assessed the Tullamarine Freeway (Airport) Corridor as the 8th most congested corridor in Melbourne in 2011 and the 3rd most congested in 2031.

Project description

The project proposes to widen and introduce managed motorways on the M2 road corridor from Melbourne Airport through to the M1. The proposed solution includes:

- a widening of the Tullamarine Freeway and CityLink (to the M1), by at least one additional lane in each direction
- the implementation of a Motorway Management System
- various other works such as grade separation and ramp metering, including priority access for buses (Sky Bus) on the ramp from the Airport onto the Tullamarine Freeway.

Economic, social and environmental value

Additional capacity on the CityLink-Tullamarine corridor would deliver economic and social gains through reducing delays for airport traffic and general traffic in the north-west of Melbourne. The benefit cost ratio stated by the proponent is 2.4:1.

Capital cost of initiative stated by nominator $1,229 million ($2015) and $1,282 million (undiscounted)
Australian Government contribution $200 million | **Victorian Government contribution** $51 million | **Private sector contribution** $1,031 million

Perth Freight Link

Infrastructure Priority List classification

High Priority Project

Location

Perth, WA

Indicative delivery timeframe

Near term (0-5 years)

Proponent

WA Government

Problem addressed

Perth Freight Link seeks to address the following problems:

- Growth in freight traffic on mixed use routes
- Sub-optimal access to Fremantle port and key strategic industrial areas.

There is currently heavy congestion and significant delays to freight journeys for many sections of the route. Impacts of this include inefficient freight movement which limits productivity and economic growth, higher than average crash rates involving heavy vehicles and diminished amenity for the nearby community.

Project description

The Perth Freight Link project seeks to remove the 'missing link' to Fremantle Port by the provision of a high standard road freight link which includes the extension of Roe Highway west of the Kwinana Freeway to become the principal east-west freight link, and a high standard freight connection between Roe Highway and Fremantle Port via Stock Road, Leach Highway and Stirling Highway.

Note: This project summary, including the map above, is based on the business case submitted to Infrastructure Australia in 2015. Subsequent to Infrastructure Australia's assessment, the WA Government has advised it is considering alternative route options between the end of the Roe Highway at Stock Road and Fremantle Port.

Economic, social and environmental value

The Perth Freight Link would deliver economic and social benefits, through reducing delays for port-related traffic and general traffic. The benefit cost ratio stated by the proponent is 2.5:1.

Capital cost of initiative stated by proponent $1,575 million (undiscounted, P50) $1,742 million (nominal, P90)
Federal Government contribution $925 million (P50) | **State Government contribution** $275.5 million (P50)
Private sector contribution $374.5 million (P50)

Sydney Metro

High frequency rail connection from Chatswood to Bankstown via Sydney CBD

Infrastructure Priority List classification

High Priority Initiative

Location

Northern, central and south-western Sydney, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

Sydney's key employment and economic areas are clustered along the 'Global Economic Corridor' which extends from the Airport to the CBD, and north to Macquarie Park. The corridor is home to high-value service industries such as finance, insurance, technology, health, education and tourism, and contributes around 50 per cent of NSW Gross State Product. High levels of transport connectivity are an essential input to support growth in these industries, providing access to a deep labour market and connectivity to suppliers, knowledge-based institutions, and customers.

Driven by population growth, employment in Sydney is expected to increase from its current level of 2.1 million workers to 2.8 million by 2031, of which about two-thirds are expected to work within the Global Economic Corridor.

Transport access to the Global Economic Corridor is reaching capacity. An analysis of transport capacity and employment growth indicates that, without additional transport capacity, some 42,000 potential jobs in the Global Economic Corridor would be unrealised by 2036.

A significant increase in transport capacity in key parts of the network, especially to the CBD and the Global Economic Corridor, will assist in realising employment growth and increased productivity.

Proposed initiative

The Sydney Metro (City and Southwest) would provide single deck, fully-automated metro rail services connecting the Sydney Metro Northwest operations from Chatswood through Sydney's North Shore, under Sydney Harbour to the CBD and beyond to Sydenham Station. The proposed rail line would connect to the existing Bankstown Line, converting that line (13.5km from Sydenham to Bankstown) to Sydney Metro operations.

Next Steps

Business case development

Bus Rapid Transport

Northern Beaches, Parramatta Road and Victoria Road

Infrastructure Priority List classification

High Priority Initiative

Location

Sydney, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

In 2012, the NSW Government identified the need to redesign Sydney's bus system as part of the Long Term Transport Master Plan. The three most important corridors requiring significant improvements in connectivity and efficiency are: the Mona Vale to Sydney CBD corridor; the Burwood to Sydney CBD via Parramatta Road corridor; and the Parramatta/Ryde/Sydney CBD via Victoria Road corridor.

Each of these corridors is vital from a broader urban transport network perspective, with buses being used by a large number of commuters to travel into the Sydney CBD and other commercial centres. While parts of the Parramatta and Victoria Road Corridors are served by rail, part of these corridors, and all of the Northern Beaches Corridor, are only practically served by road. For these corridors, bus travel is the most practical form of public transport.

Efficient management of the transport network along the three corridors is a priority issue. The Australian Infrastructure Audit (April 2015) identified that some of Sydney's highest congestion delay costs are along these routes, including the harbour crossing approaching the CBD from the north, and along Victoria Road (which feeds onto the Anzac Bridge). The cost of congestion in the greater Sydney region is projected to rise from $5.6 billion in 2011 to $14.8 billion in 2031. Inadequate investment in bus systems along the three corridors will result in greater reliance and use of private passenger vehicles, in turn leading to further road congestion and delays at the expense of economic efficiency.

Proposed initiative

The provision of high-capacity, on-road bus transport infrastructure is potentially an effective method of improving connectivity along priority corridors and alleviating congestion on Sydney's urban transport network.

Next Steps

Business case development

WestConnex Stage 3 road connection from M4 to M5

Infrastructure Priority List classification

High Priority Initiative

Location

Sydney, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

The Australian Infrastructure Audit (April 2015)(the Audit) noted a number of corridors in Sydney's inner west are severely congested now, and that this will get worse in the future:

- King Georges Rd Corridor from the Princes Hwy to the M4 was ranked the 2nd most congested in Greater Sydney in 2011
- The corridor from Parramatta to the City West Link includes the 7th, 8th and 9th most congested corridors in 2011
- The M5 was the 11th most congested corridor in 2011.

WestConnex Stage 3 complements Stages 1 and 2 (currently being delivered) and is important in realising the benefits of the WestConnex project as a whole. Modelling conducted as part of the Audit indicates that in the absence of improvements in the corridor, the delay cost of the Parramatta Rd (A31) City West Link Corridor Sydney – Ashfield, Gore Hill/Warringah Freeway/SHB/Eastern Distributor, and Airport to CBD corridors would increase from $141 million in 2011 to $665 million in 2031.

Proposed initiative

WestConnex is a program of around 33 km of interconnected road projects that will extend the M4 motorway towards Sydney city, widen the M5 East motorway (including duplicating the existing tunnels) and then join the two motorways with a new tunnel running under the inner western suburbs of Sydney. Stage 3 relates to the connection between the M4 and M5 corridors.

Next Steps

Business case development. Infrastructure Australia has received a draft business case.

M4 motorway upgrade

Parramatta to Lapstone

Infrastructure Priority List classification

High Priority Initiative

Location

Western Sydney, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

The problem being addressed by the initiative is congestion on the M4, which constrains productivity growth. The absence of management of the motorway prevents it from achieving its maximum productivity.

Demand for the corridor is currently exceeding capacity. Transport modelling undertaken as part of the Australian Infrastructure Audit (April 2015) noted that this corridor currently has a volume to capacity ratio of 1.1 (for 2011 AM and PM peaks) and is projected to have a delay cost of $209 million in 2031.

The M4 motorway is an important part of Sydney's urban transport system for freight and passenger travel. It serves 170,000 vehicles per day, providing a key access route between and within Western Sydney. Growing travel demand will be driven by population and employment growth in Western Sydney.

Proposed initiative

The initiative would introduce motorway management systems on the M4. This 'smart motorways' approach allows for better use of existing infrastructure, by managing the point at which traffic flow breaks down, to improve the throughput and travel times on the motorway.

Next Steps

Business case development. Infrastructure Australia has received a draft business case.

Southern Sydney to CBD public transport enhancement

Infrastructure Priority List classification

High Priority Initiative

Location

Central southern Sydney corridor

Problem Timescale

Medium term (5-10 years)

Nominator

NSW Government

Problem

The transport network between the Sydney CBD and the area south towards Kingsford Smith Airport lacks the capacity to effectively handle prospective population growth (a projected increase of 30,000 residents by 2036). While Green Square has a railway station on its western side, the north and east of Green Square make up a fast growing inner residential area that is not directly served by rapid public transport. Green Square forms part of the nation's largest bus transport task (Eastern Suburbs – South to Sydney Inner City), as identified in the Australian Infrastructure Audit (April 2015). Due to road congestion, bus transport to the Sydney CBD is slow and unreliable. Potential growth in bus transport, to service a larger population, will add to congestion close to the centre of Sydney.

With Green Square abutting the Sydney Airport precinct and close to the Port Botany precinct (which together generate more than $10 billion per year in economic activity), there is also an opportunity to grow commercial activity, facilitated by reliable, rapid public transport.

Proposed initiative

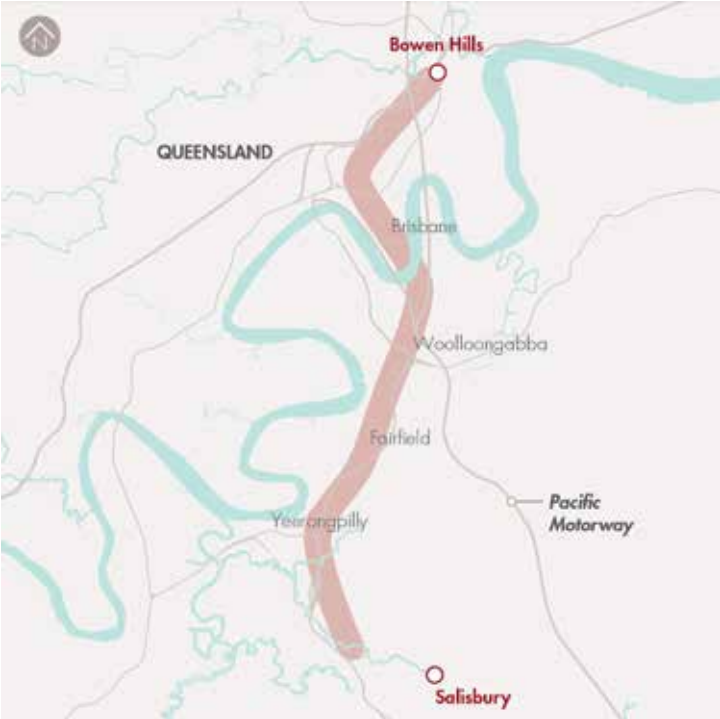
Provide a high capacity, rapid transport link, which could be bus or light rail, between the Sydney central business district and the unserved parts of the area. Subject to further investigation, this could be extended in future to Mascot, Rosebery, Sydney Airport and Port Botany.

Next Steps

Business case development

Cross River Rail

Passenger rail connection to and through Brisbane CBD



Infrastructure Priority List classification

High Priority Initiative

Location

Brisbane, Queensland

Problem Timescale

Near term (0-5 years)

Nominator

Queensland Government

Problem

The problem relates to capacity constraints in the existing transport system for trips to and from the Brisbane CBD, and strong population and employment growth in South East Queensland.

The current rail connection into Brisbane's CBD is expected to reach capacity by the early to mid 2020s, while parts of the road and bus network are close to or at capacity. The population of South East Queensland is forecast to continue to grow at about 3 per cent per annum through to at least 2041, which together with strong jobs growth in the CBD will drive additional demand for trips to and from the CBD.

The Australian Infrastructure Audit (April 2015) identified crossings of the Brisbane River as a critical bottleneck for trains and buses.

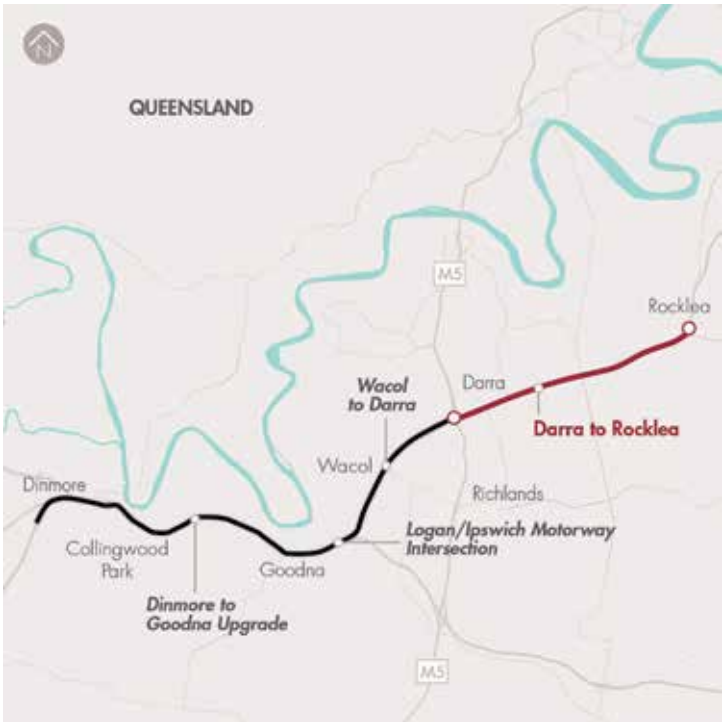
Proposed initiative

The initiative would provide a north-south passenger rail line in Brisbane's inner city from Bowen Hills (north of the CBD) to Salisbury, travelling via Roma Street, the southern CBD and Woolloongabba. This would provide a second rail crossing of the Brisbane River, and reduce demand for buses to enter the CBD by providing bus connections to the rail network.

Next Steps

Business case development

Ipswich Motorway Rocklea-Darra



Infrastructure Priority List classification

High Priority Initiative

Location

Western Brisbane, Queensland

Problem Timescale

Near term (0-5 years)

Nominator

Queensland Government

Problem

The initiative seeks to address congestion and extensive delays in the Ipswich Motorway corridor. Modelling undertaken for the Australian Infrastructure Audit (April 2015) estimates the direct cost of congestion along the corridor at around $30 million to $40 million in 2011, which is likely to increase considerably over time.

The problem results in inefficient freight movement. The Ipswich Motorway is one of the three busiest freight corridors in Queensland. The section between Rocklea and Darra is used by 10,000-12,000 heavy vehicles a day, representing 15-18 per cent of all traffic.

Proposed initiative

The initiative proposes a suite of road upgrades, including between Rocklea and Darra. This submission relates to Package 1 of the project, which consists of:

- widening to three lanes between Oxley Road and Suscatand Street
- a northern service road across Oxley Creek
- ramp rationalisation and smart motorway treatments for the entire seven kilometre Rocklea to Darra section length.

Subsequent works will be required to complete the full upgrade between Rocklea and Darra.

Next Steps

Business case development. Infrastructure Australia has received a draft business case.

Gawler Line rail upgrade

Infrastructure Priority List classification

High Priority Initiative

Location

Gawler to Adelaide City, SA

Problem Timescale

Near term (0-5 years)

Nominator

SA Government

Problem

The Australian Infrastructure Audit (April 2015) (the Audit) identified that demand on the northern line between Gawler and Adelaide is expected to almost double by 2031. Salisbury (serviced by the Gawler rail line) has been identified by the Audit as the second most frequented destination in greater Adelaide for rail trips. The current load factor during the morning peak reaches 75 per cent along the busiest sections of the rail line and network capacity is expected to be reached within 5 to 10 years.

Increased patronage is driven by high population growth in areas that are serviced by the Gawler line, including Gawler-Two Wells, Playford and Salisbury. An additional 116,000 residents are expected to live in these suburbs by 2031.

The Gawler rail line is currently serviced by diesel rail cars as the line has not been fully electrified. As 22 electric railcars are currently serviced at the maintenance facility at Dry Creek on the Gawler line, diesel rail cars are required to haul the electric fleet, resulting in inefficient use of the diesel fleet and unnecessary dead running.

The diesel fleet and the signalling system on the line are reaching the end of their reliable service life, presenting an opportunity to invest in sustainable, reliable and efficient transport solutions.

Proposed initiative

The upgrade and electrification of the Gawler rail line, including installation of a new signalling system.

Next Steps

Business case development

Hoddle Street capacity upgrade

Infrastructure Priority List classification

High Priority Initiative

Location

Inner Melbourne, Victoria

Problem Timescale

Near term (0-5 years)

Nominator

Victorian Government

Problem

Hoddle Street is a major arterial road in inner Melbourne that provides a link between the Eastern and Monash Freeways. The Victorian Government estimates that over 300,000 people travel along or across Hoddle Street each day either by car, tram, bus, bike or on foot. Hoddle Street is often heavily congested, and as a result, is unsafe and inefficient. Average travel speeds during the morning and evening peaks are generally around 20 km/hour but can drop below 10 km/hour in some sections. The Australian Infrastructure Audit (April 2015) found that the cost of congestion on Melbourne's major roads could reach $9 billion a year by 2031 if nothing is done to reduce congestion. Congestion on Hoddle Street increases travel time costs, vehicle operating costs, vehicle emissions and the chance of accidents.

A study conducted by the Victorian Government found that Hoddle Street is in the 'very high' risk group for accidents – higher than similar arterial roads.

Proposed initiative

A number of options are being considered to alleviate congestion on Hoddle Street. Options being considered include, but are not limited to:

- Enhancing computerised traffic management systems
- Implementing best practice Intelligent Transport Systems
- Revising operations at intersections
- Prioritising public transport
- Increasing service levels
- Exploring the use of continuous flow intersections, which are designed to improve traffic flow through intersections by reducing delays caused by right-turning traffic.

Next Steps

Business case development

Cranbourne-Pakenham rail line upgrade

Infrastructure Priority List classification

High Priority Initiative

Location

Melbourne – Dandenong Rail Corridor

Problem Timescale

Near term (0-5 years)

Nominator

Victorian Government

Problem

The Cranbourne-Pakenham rail lines are part of the Dandenong Rail Corridor (DRC). Reliability and punctuality on the DRC is an issue. The DRC performs poorly in terms of customer satisfaction, and is the worst performing line in the Melbourne metropolitan network in terms of punctuality. Unless reliability and punctuality can be improved, existing users will be discouraged from continuing to use rail and may seek other modes of transport – placing additional pressure on the already congested road network.

Peak passenger demand, which drives levels of service and affects punctuality and reliability, is forecast to remain strong over the medium to long term. The Australian Infrastructure Audit (April 2015) estimated that the DRC will exceed crush capacity by 2031 – causing further train delays.

The DRC is already operating above its practical capacity (i.e. operating over the accepted threshold passenger load in peak periods). As population along the corridor and peak demand continues to increase, there is no spare capacity to service additional passengers.

Proposed initiative

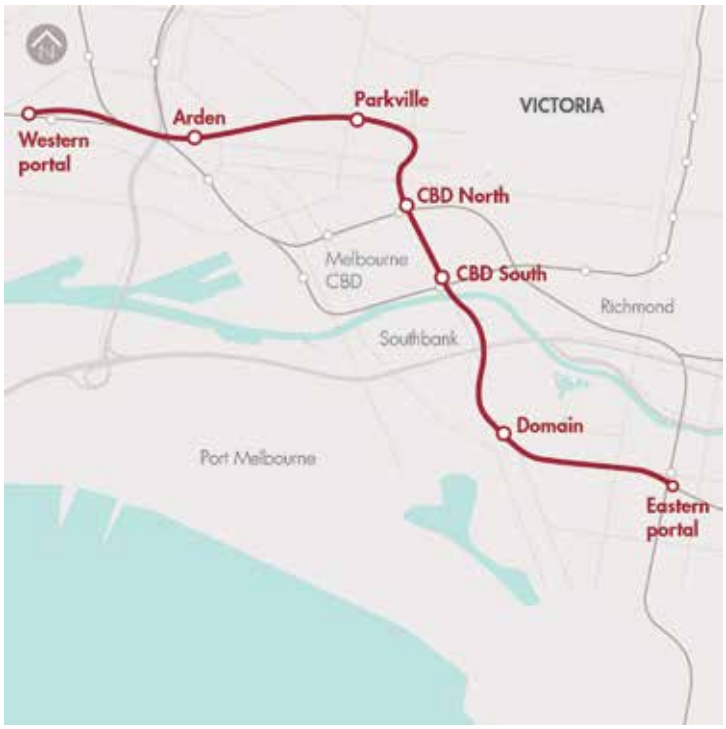
The Cranbourne-Pakenham Line Upgrade Program includes rolling stock and supporting infrastructure upgrades (e.g. procuring high capacity trains and improving signalling to increase train frequency). Complementary corridor initiatives including a proposal to remove nine level crossings between Caulfield and Dandenong are also being considered.

Next Steps

Business case development

Melbourne Metro Rail

Melbourne CBD rail simplification and capacity upgrade



Infrastructure Priority List classification

High Priority Initiative

Location

Melbourne, Victoria

Problem Timescale

Near term (0-5 years)

Nominator

Victorian Government

Problem

The underlying problem is capacity constraints in Melbourne's rail transport network. This is a particular problem for the connections between the Melbourne CBD and Melbourne's north, west and south-east growth corridors.

The rail network is currently operating at or close to capacity during the morning peak, and is likely to exceed capacity as travel demand is expected to continue to grow faster than population growth.

Public Transport Victoria forecasts that passengers on metropolitan trains entering the city in the morning peak will continue to grow by an average of 3.8 per cent per annum to 2021, and by an average of 3.2 per cent per annum between 2021 and 2031. The Cranbourne/ Pakenham, Sunbury and Werribee lines, which service a number of Melbourne's growth corridors, are predicted to be the most overloaded.

Capacity on Melbourne's metropolitan rail network was identified as a key challenge in the Australian Infrastructure Audit (April 2015).

Proposed initiative

The initiative proposes to construct twin nine kilometre tunnels, from South Kensington to South Yarra, linking the Sunbury and Cranbourne Pakenham rail lines.

Next Steps

Business case development

Road connection between West Gate Freeway and Port of Melbourne and CBD North

Infrastructure Priority List classification

High Priority Initiative

Location

Melbourne, Victoria

Problem Timescale

Near term (0-5 years)

Nominator

Victorian Government

Problem

The key problem is the absence of an east-west connection between West Gate Freeway and Port of Melbourne and CBD North. A lack of connectivity results in road transport congestion and the reliance on the West Gate Bridge for travel from Melbourne's west towards the CBD.

The initiative relates to an area which suffers from significant congestion. According to the Australian Infrastructure Audit (April 2015), the delay cost on the West Gate Freeway/Princes Freeway corridor is around $105 million in 2011. This is projected to increase to $355 million in 2031. The network-wide cost, including the cost for arterial roads that are used to access the Port of Melbourne, would be higher than this.

Proposed initiative

The initiative proposes to develop a connection between the West Gate Freeway, Citylink and Port of Melbourne.

Next Steps

Business case development. Infrastructure Australia has received a draft business case.

M80 Western Ring Road upgrade

Infrastructure Priority List classification

High Priority Initiative

Location

Melbourne, Victoria

Problem Timescale

Near term (0-5 years)

Nominator

Victorian Government

Problem

The M80 was identified as a significant problem in the Australian Infrastructure Audit (April 2015); growth in demand is causing the M80 corridor to operate beyond capacity, especially during peak periods.

The M80 is used by 160,000 vehicles per day, connecting major population centres in Melbourne's north and west to the CBD and elsewhere, and facilitating access to Melbourne's port, airports and other major road corridors including the M1, M8, M31 and M79.

Congestion on the M80 is increasing travel times along the corridor, which is imposing significant costs on businesses. Congestion is also producing negative social and environmental impacts as a result of increased travel time and fuel consumption, and higher vehicle crash rates.

Projected population and economic growth in centres to the west and north of Melbourne are likely to contribute to congestion along the corridor, amplifying these problems.

Proposed initiative

The M80 Upgrade is a 38 kilometre freeway upgrade project that extends from the West Gate Freeway to the Greensborough Highway. The upgrade of the entire corridor has been occurring in multiple stages due to the size and complexity of the initiative. Completed sections have been opening since 2012. The following sections remain to be upgraded:

- Plenty Road to Greensborough Highway (2.4 km)
- Princes Freeway to Western Highway (7.9 km)
- Sydney Road to Edgars Road (4.0 km).

The upgrade will involve widening to a minimum three through-lanes in each direction and one or two auxiliary lanes between interchanges where required. The initiative also includes the implementation of Managed Motorway infrastructure along the corridor. The full M80 upgrade is expected to allow additional throughput of 66 per cent, or 41,000 vehicles, in comparison to the road's capacity in 2008.

Next Steps

Business case development

Cranbourne-Pakenham level crossings removal

Infrastructure Priority List classification

High Priority Initiative

Location

Melbourne - Dandenong Rail Corridor

Problem Timescale

Near term (0-5 years)

Nominator

Victorian Government

Problem

Traffic at level crossings in Melbourne is managed by boom gates that give priority to trains. When closed, these level crossings interrupt the flow of road traffic and cause congestion and delays on Melbourne's roads, including for road based public transport users. Level crossings also introduce a 'conflict point' between rail and road traffic. This can create safety issues. Incidents at level crossings, including collisions and signal faults, impact the efficiency and reliability of the rail network.

If, as is proposed under the complementary Cranbourne-Pakenham Line Upgrade initiative, the capacity of the Cranbourne-Pakenham line is increased with longer and more frequent trains, the interruption to the road network will increase as level crossings are closed more frequently. Modelling suggests that the introduction of additional and longer trains will lead to boom gate closures for up to 95 per cent of the peak period, effectively closing roads during busy times.

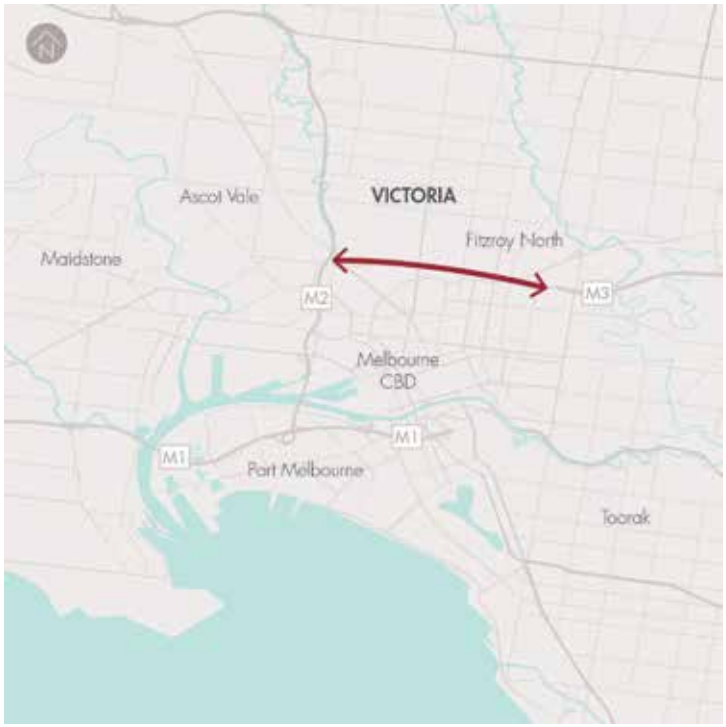
Proposed initiative

The initiative is a proposal to remove nine level crossings between Caulfield and Dandenong.

Next Steps

Business case development

Improve the connection between Eastern Freeway and CityLink



Infrastructure Priority List classification

High Priority Initiative

Location

Melbourne, Victoria

Problem Timescale

Near term (0-5 years)

Nominator

Audit identified gap

Problem

The Australian Infrastructure Audit (April 2015) (the Audit) identified the east-west corridor to the north of Melbourne CBD as one of Melbourne's major congestion challenges. Vehicles travelling east-west between the Eastern Freeway and CityLink are forced to navigate the congested inner city road network, or the heavily utilised M1 corridor to the south of the city. This results in congestion and delays on Melbourne's urban road network for both passenger and freight vehicles. The Audit found that this corridor had the highest 2011 road congestion delay cost in Melbourne, with a delay cost of $73 million. This is expected to worsen by 2031, with delay cost increasing to $144 million.

The Eastern Freeway only extends as far as Hoddle Street on the edge of the CBD, channelling the large volume of vehicles heading into and out of the city onto residential streets in the inner north.

Proposed initiative

The initiative is to improve the connection between the Eastern Freeway and CityLink.

Next Steps

Initiative development

Perth CBD-north corridor capacity

Infrastructure Priority List classification

High Priority Initiative

Location

Perth, WA

Problem Timescale

Near term (0-5 years)

Nominator

Audit identified gap

Problem

Traffic congestion in the Perth metropolitan region is impacting on the efficiency of the transport network.

The Australian Infrastructure Audit (April 2015) (the Audit) found that transport delay costs in Perth are expected to grow at an average annual rate of around 11 per cent over the next 20 years, from $2 billion in 2031 to $16 billion in 2031.

The northern corridor is projected, in the absence of additional capacity, to become the most congested corridor in Perth, with demand expected to exceed capacity well before 2031. The Audit estimates that delay cost on the corridor, including the Mitchell Freeway, Marmion Ave/West Coast Highway and Wanneroo Road, will be $2 billion ($2011) in 2031. Congestion is expected to be driven by strong population growth in the North West sub-region (averaging around 5.2 per cent per annum).

The increase in road demand, and road congestion, is expected to be matched by strong growth in demand for public transport. An additional 123,000 daily trips are expected to occur on the Joondalup rail line by 2031, resulting in demand exceeding capacity by over 2.5 times during the morning peak.

Proposed initiative

A number of approaches could be adopted to increase supply and to manage demand, including additional road capacity, mode shift to public transport or better use of existing roads. The WA Government is currently developing a transport plan addressing this corridor.

Next Steps

Options assessment

Network Optimisation Portfolio

Infrastructure Priority List classification

High Priority Initiative

Location

National

Problem Timescale

Near term (0-5 years)

Nominator

Audit identified gap

Problem

The Australian Infrastructure Audit (April 2015) found that, in the absence of demand management and suitable investment, the total cost of urban congestion could increase from $13.7 billion in 2011 to $53.3 billion ($2011) in 2031. Although its root causes vary, it is a widespread problem across multiple corridors in Australian cities.

Addressing these problems will require multiple investments that are focused on productivity-enhancing network optimisation as well as continued investment in new capacity.

Proposed initiative

The initiative would involve a portfolio of works focused on addressing congestion on urban road networks with comparatively high public transport and freight use. These works could use data and technology to improve network operations by, for example, optimising traffic flow through intersection treatments, traffic light sequencing, clearways and incident management.

The initiative would build on existing work being undertaken in this field. It would focus on urban motorways, major urban arterials, and access to central business districts.

Next Steps

Initiative development

Port Botany freight rail duplication

Infrastructure Priority List classification

High Priority Initiative

Location

Sydney, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

Port Botany is one of Australia's most significant import/export terminals for containerised freight, and a backbone asset for economic productivity within Sydney and NSW. The Australian Infrastructure Audit (April 2015) found the Direct Economic Contribution of Port Botany is projected to grow from $5 billion in 2011 to $8 billion in 2031, a 63 per cent increase.

The Port Botany freight line is currently operating close to capacity. Additional demand arising from growth in interstate, intrastate and import/export freight has the potential to create a bottleneck along this line, impacting on reliability and restricting the efficient movement of freight across the broader Sydney rail network.

As Sydney's primary container port, it is vital that Port Botany maintains throughput capacity to meet demand over the long term. Currently, only a small portion of freight is moved using the freight rail network, which imposes additional demands on the road network. Truck traffic at Port Botany is estimated to increase by 400 per cent by 2030, driven largely by expected growth in throughput at Port Botany.

Proposed initiative

The proposed initiative aims to upgrade the capacity of the Port Botany Rail Line by completing a duplication of 2.8 kilometres of the line. The proposed initiative will form part of a broader strategy designed to drive growth in rail mode share.

Next Steps

Business case development

Chullora Junction upgrade

Infrastructure Priority List classification

High Priority Initiative

Location

Sydney, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

The current configuration of Chullora Junction creates a significant operational constraint for Sydney's Metropolitan Freight Rail Network. Given the forecast growth in freight movements as a result of significant developments (e.g. the Moorebank Intermodal Terminal) and population growth, the junction will become a major bottleneck in the absence of any improvements. This will negatively impact on the efficient movement of freight across the network.

If the capacity and resilience of Sydney's rail freight network is not addressed, congestion on both the rail and road networks will substantially increase, impacting productivity and increasing delays for freight and passengers.

In order to reduce reliance on Sydney's road network, the rail network and intermodal terminals must provide an efficient and cost competitive alternative to road distribution. Removing identified bottlenecks on the network is critical to increasing the competitiveness of rail.

Proposed initiative

The proposed initiative involves improvements to the current low speed at-grade junctions at Chullora, including possible duplication of the Chullora North/ Chullora West connection and a holding road between Chullora Junction and Flemington Junction. The proposed initiative would form part of a broader strategy designed to drive growth in rail mode share.

Next Steps

Business case development

Connection from Port Botany and Sydney Airport to WestConnex at St Peters

Infrastructure Priority List classification

High Priority Initiative

Location

Sydney, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

The initiative addresses the problem of connectivity between Sydney Airport, Port Botany and the Sydney Motorway network. Road congestion on the arterial road network in and around Port Botany and Sydney Airport causes significant delays.

Congestion is a problem throughout the day, rather than just at peak times, with the major road links congested for over half the day. Part of this congestion is generated by road freight in and around Port Botany. Truck traffic at Port Botany is estimated to increase by 400 per cent by 2029/30, if the mode share of rail does not increase. Congestion will be exacerbated by:

- Growing imports and exports through Port Botany. The 2011 throughput of two million Twenty Foot Equivalent Units (TEU) per annum at Port Botany is projected to increase to seven million TEU by 2031, an annual growth rate of approximately 7 per cent
- High growth rates for passenger air travel, estimated by Sydney Airport at 4.2 per cent per year and 2.9 per cent per year for international and domestic travel respectively.

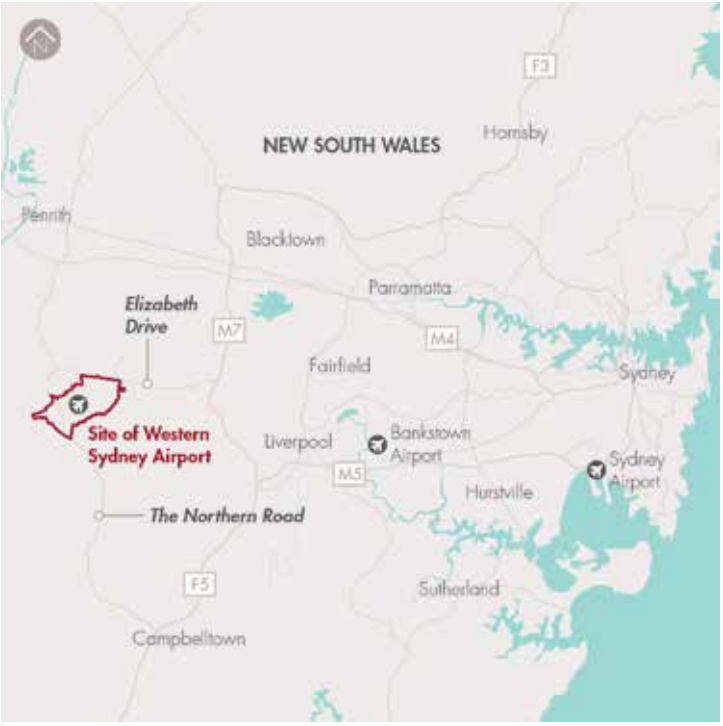
Proposed initiative

The initiative aims to provide a connection from Sydney Airport and Port Botany to WestConnex. It will provide an integrated high capacity road connection from the WestConnex – St Peters Interchange to the Sydney Airport and Port Botany precinct, allowing airport and port traffic to avoid local arterial roads when accessing WestConnex.

Next Steps

Business case development

Western Sydney Airport



Infrastructure Priority List classification

High Priority Initiative

Location

Badgerys Creek, Western Sydney, NSW

Problem Timescale

Longer term (10-15 years)

Nominator

Department of Infrastructure and Regional Development

Problem

The limited capacity of the existing Sydney airport is a significant constraint to aviation growth in the Sydney basin.

The Australian Infrastructure Audit (April 2015) found that demand for aviation capacity in the Sydney basin, driven by population growth and increases in air travel, is projected to exceed the airport's current capacity. Without major additional capacity, economic growth in Sydney, and Australia more generally, will be constrained.

Proposed initiative

The initiative is to develop a second airport in the Sydney basin on Government-owned land at Badgerys Creek in Western Sydney. The site is away from major population centres and the airport would operate without a curfew. The Stage 1 development will cater for the predicted demand of up to 10 million annual passengers as well as freight traffic for five years following opening in 2025. Further development stages would follow in line with the normal investment decisions by the airport operator. A single runway airport would provide a capacity of around 36 million annual passengers, while further development including a second runway would provide long term capacity of about 82 million annual passengers.

Next Steps

Business case development

Port of Brisbane dedicated freight rail connection

Infrastructure Priority List classification

High Priority Initiative

Location

Brisbane, Queensland

Problem Timescale

Near term (0-5 years)

Nominator

Audit identified gap

Problem

Freight volumes at the Port of Brisbane are forecast to increase by 76 per cent, representing an increase of 4.8 per cent per annum to 2045. The Australian Infrastructure Audit (April 2015) identified that growth at the Port of Brisbane is likely to become constrained by the lack of a dedicated rail freight connection.

Rapid population growth in South East Queensland is creating significant congestion on both the road and rail networks, negatively impacting the productivity of greater Brisbane and the Queensland Economy as a whole.

The preservation and, ultimately, construction of a dedicated freight rail corridor will allow more freight movements to be removed from the road network, which would help alleviate congestion.

Proposed initiative

The proposed initiative is to improve connectivity between the Port of Brisbane and freight terminals in the Brisbane region through preserving and, ultimately, constructing a dedicated freight rail corridor. The initiative should aim to meet the projected increase in freight volumes and capitalise on economic opportunities, while encouraging a modal shift from road to rail.

Next Steps

Options assessment

National Freight and Supply Chain Strategy

Infrastructure Priority List classification

High Priority Initiative

Location

National

Problem Timescale

Near term (0-5 years)

Nominator

Audit identified gap

Problem

The Australian Infrastructure Audit (April 2015) found that population and economic growth will increase demand for freight transport, with the national land freight task expected to increase by 86 per cent to 2031.

While there has been significant work undertaken on national strategies for land transport and ports, there is a need to further progress this work, taking a whole-of-supply chain perspective. National-level long-term freight master planning will facilitate more effective infrastructure planning, and more robust investment decisions in the freight and supply chain sector. Failure to adequately cater for the expected increase in freight transport will increase freight network congestion around Australia, and ultimately harm national productivity.

Proposed initiative

The Strategy would build on existing work, adopting a holistic approach to the planning and performance of the national freight and supply chain networks. The Strategy, which will be developed through a collaborative approach with all levels government and industry, will provide appropriate frameworks to support end to end planning of key freight and supply chains. It will:

- Guide future investment
- Support better use from existing infrastructure assets
- Recommend a program of regulatory reforms and capital initiatives.

Next Steps

Initiative development

Preserve corridor for Outer Sydney Orbital road and rail / M9

Infrastructure Priority List classification

High Priority Initiative

Location

Western Sydney, Illawarra, Central Coast

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

Western Sydney, and areas north and south of Sydney, will need to accommodate large travel demand increases due to significant population and employment growth.

An additional 65,000 people are expected to live in the Illawarra and Central Coast, and an additional one million people in Western Sydney by 2031. The broader Western Sydney Employment Area is expected to provide 212,000 new jobs in the long term.

Traffic modelling undertaken in the Australian Infrastructure Audit (April 2015) indicates that in 2031 parts of the existing outer Sydney road network will be at or above capacity, which is expected to result in congestion and long travel times.

In the absence of long term planning and corridor protection, future infrastructure provision would be complex and costly.

Proposed initiative

This initiative proposes to conduct a planning study to identify a preferred alignment for a multi-modal transport corridor comprising a motorway, a north-south freight rail line, and where practical, passenger rail, and to preserve the preferred corridor.

Next Steps

Options assessment

Preserve corridor for Western Sydney Airport fuel pipeline

Infrastructure Priority List classification

High Priority Initiative

Location

Badgerys Creek, Sydney, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

Western Sydney Airport is projected to commence operation by 2025. When operation reaches full capacity, the airport could potentially require 50-65 B-double fuel tanker deliveries per day, which would add to congestion on Sydney's urban road network. The reliance on fuel transportation by heavy vehicles could also generate congestion problems at the airport site, and contribute to delay costs along key freight corridors.

While a dedicated fuel pipeline is unlikely to be required upon the commencement of operations at Western Sydney Airport, the identification and preservation of a corridor will ensure a route for the pipeline is available when required.

Developing a fuel pipeline connection would enable efficient, safe and cost effective transportation of jet fuels in significant volumes.

Proposed initiative

Identify and preserve a corridor for a fuel pipeline connection between the Sydney fuel pipeline network and Western Sydney Airport.

Next Steps

Options assessment

Preserve corridor for Western Sydney Airport rail connection

Infrastructure Priority List classification

High Priority Initiative

Location

Sydney, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

Over the next two decades, Western Sydney will be home to an additional 900,000 people, with more than half of all Sydneysiders expected to be living in this region within 25 years. Preliminary analysis indicates that within five years from operation commencement in 2025, total passenger demand at Western Sydney Airport could reach 10 million per annum.

Provision of efficient transport options connecting the Western Sydney Airport to other key hubs such as the CBD, Parramatta, Western Sydney Employment Area, and North West and South West Growth Centres is critical to avoid unnecessary travel delays and enable sustained economic growth.

Proposed initiative

Identify and preserve a rail corridor connecting the Western Sydney Airport to the Sydney rail network.

Next Steps

Options assessment

Preserve corridor for Lower Hunter freight rail realignment

Infrastructure Priority List classification

High Priority Initiative

Location

Fassifern – Hexham, Hunter Region, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

The existing Main North railway line services coal freight travelling to the Port of Newcastle, interstate freight travelling from Sydney and Melbourne to Brisbane, as well as intrastate freight and passenger trains.

Line congestion, and the priority given to passenger trains on shared parts of the rail network, mean that the efficiency and cost effectiveness of freight movement is reduced in the Lower Hunter region in and around Newcastle. This affects bulk freight destined for the Port of Newcastle as well as containerised and general freight being transported on the east coast freight rail network linking Melbourne, Sydney and Brisbane. Rail freight inefficiency increases costs, and makes rail less competitive than road. This in turn creates an incentive for more trucks to be on the road, which increases congestion, vehicle emissions and noise, and affects amenity.

Proposed initiative

This initiative is to identify and protect the relevant rail corridor alignment in the lower Hunter Region to provide an opportunity to construct a dedicated freight rail network that will allow passenger services and freight trains to run concurrently on separate lines.

Next Steps

Options assessment

Preserve corridor for Western Sydney Freight Line and Intermodal Terminal access

Infrastructure Priority List classification

High Priority Initiative

Location

Western Sydney, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

The national land freight task is expected to grow by 86 per cent between 2011 and 2031.The Australian Infrastructure Audit (April 2015) found that freight rail will need to play a growing role in the movement of goods between ports and inland freight terminals. The role of freight rail will be particularly important for containerised freight with demand for container terminal port infrastructure projected to grow faster than Gross Domestic Product.

Currently, only 14 per cent of container freight handled at Port Botany is transported by rail. If this trend continues, congestion on Sydney's road network will increase as the number of trucks required to meet the growing freight task increases.

In order to facilitate a shift from road to rail for containerised freight movement in Sydney, additional capacity and higher levels of service are required on Sydney's rail freight network.

Proposed initiative

The Western Sydney Freight Line is a proposed dedicated rail freight line connecting Western Sydney to the Sydney Metropolitan Freight Network, with connections to intermodal terminals to service freight moving through Western Sydney from across NSW. The core objective of the initiative is to reduce growth in truck movements on the Sydney road network and reduce delays to freight trains on the main Western Line, where passenger trains have priority. Preservation of the corridor is the first step to achieving this objective.

Next Steps

Options assessment

Preserve corridor for Melbourne Outer Metropolitan Ring Road/E6

Infrastructure Priority List classification

High Priority Initiative

Location

Melbourne, Victoria

Problem Timescale

Near term (0-5 years)

Nominator

Audit identified gap

Problem

There is a need to preserve transport corridors to ensure cost effective transport infrastructure is able to be provided in the future. Preserving transport corridors is a multi-step process which includes defining the corridor, applying land use controls, and acquiring the land required for the corridor.

The Victorian Government has undertaken planning for the Outer Metropolitan Ring Road and E6 corridor, and defined the corridor through application of a Public Acquisition Overlay in 2010. This allows for compulsory acquisition of property when required. It also gives VicRoads rights to request refusal of development applications.

The early protection and staged purchase of land in the corridor is aligned with Infrastructure Australia's previous recommendations to the Council of Australian Governments, and consistent with the 2016 Australian Infrastructure Plan.

Proposed initiative

The initiative is corridor preservation for the Outer Metropolitan Ring Road and E6 in Melbourne. The corridor has provision for a freeway (four to six lanes in each direction) and four rail tracks. The land required for the corridor was defined and preserved in 2010 through a Public Acquisition Overlay. The next step in preserving the corridor is acquisition of land in the corridor as it becomes available.

Next Steps

Business case development

Preserve corridor for East Coast High Speed Rail

Infrastructure Priority List classification

High Priority Initiative

Location

Eastern seaboard: Melbourne to Brisbane

Problem Timescale

Near term (0-5 years)

Nominator

Audit identified gap

Problem

By 2075, the population of Melbourne, Sydney and Brisbane is projected to exceed 30 million people. The future demand for efficient, high-capacity transport services between major centres on the east coast will likely exceed the capacity of existing and planned rail, road and aviation services.

Protecting a corridor would significantly increase options for future development of high speed rail infrastructure to meet future demand for inter-city and regional travel.

Proposed initiative

Confirm and begin the preservation of a corridor, based on the corridor set out in the Australian Government's High Speed Rail Study Phase 2, for a high speed rail link between Melbourne, Sydney and Brisbane.

Next Steps

Business case development

Active transport (walking and cycling) access to Sydney CBD

Infrastructure Priority List classification

Initiative

Location

Inner Sydney, NSW

Problem Timescale

Near term (0-5 years)

Nominator

City of Sydney

Problem

The cost of congestion in Sydney is estimated to increase from around $6 billion in 2011 to $15 billion in 2031. With a growing population and an increasingly centralised workforce, Inner Sydney is forecast to have the highest number of trips for any region in NSW.

Five of Sydney's most congested urban roads are located within a 10 kilometre radius of Sydney's Central Business District. The public transport network in Inner Sydney is also projected to reach or exceed current capacity by 2031.

There are more than one million daily short distance trips (i.e. less than five kilometres) undertaken by private motor vehicles and taxis within 10 kilometres of the CBD. Safety concerns, along with disparate travel routes, are current barriers to other forms of short distance or active transport.

A two to five per cent shift of short distance car trips within 10 kilometres of the CBD to active transport may result in a reduction of between 20,000 and 50,000 motor vehicles per day on inner Sydney's congested corridors.

Proposed initiative

Upgrade a network of 284 kilometres of dedicated cycling and shared cycling/walking paths, on existing radial and cross regional corridors within a 10 kilometre radius of the CBD.

Next Steps

Business case development

Western line CBD to Parramatta upgrade

Infrastructure Priority List classification

Initiative

Location

Parramatta to Sydney CBD, NSW

Problem Timescale

Near term (0-5 years)

Nominator

Audit identified gap

Problem

The Western line on Sydney's suburban rail network is one of Sydney's busiest passenger corridors. The Australian Infrastructure Audit (April 2015) (the Audit) identified the areas of Parramatta and Strathfield-Burwood-Ashfield as having the highest rail patronage of any Sydney region outside of the CBD.

The Audit projects passenger demand on the line to increase strongly by 2031 (by around 50 per cent on current levels), supported by above average population growth around and to the west of Parramatta (around 1.9 per cent on average) and employment growth (around 2 per cent on average) in economic centres along the line.

By 2031, the Audit identifies that passenger loadings during peak periods are projected to reach or exceed capacity on most sections of the line. This will likely lead to a reduction in reliability and quality of service, and an increase in travel times. It will also reduce connectivity between Western Sydney and the Global Economic Corridor, including the Sydney CBD and other economic centres to Sydney's North and North-West. The absence of an appropriate response could potentially encourage mode shift to road, increasing demand on the M4 and adding to road congestion.

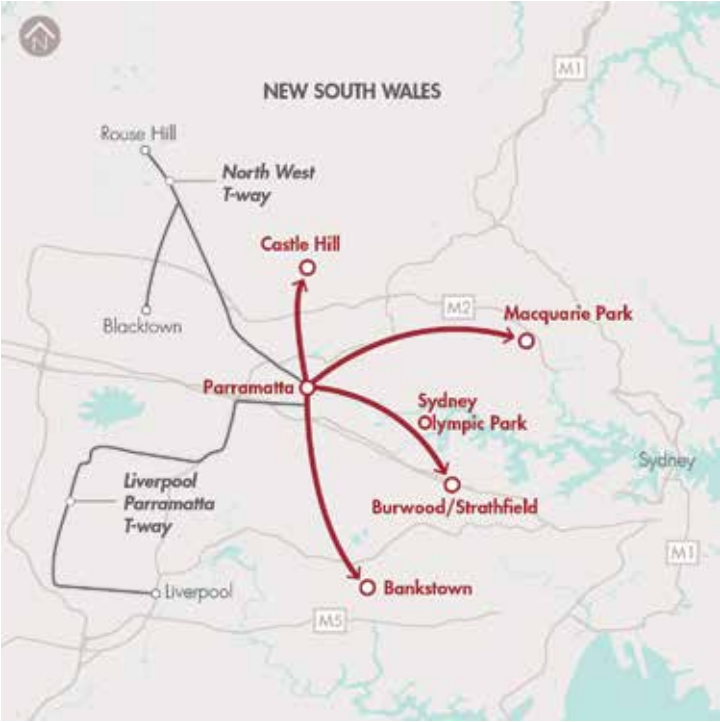
Proposed initiative

There are several options, subject to further investigation, to increase speed and capacity on the Western Line rail corridor. This could range from measures that increase utilisation of the existing track through further track works, signalling and power supply upgrades, combined with investment in new rolling stock, to the construction of a metro line that accommodates higher frequency trains on or parallel to the Western line.

Next Steps

Initiative development

Public transport access to Parramatta CBD



Infrastructure Priority List classification

Initiative

Location

Western Sydney, NSW

Problem Timescale

Medium term (5-10 years)

Nominator

NSW Government

Problem

The Australian Infrastructure Audit (April 2015) identified significant future congestion and capacity constraints on both the road and rail network operating in western Sydney.

Over the next 20 years, Sydney's population is estimated to increase by 1.6 million people. The majority of this growth (900,000 people) is forecast to occur in western Sydney. As a stand-alone region, western Sydney is now the nation's fourth largest city and third largest economy.

The Parramatta CBD and several other precincts including the Westmead health precinct, the Western Sydney University, Rydalmere, North Parramatta, and Camellia have been identified for urban renewal and residential and commercial redevelopment. This redevelopment is expected to accelerate Parramatta's growth and bring more jobs, businesses and residents into the Parramatta CBD and surrounding areas. Employment in the Parramatta Local Government Area is expected to grow by 30 per cent by 2031 (from 114,000 people at present). This growth will create significant transport-related challenges which are expected to exacerbate an existing problem of limited public transport accessibility to Parramatta and western Sydney.

Without investment in public transport, population growth and people coming in to the area is expected to increase congestion on the road and train networks.

Proposed initiative

Additional public transport, which could include bus or light rail, is required in western Sydney to alleviate congestion on the road and public transport networks. Some public transport solutions can also facilitate urban renewal in western Sydney.

Next Steps

Options assessment

Extend M1 from Waterfall to Sydney motorway network

Infrastructure Priority List classification

Initiative

Location

Sydney, NSW

Problem Timescale

Medium term (5-10 years)

Nominator

NSW Government

Problem

There is no motorway standard route southwards between the Sydney motorway network and the M1 at Waterfall. Demand for road travel along this corridor is high and the arterial network is at capacity during peak periods. The three crossings of the Georges River, which together accommodate almost 200,000 trips per day, are at or close to capacity. These problems lead to long travel times, both because of slower speeds and intersections on arterial roads and congestion.

The Australian Infrastructure Audit (April 2015) identified the Sutherland-Ryde/Parramatta Corridor as being the 5th most congested in the greater Sydney area in 2011, and the 6th most congested in 2031. The King Georges Road Corridor, from Princes Highway to the M4, was ranked as the 2nd most congested in 2011 and 3rd most congested in 2031.

Proposed initiative

The initiative is a motorway connection from the M1 at Waterfall to the Sydney motorway network. The connection is anticipated to be 3 lanes each way. The route and point of connection has not been developed at this stage, although parts of the corridor have been preserved.

Next Steps

Options assessment

WestConnex Stages 4a & 4b

Western Harbour Tunnel and Beaches Link

Infrastructure Priority List classification

Initiative

Location

Sydney, NSW

Problem Timescale

Longer term (10-15 years)

Nominator

NSW Government

Problem

The initiative is aimed at addressing projected travel demand across Sydney Harbour and onto the Northern Beaches. Congestion on these corridors impacts on bus and private vehicle travel, with bus travel particularly impacted by congestion on the Spit Bridge/Military Road. The high levels of demand for existing infrastructure reflects the channelling of traffic into harbour crossings Sydney Harbour Bridge and Tunnel (across Sydney Harbour) and Spit Bridge (across Middle Harbour).

The Australian Infrastructure Audit (April 2015) ranked the North Sydney – Northern Beaches corridor as the 10th most congested corridor in the wider Sydney region in 2011, and 11th in 2031. The Gore Hill/Warringah Freeway/Sydney Harbour Bridge/Eastern Distributor was ranked 12th in 2011, and is projected to be the most congested corridor in NSW in 2031.

Proposed initiative

The initiative proposes a motorway crossing underneath Sydney Harbour (Stage 4a), connecting WestConnex Stage 3 with the Warringah Freeway, and a motorway connection from the Warringah Freeway to Seaforth/ Balgowlah (Stage 4b).

Next Steps

Options assessment

Gold Coast Light Rail – Stage 2

Connecting existing Gold Coast light rail to Brisbane heavy rail at Helensvale

Infrastructure Priority List classification

Initiative

Location

Gold Coast, Queensland

Problem Timescale

Near term (0-5 years)

Nominator

Queensland Government

Problem

The problems addressed by the initiative are: increasing levels of congestion on motorways providing access between Brisbane and the Gold Coast; a lack of public transport connectivity between major regional centres, and poor access and high delay costs within the Gold Coast urban transport network.

The Australian Infrastructure Audit (April 2015) projects that the main road route from Brisbane to the Gold Coast will encompass four of the top 10 road corridors in the South East Queensland region in terms of delay costs in 2031. Moreover, the Southport-Burleigh Heads road corridor, of which the Gold Coast urban transport network is a part, is projected to have the 10th highest delay cost by 2031.

Growth in delay cost is expected to be driven by moderate population growth in the Gold Coast and more rapid population growth in South Brisbane, combined with capacity constraints on key connections.

Proposed initiative

The initiative is a 7.3 kilometre extension of the Gold Coast light rail to connect with the Brisbane heavy rail system. The extension would be from the current light rail terminus at Gold Coast University Hospital, northwards to Helensvale. This would include two new stations and potential for two further stations.

Next Steps

Business case development

M1 Pacific Motorway – Gateway Motorway merge upgrade

Infrastructure Priority List classification

Initiative

Location

Brisbane - Gold Coast, Queensland

Problem Timescale

Near term (0-5 years)

Nominator

Queensland Government

Problem

The Pacific Motorway between Tugun and Brisbane is the busiest road corridor in South East Queensland, carrying an average of 145,000 vehicles a day, of which 40 per cent are commercial vehicles. The corridor is a key freight route and part of the National Land Transport Network. Congestion on the corridor is noted in the Australian Infrastructure Audit (April 2015).

The most significant congestion and delays occur at the southbound merge of the Gateway Motorway onto the Pacific Motorway. At this junction, seven lanes of traffic (four from the Pacific Motorway, two from the Gateway Motorway and one from the South East Busway) merge into a three-lane carriageway, resulting in significant congestion.

Alleviating congestion on this section of the motorway will improve the overall efficiency of the National Land Transport Network in South East Queensland, with significant economic benefits likely to be delivered through reduced travel time savings for freight movements, as well as business and commuter travel.

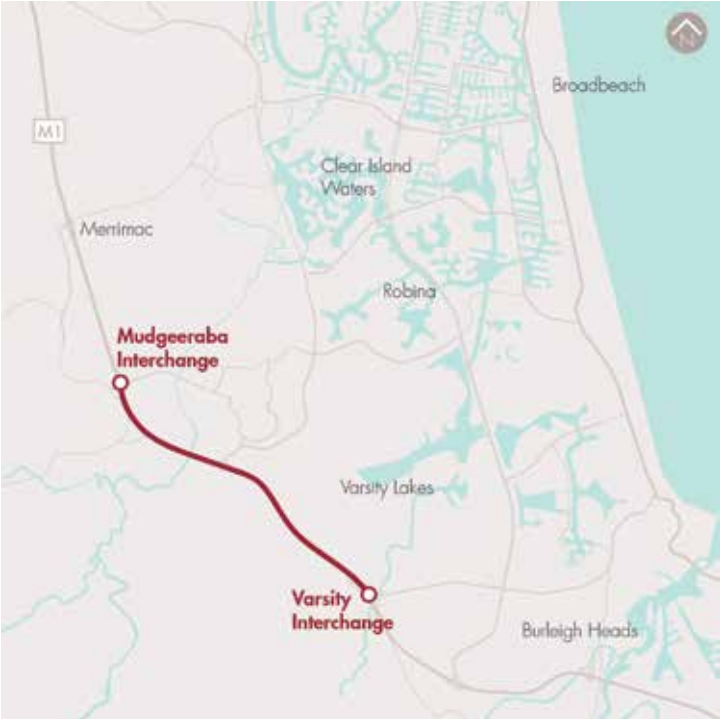
Proposed initiative

The proposed initiative seeks to upgrade a 4.2 kilometre section on the M3 between Eight Mile Plains and Springwood, specifically where the M3 merges with the southbound lanes of the Gateway Motorway (M1).

Next Steps

Business case development

M1 Pacific Motorway upgrade – Mudgeeraba to Varsity Lakes



Infrastructure Priority List classification

Initiative

Location

Gold Coast, Queensland

Problem Timescale

Near term (0-5 years)

Nominator

Queensland Government

Problem

The M1 Pacific Motorway between Mudgeeraba and Varsity Lakes is capacity constrained.

The Australian Infrastructure Audit (April 2015) indicates that the corridor (Pacific Motorway Helensvale - Varsity Lakes) had a delay cost of $26 million in 2011, and the parallel Southport - Burleigh Heads corridor had a delay cost of $37 million.

The problem is expected to result in:

- Unreliable travel times
- Higher risk of accidents (the initiative is expected to reduce the crash rate by 50 per cent)
- Heavy congestion during peak periods, increasing vehicle operating costs and air pollution
- Accelerated deterioration of the road asset due to overuse.

Proposed initiative

The initiative proposes to widen 5 kilometres of the M1 Pacific Motorway from four to six lanes between Mudgeeraba Road/Robina Town Centre Drive (Mudgeeraba) and Reedy Creek Road (Varsity Lakes). The upgrade will include Managed Motorways systems.

Next Steps

Business case development. Infrastructure Australia has received a draft business case.

Adelaide north-south corridor upgrade (remaining sections)

Infrastructure Priority List classification

Initiative

Location

Adelaide, SA

Problem Timescale

Near term (0-5 years)

Nominator

SA Government

Problem

The underlying problem is congestion on the road network, specifically for north-south traffic in the corridor and east-west traffic which crosses the corridor.

Sections of the north-south corridor which have not been upgraded experience slow travel times and reduced travel time reliability. The Australian Infrastructure Audit (April 2015) found that South Road, which is part of the north-south corridor, is expected to have a delay cost of $164 million in 2031. North-south traffic congestion is not limited to South Road; it is also evident along parallel routes, such as Marion Road (with a delay cost of $97 million in 2031) and Goodwood Road (with a delay cost of $60 million in 2031).

South Road is currently optimised for north-south travel in Adelaide, given its role as part of the National Land Transport Network and as a prioritised freight corridor. As such, it can impede east-west traffic movements, potentially increasing travel times in those directions.

Proposed initiative

This initiative focuses on the remaining unfunded sections of the north-south corridor and involves 15 km of grade separated motorway along the existing corridor alignment. When completed, the north-south corridor will be the major transport spine for Adelaide's north-south traffic over a total distance of 78 kilometres.

Next Steps

Business case development

AdeLINK Tram Network

Adelaide tram network expansion

Infrastructure Priority List classification

Initiative

Location

Adelaide, SA

Problem Timescale

Medium term (5-10 years)

Nominator

SA Government

Problem

The Australian Infrastructure Audit (April 2015) (the Audit) found that the performance of urban roads and urban public transport in Adelaide is a key challenge for South Australia.

The Audit estimated that the cost of delay on Adelaide's urban transport network was $1 billion in 2011 and would grow to $4 billion in 2031, in the absence of investments or other changes beyond those already funded.

The major public transport destination in Adelaide is the CBD, with most public transport use being on buses. Public transport use in Adelaide is significantly lower than in Sydney, Melbourne and Brisbane. In Adelaide, the proportion of passengers using public transport for journeys to work is just over 8 per cent, whereas in Melbourne and Brisbane it is 11.5 per cent, and in Sydney it is 17.6 per cent.

Proposed initiative

The initiative is a major expansion of the tram network in Adelaide, creating a tram network around the CBD and inner suburbs. The proposed link to Port Adelaide would entail conversion of existing diesel heavy rail to a modern electric light rail service which would integrate with land use changes and facilitate increased densification.

Next Steps

Options assessment

Melbourne level crossings removal

Infrastructure Priority List classification

Initiative

Location

Melbourne, Victoria

Problem Timescale

Near term (0-5 years)

Nominator

Victorian Government

Problem

Melbourne's transport network includes approximately 180 road/rail level crossings. Road traffic at these level crossings is managed by boom gates which give priority to trains. Level crossings interrupt the flow of road traffic and contribute to congestion and delays on Melbourne's roads. The Australian Infrastructure Audit (April 2015) forecasts that the cost of road congestion in the Melbourne/Geelong area is expected to reach approximately $9 billion by 2031 ($2011).

As Melbourne's train network is modernised, longer and more frequent trains are expected to be introduced to the network to cater for increased demand. Longer and more frequent trains at level crossings will translate into additional delays for road users.

Level crossings also introduce a 'conflict point' between rail and road traffic which creates safety issues. Incidents at level crossings, including collisions and signal faults, impact the efficiency and reliability of Melbourne's transport network.

Proposed initiative

This initiative proposes to remove priority level crossings in Melbourne. The objective of the initiative is to deliver a more reliable, convenient, productive and safer transport system in Melbourne.

Next Steps

Business case development

Melbourne Airport to the CBD public transport capacity

Infrastructure Priority List classification

Initiative

Location

Melbourne, Victoria

Problem Timescale

Medium term (5-10 years)

Nominator

Audit identified gap

Problem

The Australian Infrastructure Audit (April 2015) (the Audit) noted that the corridor between the Melbourne CBD and Melbourne Airport is already one of the most heavily congested roads in Melbourne. The Tullamarine Freeway was already operating at, or close to capacity in 2011. Congestion affects traffic in both directions, particularly close to the airport terminal. Analysis completed as part of the Audit estimated that travel times to the airport during peak periods will increase substantially between 2011 and 2031. Travel time by car in the morning peak from the CBD to the airport is forecast to increase by nine minutes from 33 minutes to 42 minutes, a 27 per cent increase; while travel times by car from Werribee and Doncaster are forecast to increase from an average 61 minutes to 90 and 74 minutes respectively (a 48 per cent and 21 per cent increase respectively).

Melbourne's population growth, combined with expected growth in passenger numbers at Melbourne Airport will be key drivers of future congestion on the Melbourne CBD – Melbourne Airport corridor.

Proposed initiative

Develop options for increasing public transport capacity to Melbourne Airport.

Next Steps

Initiative development

Melton Rail Line upgrade

Infrastructure Priority List classification

Initiative

Location

Northwest Melbourne, Victoria

Problem Timescale

Medium term (5-10 years)

Nominator

Audit identified gap

Problem

Melbourne's long term growth strategy identifies Melton-Bacchus Marsh as a key growth area. The Australian Infrastructure Audit (April 2015) (the Audit) estimates that population growth in the Melton-Bacchus Marsh region will grow at an average annual rate of 3.9 per cent per annum between 2011 and 2031. This is the second highest growth rate in Greater Melbourne.

The Audit identified the Melton-Bacchus Marsh region as an area in which high levels of additional transport activity is expected out to 2031. For example, the Direct Economic Contribution of road and public transport journeys that commence or finish in Melton-Bacchus Marsh is forecast to increase from $0.6 billion in 2011 to $1.8 billion in 2031. Audit data shows that demand on the Melton line is projected to grow to around three times current capacity by 2031.

Currently, the line between Melton station and Sunshine station is operated by V/Line and is not part of the metropolitan network. This section of the line is not electrified, which limits higher capacity trains being introduced on the line. The Melton line currently lacks the capacity to service future population growth.

Proposed initiative

The proposed initiative would involve upgrading the Melton line to expand capacity to service additional demand associated with population growth. Options that may be considered as part of the upgrade include, but are not limited to:

- Preservation of corridors for extensions and/or duplication of the Melton line
- Duplication of the Melton line
- Electrification of the existing Melton line
- Capacity upgrades where the Melton line meets the metro line at Sunshine station (part of the Sunbury line).

Next Steps

Initiative development

Complete Metro Ring Road from Greensborough to the Eastern Freeway

Infrastructure Priority List classification

Priority Initiative

Location

Melbourne, Victoria

Problem Timescale

Medium term (5-10 years)

Nominator

Audit identified gap

Problem

The option for freeway travel between Melbourne's north and south east is currently limited, and requires passing through Melbourne CBD which is regularly congested with inner city commuter traffic, and freight traffic from the Port of Melbourne.

There is currently a 'missing link' between the M80 Metropolitan Ring Road in Melbourne's north and the M3 Eastern Freeway – EastLink in Melbourne's east and south east. The current route – which is to use Greensborough Highway, Rosanna Road, Banksia Road and Bulleen Road – spanning approximately 9.5 kilometres, is congested and operating close to capacity during peak periods, making it inadequate for supporting commercial and freight transport activities.

The Australian Infrastructure Audit (April 2015) estimates the total cost of delay on Melbourne-Geelong's urban transport network in 2011 at around $3 billion. In the absence of additional capacity, this cost of delay is projected to grow to around $9 billion by 2031.

Proposed initiative

Development of a new motorway-standard connection between the Metropolitan Ring Road and Eastern Freeway ('North East Melbourne Corridor') to reduce congestion and capacity constraints.

Next Steps

Initiative development

Melbourne outer northern suburbs to CBD capacity upgrade

Infrastructure Priority List classification

Initiative

Location

Melbourne, Victoria

Problem Timescale

Longer term (10-15 years)

Nominator

Audit identified gap

Problem

The Australian Infrastructure Audit (April 2015) (the Audit) noted that the Hume Freeway would become the most congested corridor in Victoria, on a delay per lane kilometre basis, with a total delay cost of around $172 million per year. The Audit also projects that demand for rail transit in the corridor, on the Craigieburn line, will exceed capacity by a factor of four. In the absence of transport capacity improvements, the Audit indicates that daily vehicle movements on the Hume Freeway would grow from 43,100 in 2011 to 107,400 by 2031, and the rail system in the corridor would be the most crowded in Melbourne by 2031.

Traffic demand growth along the corridor is expected to be driven by population and employment growth in Melbourne's northern growth corridor. The Victorian Government projections indicate that population in the corridor is expected to almost double between 2015 and 2031, while the northern growth corridor plan has the capacity to provide between 83,000 and 105,000 new jobs.

Proposed initiative

The initiative is to investigate options to ensure that transport demand from development in the northern growth corridor is accommodated.

Next Steps

Initiative development

Perth – Forrestfield Airport Rail Link

Infrastructure Priority List classification

Initiative

Location

Perth, WA

Problem Timescale

Near term (0-5 years)

Nominator

WA Government

Problem

The problems addressed by the initiative are public transport connectivity to Perth Airport and suburbs to the east of the Airport, and road congestion in Perth's east.

Perth Airport is Australia's fourth busiest airport and is a nationally significant asset. The Australian Infrastructure Audit (April 2015) (the Audit) found that the airport had a Direct Economic Contribution of $1.89 billion in 2011, which is projected to grow to $5.08 billion by 2031. The airport operator's master plan forecasts passenger numbers will more than double from 13.7 million in 2013 to 28.5 million in 2034.

Modelling undertaken as part of the Audit projects the time for a car trip from Perth Airport to the CBD to increase from 15 - 20 minutes in 2011 to 25 - 30 minutes in the AM peak in 2031. Based on passenger numbers from the airport operator's master plan, and assuming that around half of this travel would be impacted by this additional travel time, the additional congestion cost would be around $60 million per year by 2031.

Proposed initiative

The initiative proposes a rail link from Perth's eastern suburbs, under the airport (either by tunnel or cutting), linking to the existing Perth rail system. By providing a rail link to the airport and eastern suburbs/foothills, the rail link will improve public transport options and help drive urban development in the city's eastern corridor.

Next Steps

Business case development. Infrastructure Australia has received a draft business case.

Perth major east-west and southern corridor capacity upgrades

Infrastructure Priority List classification

Initiative

Location

Perth, WA

Problem Timescale

Medium term (5-10 years)

Nominator

Audit identified gap

Problem

The Australian Infrastructure Audit (April 2015) identified that the road and rail corridors linking the southern suburbs with Perth central business district, and the east-west road and rail links across Perth, include four of the top ten most congested corridors in Australia.

The Kwinana and Rockingham areas south of Perth are expected to experience population growth of 162 per cent and 141 per cent respectively between 2011 and 2031. Without additional capacity, the increase in demand for transport in the southern part of Perth will lead to significant delays on both road and rail infrastructure.

The southern and eastern areas of Perth are serviced by three main rail corridors: the Mandurah line, the Armadale line and the Midland line. Passenger loadings on Perth's rail corridors are projected to increase over time, reaching or exceeding crush capacity on the Mandurah line by 2031.

East-west connections within Perth have a number of at-grade intersections and level crossings that contribute to congestion and increase the likelihood of accidents on these high volume freight routes. In the absence of additional capacity, the Tonkin Highway is projected to be the second most congested corridor in Australia by 2031. Congestion has a direct impact on productivity by increasing freight and passenger transport travel times and impacting on the efficiency of the transport network. The cost of delay on Perth's road network in 2011 was around $2 billion. Without intervention, this is expected to grow to around $16 billion by 2031.

The WA Government is currently developing transport plans addressing these corridors.

Proposed initiative

Reduce congestion on the southern transport corridors and the east-west links within Perth metropolitan area.

Next Steps

Initiative development

Canberra CBD to north corridor

Infrastructure Priority List classification

Initiative

Location

Canberra, ACT (Civic to Gungahlin)

Problem Timescale

Medium term (5-10 years)

Nominator

ACT Government

Problem

The underlying problem is growing congestion on the Canberra CBD to north corridor. This congestion is being caused by limited road and public transport capacity and increasing travel demand as a result of major population growth in the corridor.

The Australian Infrastructure Audit (April 2015) (the Audit) shows the cost of delay on greater Canberra's urban transport network was $0.2 billion in 2011, and is projected to increase to $0.7 billion in 2031. Further, the Audit shows that in the absence of additional public transport capacity, significant projected population growth in the CBD to north corridor will lead to demand for public transport outstripping available supply.

Proposed initiative

The initiative proposes several measures to alleviate congestion in the Canberra CBD to north corridor, including the construction of light rail between Gungahlin and Canberra CBD, improvements to bus connectivity and reliability and capacity improvements for a number of arterial roads.

Next Steps

Options assessment

Canberra public transport improvements

Infrastructure Priority List classification

Initiative

Location

Belconnen, Queanbeyan to central Canberra

Problem Timescale

Medium term (5-10 years)

Nominator

ACT Government

Problem

Canberra's limited public transport network capacity, coupled with high rates of private vehicle reliance, is causing the transport network to suffer from increasing congestion. Congestion is likely to be exacerbated by projected significant population growth.

This congestion results in adverse economic impacts through increased travel times and higher vehicle operating costs.

Proposed initiative

The initiative proposes to develop two bus transit ways connecting Belconnen and Queanbeyan to Central Canberra. The bus transit ways will provide an integrated transport solution, reducing traffic congestion and providing transport network capacity for future economic development in the region.

Next Steps

Options assessment

Newell Highway upgrade

Infrastructure Priority List classification

Initiative

Location

Corridor between Tocumwal and Boggabilla, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

The Newell Highway is part of the National Land Transport Network. It is the principal inter-capital freight route between Melbourne and Brisbane, and is a critical link for regional producers in central and western NSW. Freight on the corridor is expected to grow strongly, supported by robust population growth in both Melbourne and Brisbane.

The efficiency of the route is constrained by localised congestion, deteriorating pavement and a lack of overtaking opportunities. Road alignment and geometry in several sections are also unsuitable for some High Productivity Vehicles (HPVs).

These factors constrain freight productivity by increasing travel times and the number of vehicle journeys required, as well as reducing freight reliability.

Proposed initiative

The initiative seeks to improve several sections of the highway to support safe HPV access, and improve safety and reliability. The initiative will also consider first/last mile issues faced by HPV operators in the corridor.

Next Steps

Business case development

New England Highway upgrade

Infrastructure Priority List classification

Initiative

Location

South of Singleton to Muswellbrook, NSW

Problem Timescale

Medium term (5-10 years)

Nominator

NSW Government

Problem

The New England Highway is part of the National Land Transport Network and is a major freight and passenger route forming part of the inland Sydney-Brisbane corridor. The corridor services a high proportion of heavy freight vehicles and is the main freight route from the Hunter Valley coalfields to the Port of Newcastle.

Under the existing alignment, the New England Highway passes through the centre of towns such as Singleton and Muswellbrook. Traffic congestion, reduced land freight transport productivity, safety (due to the mix of heavy vehicles and residential traffic in the town centres) and amenity issues are the principal problems. The current alignment also limits the extent to which Higher Productivity Vehicles can be mobilised.

Proposed initiative

The initiative includes a number of potential projects, including bypasses of the towns of Singleton and Muswellbrook, and intersection upgrades.

The initiative is designed to contribute to the efficient movement of freight from regional exporters to the Port of Newcastle which is essential to supporting economic growth and productivity in New South Wales.

Next Steps

Business case development

Pacific Highway (A1) – Coffs Harbour Bypass Stage 1

Infrastructure Priority List classification

Initiative

Location

Coffs Harbour, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

Connecting Sydney and Brisbane, the Pacific Highway is an important passenger and freight corridor, and is part of the National Land Transport Network. Currently, vehicles on the Pacific Highway must travel through the Coffs Harbour Central Business District. This increases freight and passenger vehicle travel times and increases the potential for conflict between heavy vehicles, passenger vehicles and pedestrians in this built-up area. The Australian Infrastructure Audit (April 2015) identified improving freight network efficiency as a key challenge for New South Wales.

Preliminary economic analysis estimates that the annual cost of the problem is in the order of $55 million per annum.

Proposed initiative

Construct a bypass around Coffs Harbour. This would also include an upgrade to an existing section of highway to deliver a total of 13.2 kilometres of motorway standard dual carriageway on the Pacific Highway.

Next Steps

Business case development

Pacific Highway (M1) – extension to Raymond Terrace Stage 1

Infrastructure Priority List classification

Initiative

Location

Beresfield to Raymond Terrace, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

The Pacific Highway is one of the most heavily used road corridors for freight in NSW. The highway is critical to the transport of freight between Sydney and Brisbane.

Between John Renshaw Drive and Raymond Terrace, the highway is at arterial road standard with at-grade intersections, hindering the free-flow of traffic.

Traffic speed during the morning peak is estimated to be 60 km/hour by 2021 and to drop to 23-39 km/hour by 2031. Current traffic volumes are 21,835 vehicles during the afternoon peak. This is expected to increase by 36 per cent by 2031. The major growth drivers are the planned industrial developments at Black Hill, Tomago Road and Weakleys Drive. It is estimated that road network improvements could increase travel speed by around 20 km/hour.

The current road network does not adequately cater for High Productivity Vehicles (HPVs). Heavy vehicles travelling to-and-from Tomago industrial area and the Port of Newcastle are required to undertake contra-flow movements during the night. The use of HPVs is estimated to generate significant productivity benefits. It is estimated that HPVs could perform the freight task with up to 37 per cent fewer trucks and 37 per cent fewer vehicle kilometres travelled.

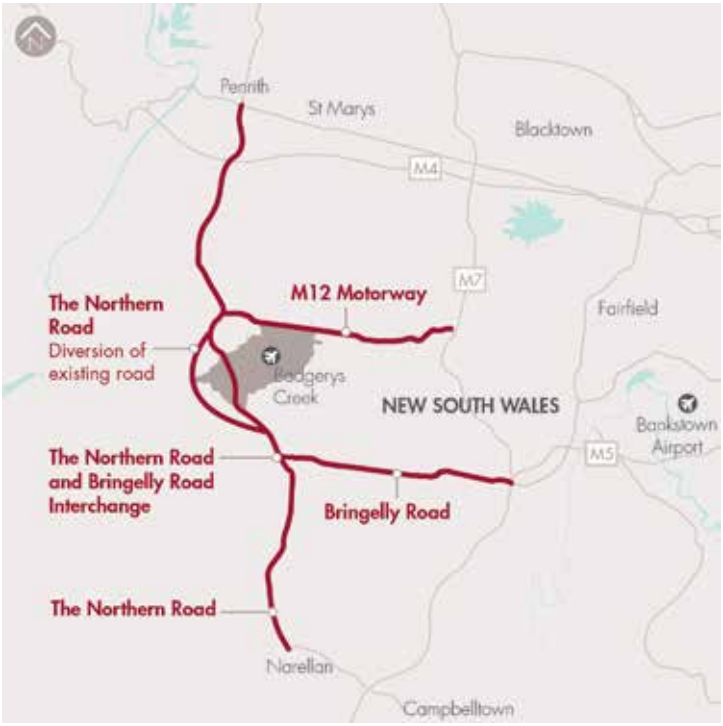
Proposed initiative

Upgrade of the Pacific Highway between John Renshaw Drive and Raymond Terrace to motorway standard. This would lead to productivity benefits from faster freight movements in the Sydney to Brisbane corridor.

Next Steps

Business case development

Western Sydney roads upgrade



Infrastructure Priority List classification

Initiative

Location

Sydney, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

Over the next two decades, Western Sydney will be home to an additional 900,000 people, with more than half of all Sydneysiders expected to be living in this region within 25 years. Preliminary analysis indicates that the initial demand at the Western Sydney Airport from opening will be around three million passengers per year.

Future development in Western Sydney, and at the Western Sydney Airport, is expected to generate additional travel demand which would eventually exceed the capacity of the existing road network.

A separate initiative proposes the preservation of a rail corridor to the Western Sydney Airport.

Proposed initiative

The initiative proposes a suite of road projects including:

- Upgrading The Northern Road to a minimum of four lanes
- Building a new M12 Motorway with up to six lanes
- Upgrading Bringelly Road to a minimum of four lanes
- A package for local roads upgrades.

Next Steps

Business case development

Freight rail access to Port Kembla

Infrastructure Priority List classification

Initiative

Location

Illawarra/Southern Highlands region, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

The Australian Infrastructure Audit (April 2015) identified that Port Kembla would face capacity constraints in the absence of any additional rail network improvements. Port Kembla is a significant economic asset. Maintaining efficient movement of freight to and from the port is a key challenge.

Currently, 60-65 per cent of freight travelling to and from Port Kembla is transported by rail on either the Illawarra Line or the Moss Vale to Unanderra Line. Operations on both lines are limited by passenger rail services in the region, resulting in disruptions to freight scheduling. Queuing of up to 11 hours is common as passenger services are given priority.

Port Kembla's Outer Harbour development is expected to attract overflow container traffic from Port Botany. The NSW Government has stipulated that Port Kembla should generally not accept more than 120,000 TEUs per annum by road. This is around 10 per cent of Outer Harbour container capacity. This is likely to lead to a significant increase in demand for rail services.

Inadequate rail freight capacity may lead to a substantial increase in road freight, further constraining the Illawarra region's road network.

Proposed initiative

Develop additional rail freight capacity to Port Kembla via:

- Moss Vale – Unanderra capacity enhancements
- Unanderra to Dapto duplication
- Macarthur to Moss Vale capacity enhancements.

Consider whether additional capacity, such as that which could be provided through development of the proposed link between Maldon and Dombarton, is warranted in the longer term.

Next Steps

Business case development. Infrastructure Australia has received a business case for the proposed link between Maldon and Dombarton.

Moorebank Intermodal Terminal road connection upgrade

Infrastructure Priority List classification

Initiative

Location

Sydney, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

The Australian Infrastructure Audit (April 2015) identified the M5 corridor – the key corridor linking the Moorebank Intermodal Terminal (MIT) and Port Botany – as highly economically significant. The delay cost per km is projected to be the tenth highest of any corridor in NSW in 2031, even after accounting for the duplication of the M5 as part of WestConnex Stage 2.

The development of the MIT presents an opportunity to moderate growth in freight traffic on the M5 corridor; however, it will generate additional freight traffic in the vicinity of the terminal. The current road network provides a single point of access to the freight precinct. This constraint could create significant 'last mile' congestion affecting the efficiency of freight movements, and ultimately the effectiveness of the MIT itself.

The broader road network surrounding the MIT is currently highly congested, particularly sections of the M5, which has a poor safety record due to significant 'weaving' conflicts (where vehicles are weaving in and out of lanes).

In the absence of any network improvements, the additional freight demand will adversely affect travel times and reliability to the precinct, and ultimately harm freight productivity.

Proposed initiative

The initiative proposes a package of inter related road infrastructure improvements to increase network efficiency and improve access to the Moorebank Intermodal Terminal. The major components of the Program include:

- Upgrades to the M5 interchanges at the Hume Highway and Moorebank Avenue
- Connection improvements between the Moorebank Intermodal Terminal and the M7 Motorway and M31 Hume Motorway
- Upgrades to key intersections.

Next Steps

Options assessment

Northern Sydney Freight Corridor Stage 2

Additional track West Ryde to Rhodes and Thornleigh to Hornsby

Infrastructure Priority List classification

Initiative

Location

Sydney, NSW

Problem Timescale

Longer term (10-15 years)

Nominator

NSW Government

Problem

Demand for East Coast rail freight is projected to grow rapidly. Interstate container freight in the Newcastle to Sydney corridor is projected to grow four-fold from 2012 to 2028. The rapid near term growth expected is driven by improvements to freight transport availability and reliability due to the Northern Sydney Freight Strategy Stage 1 project.

Once Stage 1 is completed in 2016, the corridor's capacity will increase by 50 per cent, from 29 to 44 freight trains each day, and will accommodate growth in demand for rail freight up until 2028. In the longer term, the Sydney metropolitan rail network may again become a point of bottleneck for the rail freight network, mainly because of priority given to passenger rail services.

The Australian Infrastructure Audit (April 2015) found that freight rail in NSW had a Direct Economic Contribution of $862 million in 2011, which is expected to grow to $1,274 million in 2031.

Proposed initiative

The initiative comprises additional tracks from West Ryde to Rhodes and from Thornleigh to Hornsby.

Next Steps

Business case development

Southern Sydney Freight Line upgrade

Infrastructure Priority List classification

Initiative

Location

Sydney, NSW

Problem Timescale

Longer term (10-15 years)

Nominator

NSW Government

Problem

The forecast growth in interstate, intrastate and import/export freight, particularly with the development of the Moorebank Intermodal Terminal, will place significant pressure on Sydney's rail freight network and the Southern Sydney Freight Line (SSFL) in particular. The SSFL forms a key connection between the proposed terminal and other logistics hubs. Without additional capacity once Moorebank Intermodal Terminal is fully operational, the SSFL could become increasingly unreliable and face capacity constraints.

Currently, only 14 per cent of freight handled at Port Botany is transported by rail with the remainder transported by road. On average, Port Botany produces around 3,900 truck movements daily, contributing to significant congestion on key arterial roads including the M4 and M5, both of which were identified in the Australian Infrastructure Audit (April 2015) (the Audit) as highly congested corridors.

In order to incentivise a shift from road to rail for containerised freight movement in Sydney (consistent with both NSW government policies and findings from the Audit), further capacity and higher levels of service are required on Sydney's freight rail network. Investment in the rail freight network will be crucial to ensuring the competitiveness of landside freight infrastructure such as the Moorebank Intermodal Precinct.

Proposed initiative

The Southern Sydney Freight Line is a 36 kilometre single line from Macarthur to Sefton. The proposed initiative involves track duplications and additional passing loops on the line. The initiative aims to support the movement of freight by rail through the city, particularly between Port Botany and the Moorebank Intermodal Precinct. It forms part of a broader strategy designed to drive growth in rail mode share.

Next Steps

Business case development

Lower Hunter freight corridor construction

Infrastructure Priority List classification

Initiative

Location

Lower Hunter region, NSW

Problem Timescale

Longer term (10-15 years)

Nominator

NSW Government

Problem

The existing Main North railway line services coal freight travelling to the Port of Newcastle, interstate freight travelling from Sydney and Melbourne to Brisbane, as well as intrastate freight and passenger trains.

Line congestion, and the priority given to passenger trains on shared parts of the rail network, mean that the efficiency and cost effectiveness of freight movement is reduced in the Lower Hunter region in and around Newcastle. This affects bulk freight destined for the Port of Newcastle as well as containerised and general freight being transported on the east coast freight rail network linking Melbourne, Sydney and Brisbane. Rail freight inefficiency increases costs, and makes rail less competitive than road. This in turn creates an incentive for more trucks to be on the road, which increases congestion, vehicle emissions and noise, and affects amenity.

Proposed initiative

Develop a new rail freight alignment from Fassifern to Hexham bypassing suburban Newcastle.

Next Steps

Options assessment

Newcastle – Sydney and Wollongong – Sydney rail line upgrades

Infrastructure Priority List classification

Initiative

Location

Newcastle – Sydney – Wollongong, NSW

Problem Timescale

Longer term (10-15 years)

Nominator

NSW Government

Problem

Slow regional passenger rail speeds (average 56 kilometres per hour) result in lengthy travel times of two hours 37 minutes (Newcastle – Sydney) and one hour 27 minutes (Wollongong – Sydney), that are generally longer than car travel. This service level reduces accessibility to the Sydney employment market from regions with above average unemployment. It also limits the opportunities to develop greater economic synergies between Australia's largest, seventh largest and ninth largest cities, which would benefit productivity and relieve metropolitan housing market pressure.

Uncompetitive rail services also add to road congestion on key roads linking Sydney with Newcastle and Wollongong. The current level of rail capacity and quality of service reflect a range of operational and infrastructure constraints, including winding alignments across the Hawkesbury River (Newcastle – Sydney) and the Illawarra Escarpment (Wollongong – Sydney).

Proposed initiative

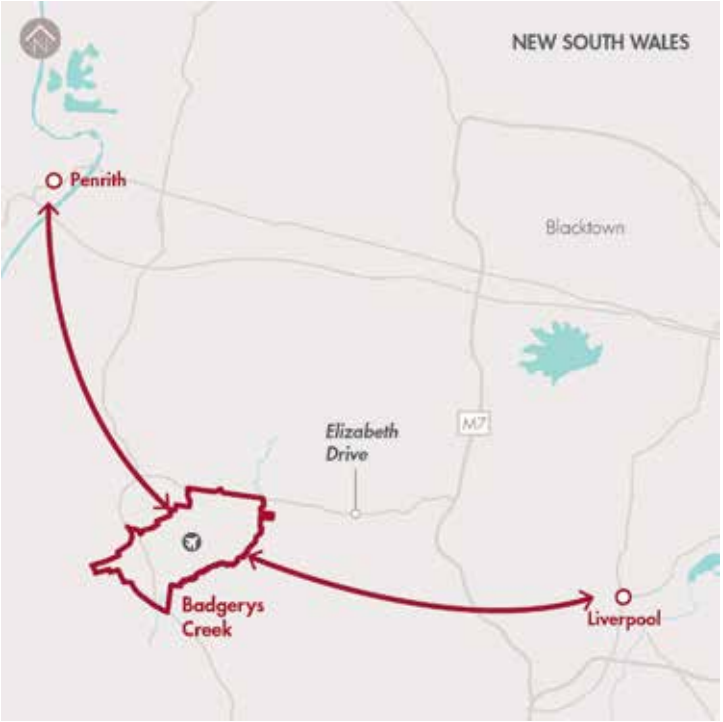
The proposed initiative is expected to include but is not limited to the following improvements:

- An initial set of operational and fleet improvements
- Targeted fixed infrastructure improvements (for example, new deviations to eliminate curvatures and flatten grades)
- New rail crossing of the Hawkesbury River and Illawarra Escarpment.

Next Steps

Options assessment

Western Sydney Airport public transport connection



Infrastructure Priority List classification

Initiative

Location

Sydney, NSW

Problem Timescale

Longer term (10-15 years)

Nominator

NSW Government

Problem

As identified in the Australian Infrastructure Audit (April 2015), meeting the Sydney region's future air passenger demand will require expansion of airport capacity beyond Sydney Airport. Much of this demand is expected to be absorbed by the proposed Western Sydney Airport at Badgerys Creek.

Upon opening, Western Sydney Airport would require reliable public transport connectivity, appropriate to the level of demand, to service arriving and departing air passengers, as well as employees and airport, aviation, freight and related businesses. Fast and reliable bus connections using dedicated infrastructure, integrated with the broader Sydney rail and public transport network, can help minimise road congestion in Sydney's growing South West Growth Centre.

Proposed initiative

Provide infrastructure to support bus connections between the proposed Western Sydney Airport and the nearby centres of Liverpool and Penrith, and connecting the airport to the broader Sydney rail and public transport network. This proposed initiative does not preclude direct rail access to the proposed Western Sydney Airport in the long term, and should be viewed as a potential complimentary investment to preserving a rail corridor.

Next Steps

Options assessment

Bruce Highway upgrade

Infrastructure Priority List classification

Initiative

Location

Brisbane to Cairns, Queensland

Problem Timescale

Near term (0-5 years)

Nominator

Queensland Government

Problem

The Bruce Highway is part of Queensland's Priority Freight Network and forms part of the National Land Transport Network. The highway plays an important role in connecting regional centres as well as facilitating significant freight movement. Both roles were identified as key regional priorities for Queensland in the Australian Infrastructure Audit (April 2015).

The Bruce Highway is Queensland's major north-south corridor, connecting coastal population centres from Brisbane to Cairns. With Queensland's freight task expected to double over the next 20 years, the highway is expected to experience a significant increase in freight volumes.

The problems identified along the Bruce Highway include: safety concerns, poor flooding immunity, poor connectivity to regional centres and capacity constraints around key economic clusters.

The root cause of the problems identified along the highway are largely driven by increased traffic volumes associated with population and economic growth, resulting in congestion around key economic hubs, ultimately harming Queensland's freight productivity.

Proposed initiative

Progressive priority upgrades to the Bruce Highway to address specific capacity constraints, flood resilience and safety concerns.

Next Steps

Individual upgrade projects are at various stages of development

Beerburrum to Nambour rail upgrade

Infrastructure Priority List classification

Initiative

Location

Sunshine Coast to Brisbane, Queensland

Problem Timescale

Near term (0-5 years)

Nominator

Queensland Government

Problem

Capacity issues on the rail line between Beerburrum and Nambour were identified as a priority in the Queensland Government's Moving Freight strategy, and in the Northern Australia Audit.

The existing rail line is operating above capacity, and failing to support current levels of passenger and freight demand. The configuration of the route as a single track with limited passing loops severely limits capacity of the line. Modelling undertaken suggests that passenger demand on this route could grow by between 5 and 8 per cent per annum out to 2031.

In the absence of any rail network enhancements, a significant increase in traffic on the already constrained Bruce Highway is likely to occur, to cater for increased commuter movements from the Sunshine Coast to Brisbane. Economic modelling suggests that improvements to this line to increase capacity and efficiency could yield $150 million and $300 million in passenger and freight benefits respectively.

Proposed initiative

The proposed initiative is located on the North Coast Line between Beerburrum and Nambour stations. The proposed initiative involves the duplication of the track, extensions of existing passing loops and improvements to stations along the route. All the proposed improvements will facilitate greater flexibility and passing opportunities, improving the efficiency of both passenger and freight services, and taking pressure off the Bruce Highway.

Next Steps

Business case development

Gladstone Port land and sea access upgrade

Infrastructure Priority List classification

Initiative

Location

Gladstone and surrounding area

Problem Timescale

Medium term (5-10 years)

Nominator

Gladstone Ports Corporation

Problem

The Australian Infrastructure Audit (April 2015) (the Audit) found that growth in mineral and gas exports will lead to significant growth in demand for regional highway, rail and port infrastructure. Improving connections to ports will be essential to supporting these industries.

The Audit noted that Gladstone Port handled around 7.5 per cent of Australia's bulk imports and exports (measured in gross mass tonnes) in 2012-13. The Audit estimated the Direct Economic Contribution of Gladstone Port at $615 million in 2011, rising to $1.1 billion by 2031 (2011 dollars).

Gladstone Ports Corporation has referred to a recent study which identified a number of opportunities to invest in infrastructure to underpin growth in Central Queensland's mining, export and agricultural sector. These opportunities relate to land and sea access infrastructure designed to support productive supply chains to Gladstone Port.

Proposed initiative

The proposal covers a range of potential projects including:

- Channel management to increase export capacity through the port
- Upgrades to road and bridge infrastructure that service the port
- New rail infrastructure to provide direct connections from the Surat Basin to the port.

Next Steps

Options assessment

Mount Isa – Townsville rail corridor upgrade

Infrastructure Priority List classification

Initiative

Location

Far North Queensland

Problem Timescale

Medium term (5-10 years)

Nominator

Queensland Government

Problem

The current rail line between Townsville and Mount Isa is experiencing capacity constraints with inefficient rail and terminal operations. These constraints include access to the Port of Townsville, short passing loop lengths, and limited passing opportunities.

In its current form, the rail line does not have capacity to cater for the projected increase in demand for rail haulage from mines in the Mount Isa region to the Port of Townsville. Future demand on the line is, under the moderate scenario, estimated to be 20 million tonnes per annum (mtpa). In 2011, the line carried 6 mtpa and had a theoretical capacity of 7.5 mtpa.

Proposed initiative

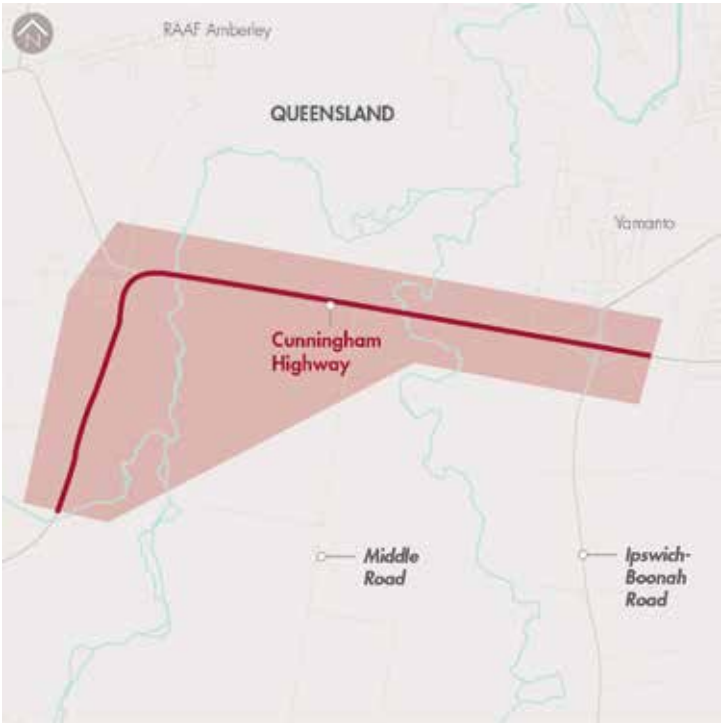
The initiative proposes the following works:

- Enhancements to western sections of the Mount Isa to Townsville Rail Corridor
- Construction of a new 6.5 kilometre Townsville Eastern Access Rail Corridor to provide direct access to export facilities at the Port of Townsville for longer trains.

Next Steps

Business case development

Cunningham Highway – Yamanto to Ebenezer/ Amberley upgrade



Infrastructure Priority List classification

Initiative

Location

Yamanto to Ebenezer, Queensland

Problem Timescale

Near term (0-5 years)

Nominator

Queensland Government

Problem

The Cunningham Highway is a key interstate freight corridor that forms part of the Sydney to Brisbane inland corridor. It is part of the National Land Transport Network, and plays a significant role in transporting people and freight (recording 2,700 heavy vehicle movements per day) to and from Brisbane and the Port of Brisbane from the west.

With the construction of the Port of Brisbane Motorway, and the recent upgrading of the Gateway Motorway South and the western Ipswich Motorway, the Cunningham Highway at Amberley is one of the few remaining 'pinch-points' for interstate freight along the western Corridor.

The identified 'pinch point' is the intersection of the Cunningham Highway and the Ipswich Rosewood Road. It results in high levels of congestion particularly during the morning peak. Preliminary modelling suggests that the current direct cost of congestion is approximately $45 million per year.

The material impacts of the problem include declining levels of service which reduces freight efficiency and through-traffic movements, as well as potentially limiting major developments planned for the area.

The intersection does not comply with current design standards resulting in significantly higher than average crash rates. These problems are likely to worsen in the face of the significant population and freight growth expected in the region.

Proposed initiative

The initiative involves upgrades to a 4.75 kilometre section of the Cunningham Highway between Warwick Road at Yamanto and Ebenezer Creek, including the Amberley Interchange. Specific capital works include a major off-line deviation with grade-separation for the Amberley Interchange, additional capacity at the Amberley Interchange off-ramp, and a new service road between Coopers Road and Yamanto.

Next Steps

Business case development

Strzelecki Track sealing and mobile coverage

Infrastructure Priority List classification

Initiative

Location

Corridor: Lyndhurst – Innamincka

Problem Timescale

Near term (0-5 years)

Nominator

SA Government

Problem

The Strzelecki Track was identified in the Australian Infrastructure Audit (April 2015) as a key freight route. It is the only viable land route between Adelaide and the Cooper Basin, and will be increasingly important to service the expanding oil and gas industry in the Cooper and Eromanga Basins, and the pastoral industry in the north east of South Australia.

The Strzelecki Track is currently unsealed and suffers from potholes, corrugation and a lack of drainage. It is not sufficiently wide for triple road trains.

The road's condition and alignment reduce travel speed, damage vehicles, cause unpredictable closures due to flooding, and result in road safety risks. The road is not currently suitable for the most productive heavy road vehicles.

Proposed initiative

Upgrade and seal 426 kilometres of the (currently unsealed) Strzelecki Track between Lyndhurst and Innamincka, and 26 kilometres of the Nappa Merrie Access Road. This will provide a sealed connection between SA and Queensland. Improvements to mobile phone coverage along the route are also proposed.

Next Steps

Business case development

South Australian regional mineral port development

Infrastructure Priority List classification

Initiative

Location

Spencer Gulf region

Problem Timescale

Medium term (5-10 years)

Nominator

SA Government

Problem

The mining and resources sector in South Australia is continuing to grow. South Australia now has 10 fully operating mines; four approved or under construction; and more than 20 projects at various stages ranging from exploration to pre-feasibility.

To date, operations have been accommodated within existing ports and landside transport infrastructure. The Australian Infrastructure Audit (April 2015) noted that expansion of a number of regional ports, as well as development of new high-capacity ports, could support further increases in exports, especially of minerals and resources. There is a particular requirement to develop deep ports with the capacity to accommodate the 'capesize' vessels which are essential to compete in global iron ore markets.

The lack of a clear path to market (including high capacity, deep ports) can be a barrier to attracting capital to new mining projects. However, it is difficult to attract capital for new port projects without financial and contractual commitments from miners. Recent downturns in commodity markets, including for iron ore, are also a barrier to expanding South Australia's mining sector.

Proposed initiative

Considers options for the development of bulk commodity port capacity in the Spencer Gulf region. A business case completed in September 2015 identified three sites that could meet potential demand. These are:

- the existing Whyalla Port in the northern Spencer Gulf
- the planned Cape Hardy Port on the central eastern Eyre Peninsula
- the planned Myponie Point Bulk Commodity export facility on the northern Yorke Peninsula.

Next Steps

Business case development

Sturt Highway High Productivity Vehicle capacity enhancement, including Truro bypass

Infrastructure Priority List classification

Initiative

Location

Truro, SA

Problem Timescale

Medium term (5-10 years)

Nominator

SA Government

Problem

The road transport system is the only means of transporting goods in most regional areas of South Australia. However, the existing road network does not allow for the use of high productivity vehicles (HPVs), and the absence of a fully developed HPV network is constraining productivity and the realisation of opportunities in the South Australian economy.

The Sturt Highway is part of the National Land Transport Network, providing a strategic route between Adelaide and Sydney, as well as Perth and Sydney. Freight growth on the Sturt Highway is expected to increase at 1.6 per cent per annum. Increases in freight vehicle numbers will reduce the capacity of the Sturt Highway, resulting in increased travel time and costs. This negatively affects business competitiveness and productivity.

HPVs have the potential to carry over 30 per cent more freight per vehicle, resulting in fewer vehicles required to move the same freight task. This reduces the costs to transport operators and end users, and reduces the number of heavy vehicles on the road, improving safety, capacity and efficiency of transport services.

The Australian Infrastructure Audit (April 2015) estimated that the Direct Economic Contribution of all national highways in South Australia was $511 million in 2011. This is projected to increase to $722 million in 2031, an increase of 41 per cent.

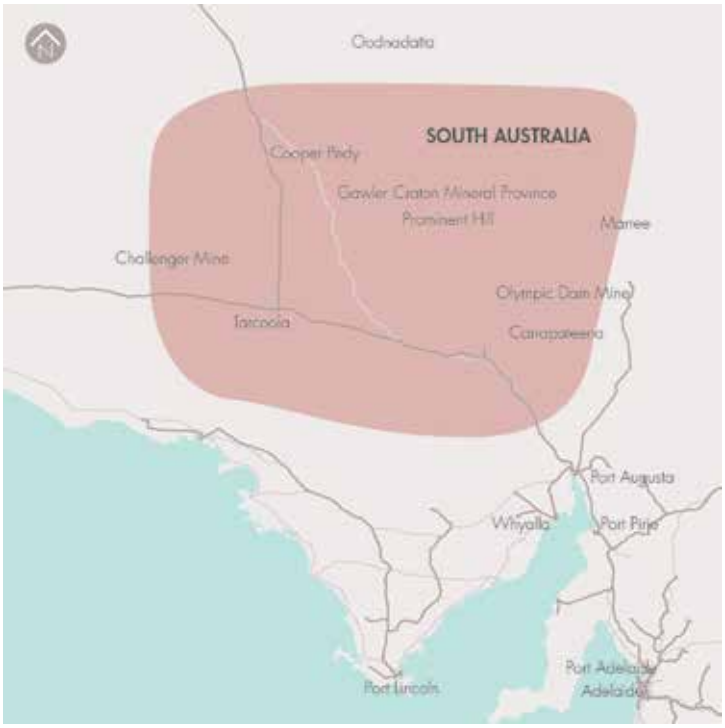
Proposed initiative

This initiative proposes the realignment of the Sturt Highway through the Truro Hills, including a bypass of the town of Truro, to improve safety and allow use of HPVs on the highway.

Next Steps

Options assessment

Gawler Craton rail access



Infrastructure Priority List classification

Initiative

Location

Gawler Craton minerals region

Problem Timescale

Medium term (5-10 years)

Nominator

SA Government

Problem

The Gawler Craton is a remote mineral region north west of the Eyre Peninsula in South Australia. The province, which extends into the Woomera Prohibited Area, contains extensive copper, gold, silver and iron ore deposits.

The remoteness of the mineral deposits within the northern part of South Australia is a challenge for exploration and development. Development of a railway could provide a significant transport connection to the Prominent Hill, Olympic Dam and Carrapateena mines, and open up other potential reserves in the area, including Wirrda Well, Acropolis, Vulcan, Titan and Millers Creek.

Geological surveys have indicated that potential deposits in the Woomera Prohibited Area are valued at up to $35 billion, indicating that a significant uplift in the region's mineral exports could be attainable.

Proposed initiative

The initiative proposes that a third party builds, owns and operates a 350km railway in the Gawler Craton province, linking to the existing interstate rail network. Future connections to other potential mining projects will be possible.

Next Steps

Options assessment

Melbourne – Adelaide – Perth rail upgrade

Infrastructure Priority List classification

Initiative

Location

Corridor between Melbourne and Tarcoola

Problem Timescale

Longer term (10-15 years)

Nominator

SA Government

Problem

The interstate rail freight network in South Australia comprises links between Melbourne, Adelaide, Perth, Sydney and Darwin and was identified in the Australian Infrastructure Audit (April 2015) as a key part of the National Land Transport Network. The track handles 80 per cent of the land-based east-west intercapital freight market and is also utilised by regional mineral and agricultural producers in South Australia.

The track is expected to become capacity constrained over the next 10-15 years by a combination of steady growth in the east-west non-bulk freight task (expected to double by 2030) and future mining and agricultural production. Some sections of track are approaching the end of asset life and have alignments that impose speed and axle load restrictions.

The combination of congestion, poor alignment, and asset age is expected to impact travel times and the reliability and productivity of the interstate freight network. The viability of future mining projects may also be affected.

Proposed initiative

The initiative proposes upgrades on the Port Augusta – Tarcoola section of the network to accommodate higher axle loads, capacity and speed, and improve train management systems. Future development of the Melbourne – Port Augusta sections of the network will need to be considered as part of the development of the National Freight and Supply Chain Strategy, which is being recommended in the Australian Infrastructure Plan.

Next Steps

Options assessment

Derwent River crossing capacity

Infrastructure Priority List classification

Initiative

Location

Bridgewater, Tasmania

Problem Timescale

Medium term (5-10 years)

Nominator

Tasmanian Government

Problem

The Bridgewater Bridge does not meet contemporary loading and design standards as part of the National Land Transport Network. The bridge provides one lane in each direction, and has a posted speed limit of 60 km/h.

The existing bridge and causeway are reaching the end of their serviceable lives and future refurbishments will be increasingly costly.

The bridge has high maintenance costs due to its age and current operation as a vertical lift bridge.

Proposed initiative

The initiative involves the development of options to enhance Derwent River crossing capacity.
These could include:

- Rehabilitation of the existing bridge, possibly without the vertical lift capability
- Construction of a new high-level or low-level bridge adjacent to the existing Bridgewater Bridge and causeway.

Next Steps

Options assessment

Burnie to Hobart freight corridor strategy

Infrastructure Priority List classification

Initiative

Location

Burnie to Hobart, Tasmania

Problem Timescale

Medium term (5-10 years)

Nominator

Tasmanian Government

Problem

The road and rail corridor connecting Burnie and Hobart is identified in the Australian Infrastructure Audit (April 2015) as a corridor of national significance.

The total Tasmanian freight network connects regional producers to Tasmania's ports, meaning producers are reliant on the corridor to bring goods to market at competitive prices. The Direct Economic Contribution of the corridor was estimated to be $288 million in 2011, which is projected to increase to $415 million in 2031.

Given the corridor's importance to Tasmania's transport network, there is a need for an integrated strategy to ensure its future efficiency and reliability. This strategy would facilitate the development of the corridor as a key freight route, supporting the economic productivity of regional producers and businesses.

Proposed initiative

The initiative seeks to develop a Burnie to Hobart Freight Corridor Strategy, which will prioritise areas for investment along the corridor, with a focus on improving intermodal freight productivity. The key elements of the strategy are to:

- Identify a single, integrated package of investment priorities for road and rail based on freight demand, corridor and system outcomes
- Confirm required road and rail infrastructure standards and service levels
- Plan for appropriate road freight infrastructure standards across the state road network, including in the use of high productivity vehicles.

The strategy would be considered in conjunction with the development of the National Freight and Supply Chain Strategy, which is being recommended in the Australian Infrastructure Plan.

Next Steps

Options Assessment

Murray Basin rail upgrade

Infrastructure Priority List classification

Initiative

Location

North West Victoria

Problem Timescale

Near term (0-5 years)

Nominator

Victorian Government

Problem

Victoria's broad gauge regional rail network is capacity constrained owing to limited axle loadings and short passing loops. Trains on the broad gauge network are unable to access to the Port of Portland which is now served by standard gauge track.

The broad gauge rail network only has access to the ports of Melbourne and Geelong, which reduces the potential for competition with other ports such as Portland. The constraints of Victoria's mixed gauge network also create disincentives for new entrants or existing operators to invest in rail infrastructure.

Capacity constraints in the network result in declining rail service levels, longer and less reliable transit times for rail freight, and increasing costs for business. Higher rail freight costs have resulted in an increase in road freight in the Murray Basin region, which has a detrimental impact on regional roads and amenity.

Proposed initiative

The initiative proposes a package of rail network improvements including axle load upgrades and standardisation of the existing broad gauge rail network in North West Victoria. The initiative would also see the reopening of the standard gauge connection from Maryborough to Ararat.

Next Steps

Business case development. Infrastructure Australia has received a draft business case.

Melbourne Airport third runway

Infrastructure Priority List classification

Initiative

Location

Melbourne Airport, Melbourne, Victoria

Problem Timescale

Near term (0-5 years)

Nominator

Audit identified gap

Problem

Melbourne Airport is Australia's second-busiest airport, handling 29.1 million passengers and 210,000 aircraft movements in 2013. In 2013, the airport's contribution to Gross State Product (GSP) across all industries was estimated to be approximately $1.47 billion, including 14,300 jobs. The airport's contribution to GSP is forecast to increase to $3.21 billion by 2033, including 23,000 jobs.

Demand for the airport is increasing, and by 2033 the airport anticipates facilitating 64 million passengers and 348,000 aircraft movements.

With its existing two-runway system, Melbourne Airport is expected to reach capacity during peak periods between 2018 and 2022.

This capacity constraint will inhibit the efficient functioning of the airport, leading to significant delays for passengers and freight, increasing fuel costs for airlines, and increasing emissions.

Proposed initiative

The initiative proposes a third runway to meet increased demand at Melbourne Airport. The three-runway system could facilitate at least 380,000 total aircraft movements at the airport per year, providing sufficient capacity to accommodate projected aircraft movements until around 2040.

Next Steps

Initiative development

Melbourne container terminal capacity enhancement

Infrastructure Priority List classification

Initiative

Location

Melbourne, Victoria

Problem Timescale

Longer term (10-15 years)

Nominator

Audit identified gap

Problem

The Port of Melbourne is Victoria's busiest port and the largest container and general cargo port in Australia. Traffic at the port has grown at six per cent per year over the last two decades. The Australian Infrastructure Audit (April 2015) identified that, even with planned expansions, additional container terminal capacity will be required before 2031.

The development of additional container terminal capacity in Melbourne, with dedicated rail links connected to the national rail system, will help to alleviate congestion caused by road freight movements.

Given Melbourne's central role in Australia's freight supply chain, inadequate port capacity in Melbourne could have broader national consequences.

Proposed initiative

Planning and construction of additional container terminal capacity in Melbourne to cater for projected increases in containerised freight volumes.

Next Steps

Initiative development

Perth Airport third runway

Infrastructure Priority List classification

Initiative

Location

Perth, WA

Problem Timescale

Medium term (5-10 years)

Nominator

Audit identified gap

Problem

Perth Airport is the fourth busiest in the country. The Australian Infrastructure Audit (April 2015) found Perth Airport's Direct Economic Contribution is projected to increase by 169 per cent from $1.9 billion in 2011 to $5.1 billion in 2031. Passenger throughput is projected to double from 13.7 million in 2013 to 28.5 million in 2034, and total aircraft movements are predicted to grow from 151,300 annually in 2013 to 242,400 in 2034.

This growth is partly driven by the airport's role as a critical fly-in-fly-out (FIFO) transport hub for shift workers travelling to Western Australia's regional mining operations.

Due to the nature of the resource sector's deployment of a FIFO workforce, passenger movements in and out of Perth Airport are concentrated around peak periods. Runway capacity is currently insufficient to meet demand during peak periods, which can lead to higher operating costs for companies relying on FIFO workers, reducing Australia's international competitiveness.

Proposed initiative

Construction of an additional runway at Perth Airport to provide capacity needed to meet increasing demand.

Next Steps

Initiative development

Perth container terminal capacity enhancement

Infrastructure Priority List classification

Initiative

Location

Perth, WA

Problem Timescale

Longer term (10-15 years)

Nominator

Audit identified gap

Problem

Capacity at the current container terminal at Fremantle Port is limited. The Australian Infrastructure Audit (April 2015) (the Audit) indicates that with improvements in productivity and some development, the capacity of the terminal would be 1.2 to 1.4 million containers per year.

In 2014-15, Fremantle Port handled 743,503 containers. Assuming port container traffic grows at 5.6 per cent (in line with the average annual growth rate between 2005/06 and 2010/11), and based on current port and landside access capacity, the current facility could reach capacity in around ten years.

According to the Audit, Fremantle Port accounted for 9.4 per cent of Australia's containerised trade in 2012/13 and has a Direct Economic Contribution of $2.7 billion in 2011.

The Audit found that significant investment will be required in order to ensure that port capacity can meet the forecast growth in demand by 2031.

Proposed initiative

The initiative involves investigation, planning, and potentially corridor and site preservation for additional container terminal capacity to accommodate future demand in Perth.

Next Steps

Initiative development

Inland Rail

Melbourne to Brisbane via inland NSW

Infrastructure Priority List classification

Initiative

Location

Melbourne to Brisbane, through inland Victoria, New South Wales and Queensland

Problem Timescale

Longer term (10-15 years)

Nominator

Department of Infrastructure and Regional Development

Problem

The existing north-south rail corridor between Melbourne and Brisbane does not provide a service offering that is competitive with road transport. This is largely the result of 19th century alignments leading to low travel speeds and reliability, and major bottlenecks, most notably in transiting the Sydney metropolitan area.

The Melbourne to Brisbane corridor is one of the most important general freight routes in Australia, supporting key population and employment precincts along the east coast. The non bulk and complementary volumes moving within the corridor are currently estimated at 21 million tonnes per annum. This is expected to grow to over 40 million tonnes per annum by 2050.

Without increased use of rail, the growth in freight demand may see increasing pressure on road networks, increased freight costs and a loss of economic opportunity. The long lead times for a project of this nature means that decisions on the further development or delivery of this project will be required in the near term.

Proposed initiative

Construction and operation of 1,700 kilometres of freight railway from Melbourne to Brisbane via inland NSW and South East Queensland. Construction would take 8 to 10 years.

Next Steps

Business case development. Infrastructure Australia has received a draft business case.

Advanced Train Management System implementation on ARTC network

Infrastructure Priority List classification

Initiative

Location

Australian interstate rail network

Problem Timescale

Near term (0-5 years)

Nominator

Australian Rail Track Corporation

Problem

The Australian Infrastructure Audit (April 2015) indicated the combined Direct Economic Contribution (DEC) of the national port and freight rail network was $22 billion in 2011 (12 per cent of the national infrastructure DEC).

The interstate freight rail network is constrained over many long sections of single track. This restricts the number of train paths, reducing rail's competitiveness with road, and hindering rail's ability to meet growing freight movement demand.

Proposed initiative

Advanced Train Management System (ATMS) is a wireless satellite communications-based train control system, that will replace line-side signalling, allowing:

- More train paths on single tracks
- Improved line capacities
- Reduced transit times and improve competition with road
- Improved rail safety
- Improved system reliability.

ATMS will improve the safety and efficiency of train operation between metropolitan centres and between national ports.

Next Steps

Business case development

Improve road access to remote WA communities

Infrastructure Priority List classification

Initiative

Location

Remote areas of WA

Problem Timescale

Near term (0-5 years)

Nominator

Audit identified gap

Problem

There are approximately 270 remote communities in Western Australia, many of which are in the Kimberley region, 2,000 kilometres from Perth. According to the Australian Bureau of Statistics, approximately 35,000 people live in remote areas of Western Australia. Many of these areas have limited transport access, and poor freight connectivity. Existing roads are generally of low quality, and some freight routes are unsealed. This:

- Constrains access to employment, health and education services
- Presents safety issues
- Increases the costs of transporting goods
- Reduces resilience to flooding, particularly during the wet season.

The Australian Infrastructure Audit (April 2015) noted that lower levels of infrastructure service in remote areas can reinforce social and economic inequalities.

Proposed initiative

The initiative is a program of works to improve road access to remote WA areas. This would consider:

- Providing higher standard gravel roads
- Sealing gravel roads
- Floodway improvements
- Improvements to remote and regional airstrips.

Next Steps

Options assessment

Provision of enabling infrastructure and essential services to remote NT communities

Wadeye, Tiwi Islands, Jabiru

Infrastructure Priority List classification

Initiative

Location

Remote locations in the Northern Territory: Jabiru region/Arnhem Highway, Wadeye region/Port Keats Road, Tiwi Islands

Problem Timescale

Near term (0-5 years)

Nominator

NT Government

Problem

This initiative addresses infrastructure problems in three remote regions of the Northern Territory:

- Jabiru, and the Arnhem Highway, which connects Jabiru to Darwin
- Wadeye (Port Keats) and other nearby remote communities, and the Port Keats Road, which connects Wadeye to Darwin
- The Tiwi Islands.

These remote communities lack the infrastructure required for sustainable economic and social development. For example:

- Key road corridors, such as the Arnhem Highway and the Daly River Road, can be severely impacted by floods during the wet season, severing land transport access for remote communities for extended periods of time
- Essential services infrastructure, such as water storage and sewerage management, is not always adequate for the population it supports
- Demand for community infrastructure, such as youth centres and public housing, can often outstrip the available supply.

These infrastructure deficiencies constrain the economic development of these remote regions and can impose significant social costs on the local populations.

Proposed initiative

This initiative proposes a portfolio of upgrades to road infrastructure, as well as a range of essential services and community infrastructure upgrades to support economic and social development:

- Road upgrades to improve the accessibility and flood resilience of key road networks
- Upgrades to provide new or improved water storage facilities and wastewater management facilities in a number of remote population centres
- Upgrades to provide additional public housing and upgrades to social infrastructure, such as community centres and youth centres.

Next Steps

Business case development

Upgrade Tanami Road

Infrastructure Priority List classification

Initiative

Location

Tanami Road links Stuart Highway in the NT to Great Northern Highway in WA

Problem Timescale

Near term (0-5 years)

Nominator

NT Government

Problem

The key problems identified in the region include:

- limited economic opportunities for Indigenous and non-Indigenous people in the region
- limitations to development in mining, tourism and pastoral operations
- high vehicle operating costs
- poor flood immunity resulting in lengthy road closures
- reduced opportunities for employment in remote areas
- reduced access to essential services for the Indigenous population
- broader risks to the health and safety for road users arising from poor road geometry, excessive corrugations and poor visibility.

A key cause of these problems is the poor quality of the road. Over two thirds of Tanami Road is unsealed with substantial sections being unformed. This surface has led to the development of significant ruts and corrugations from heavy vehicles.

This initiative aligns with the findings from the Australian Infrastructure Audit (April 2015), as well as with other government priorities, such as 'closing the gap' policies. Further, the initiative was identified as an infrastructure gap in the Northern Australia Audit 2015.

Proposed initiative

The scope of the initiative is to build a two lane sealed road from the Stuart Highway just north of Alice Springs to Newmont's Granites operations, a distance of 527 kilometres, and from there upgrade a further 176 kilometres of the road to a good gravel road standard to the WA border.

Next Steps

Business case development. Infrastructure Australia has received a draft business case.

Lower Fitzroy River water infrastructure development

Infrastructure Priority List classification

Initiative

Location

Fitzroy River, Central Queensland

Problem Timescale

Medium term (5-10 years)

Nominator

Audit identified gap

Problem

Demand for water resources is predicted to rise as a result of continued industrial and urban growth in the Lower Fitzroy and Gladstone areas and potentially some agricultural development within the Fitzroy Agricultural Corridor.

Water demand projections indicate a total shortfall of high priority water for urban and industrial needs in the Central Queensland region in the order of 41,000 megalitres per annum by 2020.

Without secure access to water, further development in this high growth region is expected to be constrained beyond this period.

Proposed initiative

The initiative comprises raising Eden Bann Weir and constructing a new weir at Rookwood on the Fitzroy River.

The primary benefit of the initiative will be to make available 76,000 megalitres of high priority water per annum. The water will be used primarily for industrial and urban purposes and potentially underpin further agricultural development.

The Lower Fitzroy River water infrastructure development initiative should be considered as part of the National Water Reform Plan recommended in the Australian Infrastructure Plan. It is indicative of the requirement to ensure secure water supply to support further urban, industrial or agricultural development in some parts of the country – including in response to increasing water demand associated with population and economic growth, and increasing variability in water supply.

Next Steps

Options assessment

Northern Adelaide Plains water infrastructure development

Infrastructure Priority List classification

Initiative

Location

Northern Adelaide Plains, SA

Opportunity Timescale

Near term (0-5 years)

Nominator

SA Government

Opportunity

By 2028, SA Water will have to significantly reduce nitrogen discharge into the marine environment from the Bolivar Wastewater Treatment Plant (in Northern Adelaide) to satisfy increasing environmental standards. SA Water wants to deliver environmental compliance at the lowest possible cost for their sewerage customers, which would involve a land-based disposal option and avoid the need to invest in additional treatment technology to remove nitrogen.

At the same time, the Northern Adelaide Plains has a limited availability of natural water resources. Groundwater is the major natural resource supporting the existing irrigation area. This groundwater is considered to be over allocated and it is likely that future allocations will decrease.

Proposed initiative

The initiative proposes to expand the Bolivar Wastewater Treatment Plant to achieve least cost compliance for the treatment and disposal of waste water, and make an additional 20 gigalitres of recycled water available for high value agricultural production.

Investing in infrastructure to expand the Bolivar plant presents the opportunity to bring forward the lowest cost wastewater compliance option while providing water to support high value agriculture in the region. Without the 20 gigalitres of water that the expansion of Bolivar would deliver, there are limited opportunities to further expand agricultural activity and build the regional economy.

This is expected to significantly extend the current irrigation scheme in the Northern Adelaide Plains, increasing the value of primary production in the region.

Next Steps

Options assessment

Tasmanian irrigation schemes

Tranche 2

Infrastructure Priority List classification

Initiative

Location

Various locations, Tasmania

Opportunity Timescale

Near term (0-5 years)

Nominator

Tasmania Irrigation Pty Ltd and Tasmanian Government

Opportunity

The gross value of Tasmanian agricultural production for 2011-12 was over $1.17 billion. Research has shown that Tasmanian agriculture could generate a further $5 billion per annum with additional irrigation water.

In 2014, the Tasmanian Government allocated $30 million towards the development of new irrigation schemes as part of its plan to grow the value of the agricultural sector in Tasmania tenfold to $10 billion per year by 2050.

The Australian Government announced $60 million in funding towards Tranche 2 schemes in February 2015.

Proposed initiative

The initiative is to invest in rural water storage and delivery infrastructure to enable large-scale, multi-user irrigation schemes in rural areas in Tasmania. The five Tranche 2 irrigation schemes are at various stages of development:

- Circular Head
- North Esk
- Scottsdale
- Southern Highlands
- Swan Valley.

In combination, these schemes are estimated to deliver approximately 40,000 megalitres of new irrigation water entitlements with 95 per cent reliability.

Next Steps

Business case development

Relocation of University of Tasmania STEM facilities to Hobart CBD

Infrastructure Priority List classification

Initiative

Location

Hobart, Tasmania

Problem Timescale

Near term (0-5 years)

Nominator

University of Tasmania

Problem

The Tasmanian economy is growing at a significantly slower rate than the Australian average. Over the period 2004-05 to 2013-14, the Tasmanian economy grew on average by 1.4 per cent per year compared to a national average of 2.8 per cent. Economic output per capita (measured in Gross State Product) in Tasmania fell between 2009-10 and 2013-14 with an average decline of -0.1 per cent per annum. Tasmania is almost 20 per cent less productive on average, per hour worked compared to the rest of Australia.

Hobart's CBD lacks the scale and diversity necessary to support strong population and economic development in high value industries. Increased densification and urban development in Hobart's CBD, coupled with development of science, technology, engineering and mathematics related industries, may help attract new industries to locate in Hobart. This could, in turn, help increase economic and population growth.

Proposed initiative

Development of University of Tasmania tertiary science, technology, engineering and mathematics (STEM) research and training facilities in the Hobart CBD.

Next Steps

Business case development

Darwin region water supply infrastructure upgrades

Infrastructure Priority List classification

Initiative

Location

Darwin, NT

Problem Timescale

Medium term (5-10 years)

Nominator

NT Government.

Problem

Population growth and industrial development is driving increases in demand for water in the Darwin region.

The Northern Australia Audit (April 2015) found that an additional water source for Darwin is essential to support further growth of the city. At the same time, climate change is forecast to impact on supply by increasing evaporation and transpiration, which will lead to reduced inflows to reservoirs and decreasing yields.

Failure to expand Darwin's water supply will increasingly constrain population and economic growth. It is also likely to impact on business and investor confidence.

Proposed initiative

The Darwin Region Water Supply Strategy details the options currently being investigated for expanding supply in the region by 2025. While the preferred option has not yet been identified, the Northern Territory Government is continuing to investigate options for developing new surface water sources.

The Darwin region water supply infrastructure upgrades initiative should be considered as part of the National Water Reform Plan recommended in the Australian Infrastructure Plan. It is indicative of the requirement to ensure secure water supply to support further urban, industrial and/or agricultural development in some parts of the country – including in response to increasing water demand associated with population and economic growth, and increasing variability in water supply.

Next Steps

Options assessment

Tasmanian sewerage infrastructure upgrades

Infrastructure Priority List classification

Initiative

Location

Hobart, Launceston and Devonport

Problem Timescale

Near term (0-5 years)

Nominator

Tasmanian Government

Problem

The Australian Infrastructure Audit (April 2015) noted problems in Tasmania's sewerage infrastructure. The major population centres of Hobart, Launceston and Devonport are serviced by a large number of poorly performing sewage treatment plants (STPs), a legacy of previous ownership and delivery arrangements.

Non-compliant and ageing infrastructure is contributing to public health and environmental outcomes that do not meet contemporary standards. These outcomes present a threat to Tasmania's status as a 'clean green state' renowned for its natural values and a preferred tourist destination. Furthermore, a number of STPs are located on prime waterfront land in densely populated areas.

Proposed initiative

The initiative is to rationalise existing STPs and upgrade and operate a reduced number of STPs in Hobart, Launceston and Devonport. The completion of these projects will provide adequate treatment capacity for future growth, minimise environmental regulatory breaches, increase levels of service and improve operational efficiencies.

Next Steps

Options assessment

Hawkesbury-Nepean Valley flood management

Infrastructure Priority List classification

Initiative

Location

Hawkesbury-Nepean Valley, NSW

Problem Timescale

Near term (0-5 years)

Nominator

NSW Government

Problem

The problem is the increasing flood risk in the highly populated and major growth region of the Hawkesbury-Nepean Valley. The annual average damage of flooding in the Hawkesbury-Nepean Valley is expected to be in the order of $70 million.

Hawkesbury-Nepean Valley flood management represents a long term infrastructure resilience challenge. Increasing frequency of extreme weather events, combined with the impacts of population growth into new and more densely populated areas, will likely require an increase in the level of resilience of some of our infrastructure networks. Infrastructure should be able to continue operating through minor disruptions, and recover quickly from major disruptions.

The largest flood on record in the Hawkesbury-Nepean Valley occurred in 1867 when the river level at Windsor reached 19.2 metres above mean sea level, compared to the normal river level which is less than 0.5 metres above mean sea level. If the 1867 flood levels were to occur today, it is estimated that the total tangible damages could exceed $3 billion. If a more extreme event were to occur, the total damages could approach $8 billion.

Proposed initiative

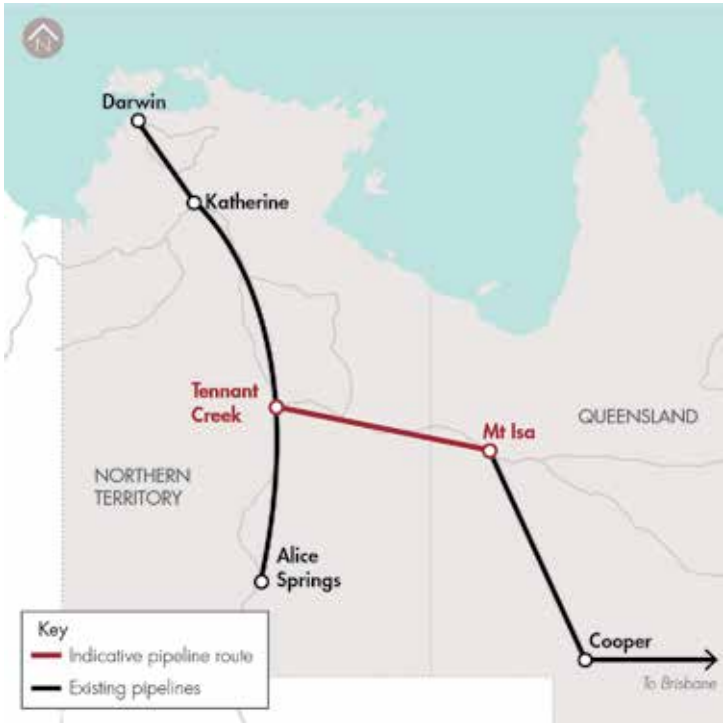
The Hawkesbury-Nepean Valley Integrated Flood Management Strategy presents a series of initiatives and investments to reduce flood risk in the valley. Elements of the strategy being investigated include:

- Flood mitigation infrastructure (including raising Warragamba Dam)
- Road infrastructure upgrades to improve flood evacuation capacity
- A community engagement strategy
- Improved governance and accountability to reduce flood risk through the integration of emergency, road and land use planning.

Next Steps

Business case development

Connect gas suppliers to eastern gas markets



Infrastructure Priority List classification

Initiative

Location

National

Problem Timescale

Near term (0-5 years)

Nominator

NT Government

Problem

The Australian Infrastructure Audit (April 2015) identified a potential gas supply shortfall in the eastern gas market as a result of increased domestic and export demand. This increased demand is expected to lead to higher prices. The Northern Territory has price-competitive gas available, as well as further on-shore reserves.

Providing a connected national energy market with sufficient capacity to supply domestic and foreign markets, withstand supply shocks and market forces, and sustainably contribute to Australia's broader environmental goals will be essential to supporting the resilience of the national economy.

Proposed initiative

Develop infrastructure to connect northern Australian gas reserves to the eastern gas markets. This will provide additional supply, support economic growth in the Northern Territory, and maintain cost effective gas supply for both markets.

Next Steps

Options assessment

Appendices

Appendix A: Project assessments completed in 2015

Location	Project
New South Wales	Moorebank Intermodal Terminal
	Bringelly Road Upgrade Stage 1
	NorthConnex
Victoria	St Albans Level Crossing Removal
	Princes Highway West Duplication
	CityLink-Tullamarine Widening Project
Queensland	Gateway Motorway North
Western Australia	Perth Freight Link
South Australia	Strzelecki Track

Appendix B: Project business cases under assessment

Location	Proposed Project
National	Inland Rail
New South Wales	M4 motorway
	WestConnex
	Maldon to Dombarton Rail Link
Victoria	Western Distributor
	Murray Basin Rail Project
Queensland	M1 Pacific Motorway – Mudgeeraba to Varsity Lakes
	Ipswich Motorway Rocklea-Darra
Western Australia	Forrestfield-Airport Rail Link
Northern Territory	Upgrade Tanami Road

*Note this list is limited to proposed projects which are listed as Initiatives in the Infrastructure Priority List.

Australian Infrastructure Plan

The Infrastructure Priority List

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